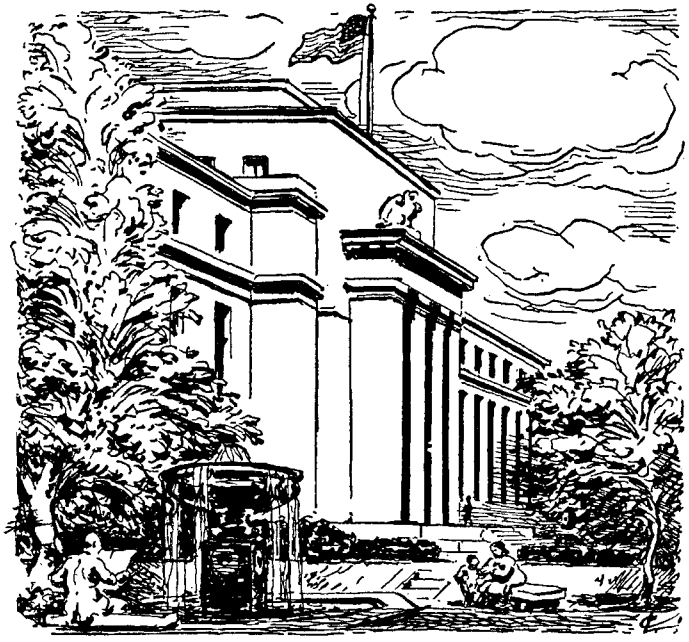
THE Federal Reserve System

PURPOSES AND FUNCTIONS

The Federal Reserve System

THE
Federal Reserve System
PURPOSES AND FUNCTIONS



BOARD OF GOVERNORS
of the Federal Reserve System
Washington, D. C., 1954

First Edition – May 1939
Second Edition – November 1947
Third Edition – April 1954

Library of Congress Catalog Card Number 39-26719

FOREWORD

THIS book is dedicated to a better public understanding of the Federal Reserve System—its trusteeship for the nation's credit and monetary machinery, the range of its operations and its organization, and how it helps to further stable economic progress. On the cover of the book there is reproduced a facsimile of a bronze relief which is set into the marble fireplace of the Board room of the Federal Reserve Building in Washington. This bronze relief well symbolizes the public aims of Federal Reserve functions—stability and productivity.

The present edition was prepared by the staff of the Board of Governors under the supervision of Ralph A. Young, Director of its Division of Research and Statistics. The revision has had the benefit of many suggestions from the staffs of the Federal Reserve Banks. The preceding edition was prepared by the late E. A. Goldenweiser, for many years Director of the Board's Division of Research and Statistics.

BOARD OF GOVERNORS
OF THE FEDERAL RESERVE SYSTEM

Washington, D. C.
April 1954

CONTENTS

ILLUSTRATIONS

CHAPTER I

FUNCTION OF THE FEDERAL RESERVE SYSTEM. *The basic function of the Federal Reserve System is to make possible a flow of credit and money that will foster orderly economic growth and a stable dollar. An efficient monetary mechanism is indispensable to the steady development of the nation's resources and a rising standard of living.*

ON December 23, 1913, President Woodrow Wilson signed the Federal Reserve Act establishing the Federal Reserve System. Its original purposes, as expressed by its founders, were to give the country an elastic currency, to provide facilities for discounting commercial paper, and to improve the supervision of banking. From the outset, there was recognition that these original purposes were in fact integral parts of a broader objective, namely, to help counteract inflationary and deflationary movements, and to share in creating conditions favorable to sustained high employment, stable values, growth of the country, and a rising level of consumption. Acceptance of this broader objective widened over the years and today it is generally

understood to be the primary purpose of the System.

How is the Federal Reserve System related to production, employment, and the standard of living? The answer is that the Federal Reserve, through its influence on credit and money, affects indirectly every phase of American enterprise and every person in the United States. The purpose of this book is to describe the ways in which the Federal Reserve System exerts this influence.

Background of the Federal Reserve System

Before establishment of the Federal Reserve System, the credit and money supply was inelastic and did not respond to the needs of a growing economy. This resulted in an irregular flow of credit and money and contributed to unstable economic development.

Banks in smaller cities and rural regions maintained balances with banks in larger cities, which they were permitted to count as reserves. A large volume of these reserve balances was maintained in New York and Chicago. Many banks, furthermore, as a matter of convenience and custom and as a means of utilizing idle funds, kept in the financial centers balances over and above their required reserves. In New York, Chicago, and St. Louis, designated as central reserve cities, national banks were required to maintain all their legal reserves in the form of cash in their own vaults.

Under these circumstances, when banks throughout the country were pressed for funds by their depositors and borrowers, the demand for credit converged on a few banks situated in the financial centers. In ordinary times the demand was not excessive, for while some out-of-town banks would be drawing down their balances, others

would be building theirs up. But at times when business was unusually active and the public was in need of larger amounts of currency for hand-to-hand circulation, the demand on city banks for funds became widespread and intense. Each year credit demand was particularly strong during the crop-moving season. At such times banks all over the country would call on banks in the financial centers to supply funds.

Because no facilities were available for providing additional funds, including currency, the credit situation would become very tight. To meet the out-of-town demand for funds, the banks in the financial centers would sell securities and call loans or would refuse to renew existing loans or make new ones. As a result, security prices would fall, loans would have to be liquidated, borrowing from banks as well as other lenders would become difficult, and interest rates would rise sharply. Every few years, difficulties of this kind would lead to a monetary crisis.

The problem had been under public discussion and study for a long time when, following a crisis of unusual severity in 1907, Congress appointed a National Monetary Commission to determine what should be done. After several years of thorough consideration, Congress eventually adopted legislation embodying the results of study by the Commission and by other authorities. This legislation was the Federal Reserve Act. It became law on December 23, 1913 and provided machinery by which varying demands for credit and money by the public could be met.

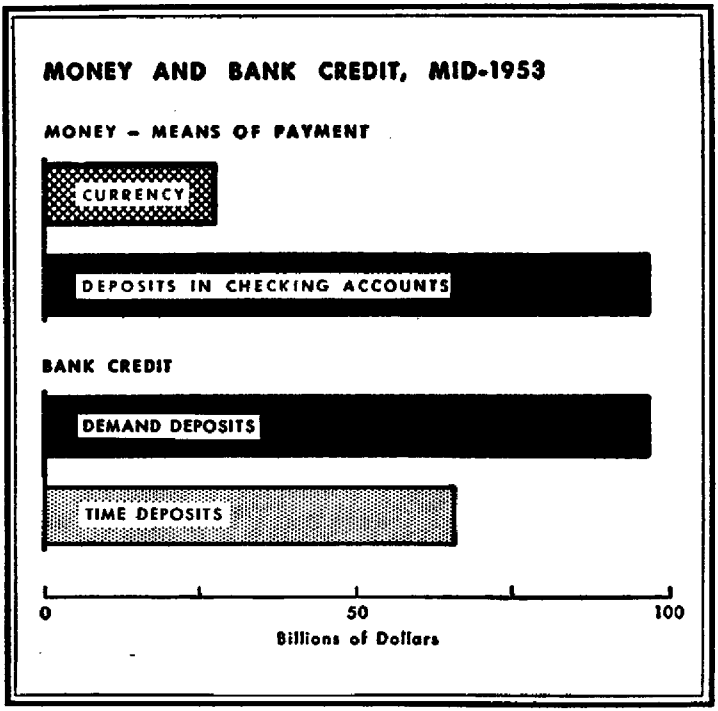
All of the principal nations have reserve banks, sometimes called central banks, to perform functions corresponding to those of the Federal Reserve System. In Eng-

land it is the Bank of England, which has been in existence since the end of the seventeenth century; in France it is the Bank of France, established by Napoleon I; in Canada it is the Bank of Canada, which began operations in 1935. In the United States there is a regional system of twelve Federal Reserve Banks. Their activities are coordinated through the Board of Governors in Washington.

The principal function of the Federal Reserve is to regulate the flow of credit and money. Other important functions include the performance of essential services for the member banks of the Federal Reserve System, the United States Government, and the public. These services are chiefly the following: handling member bank reserve accounts; furnishing currency for circulation and making currency shipments; facilitating the clearance and collection of checks; effecting telegraphic transfers of funds; acting as fiscal agents, custodians, and depositaries for the Treasury and other Governmental agencies; and collecting and interpreting information bearing on the economic and credit situation. In addition, the Federal Reserve examines and supervises State member banks, obtains reports of condition from them, and cooperates with other supervisory authorities in the development of policies conducive to a system of strong individual banks.

Since the main concern of the Federal Reserve is the flow of credit and money, this expression must be given meaning at the outset. This can best be done by considering the following four questions: (1) What is money and how is it related to credit? (2) How do changes in credit and monetary conditions affect the lives of the people? (3) By what means does the Federal Reserve regulate credit and money? (4) What is the credit market?

Money is most meaningfully defined in terms of the functions it performs. Its three main functions are: (1) a means of payment; (2) a store of purchasing power; and (3) a standard of value. In the United States, circulating



paper money and coins of all kinds and the demand deposits held by banks perform all of these functions.

That paper money and coins (currency) are money needs no elaboration or explanation. The reason that demand deposits are money is not far to seek. When a person has $10 in his pocket and $100 in his checking account in the

bank he is in a position to spend $110 at any time. These two forms of money represent his active cash balance; they serve the same general purpose and they can be converted into each other at any time; that is, currency can be converted into a demand deposit by taking it to a bank, and a demand deposit can be converted into currency by taking it out of a bank.

The amount of currency and of demand deposits at mid-1953 is shown in the chart on page 5. It will be seen that the amount of demand deposits is far greater than the amount of currency. Banks also hold savings and other time deposits on which an interest return is paid. The amount of such deposits held at commercial and mutual savings banks at mid-1953 is also shown in the chart.

All bank deposits are a form of credit. Basically, they represent amounts owed by banks to depositors. They come into existence by an exchange of bank promises to pay customers for the various assets which banks acquire—currency, promissory notes of business, consumer, and other customers, mortgages on real estate, and Government and other securities.

Demand deposits, however, differ importantly from savings and other time deposits. Time deposits are not transferable by check. While convertible into demand deposits or currency, savings deposits are subject to prior notice of conversion and other time deposits are not payable prior to maturity except in emergencies. Thus time deposits, while serving a store-of-value function, are not in themselves means of payment; only demand deposits and currency serve in this active monetary role.

It has long been customary for people to keep most of

their money in banks and to make most of their payments by drawing checks on their demand deposits with banks. Habits in this respect, however, change from time to time. Sometimes people keep more of their money in pocketbooks and sometimes less. Sometimes they hold more of their money in demand deposits and sometimes less. Such changes in money habits can have important consequences.

For a general idea of money, the two kinds—pocket money and demand deposit money—should be considered together. For the most part, both kinds originate in bank loans and bank investments. The Federal Reserve's chief task is to influence the flow of such credit by affecting its general availability and cost to borrowers. Changes in the loans and investments of banks are the major factor in bringing about changes in the volume of demand deposits, which are the bulk of the money supply.

How Credit and Monetary Changes Affect People

Superficially, it might seem that the more credit and money people have the better off they are. In fact, however, it is not the number of dollars available but what they will buy that is important.

People have different tests of whether they have enough money. To the manufacturer, the test is whether he has or can borrow at a reasonable cost enough dollars to buy his raw materials, pay the wages of his employees, and make other payments necessary to a profitable level of operation and to a sustained strong credit position. The farmer, the merchant, and the banker have similar tests. To the consumer, the test is whether he has or can borrow enough money on credit charges and repayment terms

that he can meet to buy what he needs. Essentially, however, people are primarily concerned with what the dollars they earn, are indebted for, or need to borrow, do for them. The ultimate test, in other words, is the purchasing power of the dollar.

In a dynamic and growing economy, enough credit and money is that amount which will help to maintain high and steadily rising levels of production, employment, and consumption, and to foster a stable value for the dollar. When credit becomes unduly scarce or excessively hard to get and costs too much, factories and stores may curtail operations and lay off employees. Smaller payrolls mean hardship for workers, who curtail their purchases; merchants feel the decline in trade and reduce their orders for goods. Manufacturers in turn find it necessary to lay off more workers. A serious depression, unemployment, and distress may follow.

When credit is excessively abundant and cheap, the reverse of these developments—an inflationary boom—may develop. An increase in the volume and flow of money resulting from an increase in the supply and availability of credit, coupled with a lowering of its cost, cannot in itself add to the country's output. If consumers have or can borrow so much money that they try to buy more goods than can be produced by plants running at capacity, this spending only bids up prices and makes the same amount of goods cost more. If merchants and others try to increase their stocks so as to profit by the rise in prices, they bid up prices further. Manufacturers may try to expand their plants in order to produce more. In doing so, they will bid up interest rates, wages, and the prices of construction materials. In the end they raise their own costs.

The nation as a whole does not profit from conditions of price inflation because production costs will sooner or later rise as much as prices of finished products, and the cost of living as much as wages. At some point the upward spiral will break, perhaps because prices get so high that consumers, even though many of them receive higher wages, can no longer buy the goods produced. Then a downward spiral will develop. The higher values have previously risen, the more abruptly and lower they are likely to fall and the greater will be the accompanying unemployment and distress.

These are the ways in which excessive changes in credit and money can affect the lives of the people. The story, although oversimplified in that it does not include all the factors that affect the level of economic activity, serves to show what may happen if, on the one hand, credit is too scarce or hard to get and too dear, or if, on the other hand, it is too plentiful or easily obtainable and too cheap. It is by influencing the flow of credit, with resulting effects on the flow of money, that the Federal Reserve influences the economic decisions that people make.

How the Federal Reserve Influences Credit and Money

This is the principal subject of this book and the main points should be stated briefly at the outset. Practically all of the money people use reaches them, directly or indirectly, through the banks. They may receive their pay in cash, but the employer who pays them will have cashed a check at the bank and may have borrowed from a bank before making up his payroll. Therefore the flow of money in the country depends mainly on the ability of banks to meet the credit and monetary requirements of industry, trade,

agriculture, and all the other sectors of economic life.

The ability of banks to meet the credit and monetary needs of the people depends on the amount of reserves the banks have. This in turn is affected by Federal Reserve operations. Banks can extend credit to customers or invest money in securities only in proportion to the reserves at their disposal. The way the system of reserves works, and the fact that under it the banks can lend in the aggregate several times as much as they have in reserves, will be discussed later. What needs to be understood first is that the Federal Reserve, through influencing the availability and cost of additional bank reserves, can influence the amount of credit the banks may extend to the public through loans and investments, and thus influence the total flow of credit and money. The reserve position of banks affects directly the willingness of banks to extend credit and the cost, or rate of interest, which borrowers will have to pay to obtain it. The Federal Reserve thus has the power to influence the country's credit situation and, since bank loans and investments are the main assets that serve as backing for deposits, its money supply.

A great variety of other forces also affect the credit and money flow. These include, among others, governmental policies in regard to expenditures, taxes, and debt; the distribution of income among different groups of the population; the bargaining strength and policies of management, labor, agriculture, and other sectors of the economy; the course of foreign trade and foreign investment; and the prospects for peace or war.

Thus the Federal Reserve alone cannot assure favorable economic conditions nor can it direct whether credit shall flow into particular channels. But it can affect the general

flow of credit and money as economic conditions change and thus help to counteract instability resulting from other forces. The supply of credit and money, and the incentives to use credit and money, which the Federal Reserve does influence, are indispensable factors in modern economic life.

What Is the Credit Market?

Federal Reserve influence is exerted primarily through the credit market. Unlike the organized stock or commodity markets, the credit market has no formal organization or specific place of business. As a matter of fact, modern means of communication make the country practically one national credit market in the financing of large transactions. Well-established borrowers with high credit ratings can obtain bank or other loans on much the same conditions in one city as in another; for if lendable funds are scarce and costly in one center, the supply tends to be replenished from other centers where it is more abundant. Relatively small transactions originating from local needs and represented by loans based on close contact with local conditions are handled by the many regional credit markets. The rates of interest charged and other conditions in these local markets may vary somewhat from place to place, but they are, nonetheless, related to one another.

Contacts of these local markets with the national market, and thus with one another, are maintained in part through balances kept by local banks with city correspondents. They are also facilitated through direct credit contacts between city banks and large out-of-town businesses; through a network of brokerage and other local contacts with the large regional and national savings

institutions; through the relationships between local dealers in investment securities and the underwriting houses and stock exchange members of the financial centers; and through the mechanism of the Federal Reserve System. Funds from the local markets are likely to flow in and out of the financial centers with changes in local demand for credit.

Through this flow of funds, banks in all parts of the country, as well as other financial institutions, are in constant contact with the national market. The movement of funds between the local markets and the national market is no longer disruptive, as it frequently was before the organization of the Federal Reserve System. The Reserve Banks can supply additional funds to the market if necessary or can absorb redundant funds.

Loan and investment transactions, as indicated, take place through banks and other financing institutions, but the market comprises the customers of banks and these related financing institutions as well as the lending institutions themselves. For instance, when the United States Treasury borrows by selling its obligations in the credit market, the lenders—that is, the buyers of the obligations —include insurance companies, investment trusts, other institutional investors, and individuals, as well as banks.

The obligations in which the credit market deals vary widely as to risk and maturity. Obligations that are low in risk—for example, short-term Government securities and prime short-term business paper—are highly liquid financial instruments, being very close to cash in hand, and typically bear the lowest interest yields. The sector of the market which specializes in such paper is commonly called the money market. The fact that prime short-term

paper is used as a principal medium for temporary investment by banks, other financial institutions, and business corporations, and is handled by a special group of dealers, gives the money market proper a distinctive character. New York City, being the principal financial center in the United States, is the heart of the American credit and money market.

As in any other kind of market, demand sometimes exceeds supply in the credit market, and supply sometimes exceeds demand. As a result, interest rates rise and fall in response to changes in demand and supply. It is the responsibility of the reserve banking authorities to watch the market, to help correct disorderly market conditions should they develop, and generally to foster an orderly flow of credit and money. Of the measures described in later chapters as available to the reserve banking authorities, those with the most pervasive influence on the credit market are the ones that operate through the medium of bank reserves.

Federal Reserve actions affecting the credit market are directed for the most part to the functioning of banks. Such actions influence the market as a whole, however, since they affect the availability of funds to other lending institutions, their attitude toward prospective borrowers, and their appraisal of investments. The attitude of lenders toward loan and investment opportunities is sometimes referred to as the tone of the market. When bank reserve funds are more readily available, banks lend and invest more freely, as do also other financial institutions; and the tone of the market is easy. When bank reserve funds are less readily available, the opposite situation prevails and the tone of the market is tight.

CHAPTER II

FUNCTION OF BANK RESERVES. *In performing its basic function, the Federal Reserve depends chiefly on its ability to increase or decrease the availability, cost, and volume of bank reserves, which constitute the legally required basis of bank deposits. Changes in the reserve position of banks affect directly the flow of bank credit and money.*

COMMERCIAL banks, like other business organizations but unlike the Federal Reserve Banks, are in business for the purpose of making a profit. The bulk of a commercial bank's earnings comes from returns it receives from loans to customers and holdings of securities. Consequently, it is usually a bank's policy to put into loans and investments as much as possible of the money it receives as capital and deposits. Banks in practically all States, however, are required by law to hold as reserves an amount of uninvested funds equal to a designated portion of their deposits.

Historically, reserve requirements were imposed by law for the purpose of protecting depositors—to assure that

banks maintained a cash fund adequate to meet their depositors' withdrawals. This was before establishment of the Federal Reserve System, when there was no reserve bank from which a commercial bank could obtain additional reserves in time of temporary need. Reserve requirements, although they restrained credit expansion, did not effectively protect depositors during periods of stress, for the banks could not pay out to their depositors the cash they were required to keep as reserves without drawing down such reserves below legal requirements and threatening the ability of the banks to continue active operations. Since other ways of protecting depositors have been developed, bank reserves have come to be considered primarily a medium through which the flow of credit and money is influenced. It is because the Federal Reserve can regulate the volume of reserves available to banks that it can influence the availability, cost, and supply of credit.

Member Bank Reserve Requirements

If a bank is a member of the Federal Reserve System, it is required at the present time (December 1953) to keep as reserves, on deposit with a Federal Reserve Bank, the following percentages of its demand deposits:

Central reserve city banks	22
Reserve city banks	19
Other member banks	13

Banks that are not members of the Federal Reserve System are subject to reserve requirements that vary from State to State.

The operation of bank reserves, which are the basis of the money system, is described below in general and

simplified form assuming a 20 per cent reserve required against demand deposits. The 20 per cent reserve requirement assumed is higher than the average of the three percentages given above and is also somewhat above the present ratio of total required reserves to total demand deposits. The 20 per cent figure is used, however, for the sake of simplicity in explaining the operation of reserves.

On this basis, when a member bank receives a demand deposit of $100, in currency or in the form of a check on another bank, it must deposit $20 with a Federal Reserve Bank as required reserves against the deposit and is free to lend or invest the remaining $80. If there is an adequate demand for loans from customers or a supply of suitable securities in the market, the bank will lend or invest practically all of the $80. It will retain a little of the $80 inasmuch as it needs some cash in its till to meet day-to-day needs of customers for cash. The amount retained can be relatively small because currency can always be obtained promptly from its Reserve Bank. For purposes of simplified exposition, therefore, it may be assumed that all of the money above the required 20 per cent is lent or invested by the bank.

How the Banking System Works

It is on the relationship between bank reserves and bank lending and investing that the Federal Reserve depends chiefly in exercising its credit and monetary functions. Ways in which the Federal Reserve influences the amount of bank reserves will be described in the next chapter. The present chapter explains how changes in bank reserves against demand deposits affect the flow of credit and money.

For the purpose of simplifying the operation of the banking system, let us imagine that there is only one commercial bank in the United States, that it is the sole member bank in the Federal Reserve System, and that all the people keep their demand deposits with this bank and go there to obtain all their bank loans. Let us give the member bank enough resources to represent all the banks in the country. Let us assume that the relevant items in its balance sheet are as follows (in billions of dollars):

Loans and investments	80
Reserves with the Federal Reserve	20
Demand deposits	100
Ratio of reserves to demand deposits	*20 per cent*

Let us further assume that this 20 per cent ratio of reserves to demand deposits is the legal minimum. Under the circumstances, the bank would not be in a position to make any additional loans or investments. Its funds would be in use up to the limit permitted by law.

Now let us assume that the Federal Reserve believes that additional loans are desirable to meet the credit needs of the country and that its actions add 10 billion dollars to the member bank's reserves in a manner that also increases the bank's demand deposits by the same amount. Then the simplified balance sheet of the bank would be (in billions of dollars):

Loans and investments	80
Reserves	30
Demand deposits	110
Ratio of reserves to demand deposits	*27.3 per cent*

The member bank would have a higher ratio of reserves to deposits (27.3 per cent) than is required by law (20 per

cent). Therefore, it could make additional loans and investments. A little figuring will show that the bank has the 22 billion dollars of reserves required for its deposits of 110 billion and also has 8 billion of reserves above requirements, or excess reserves.

Let us assume that the public is eager to get additional money and wants to borrow as much as the member bank will lend. Let us assume also that the proceeds of the loans will be kept on deposit with the bank. This is not a far-fetched assumption, because borrowers most likely want the money in order to pay other depositors in the bank. While there will be transfers from one deposit account to another, no deposits will be withdrawn from the bank, and the total of deposits will remain at the higher level made possible by the increase in reserves.

Another calculation will show that on the basis of the 8 billion dollars of excess reserves the member bank can add 40 billion to its loans and investments. The bank's balance sheet would then be (in billions of dollars):

Loans and investments	120
Reserves	30
Demand deposits	150
Ratio of reserves to demand deposits	*20 per cent*

This overly simplified picture of bank transactions indicates that a deposit of 10 billion dollars of reserve money with the member bank gave rise to a growth of 40 billion in loans and investments and of 50 billion in demand deposits. The calculation, which leaves out of account many complications, shows what a powerful instrument reserve banking action can be. It can provide the basis for an increase in the money supply not merely by the amount

that it adds to the bank's reserves, but by about five times that amount. This is true because there can be a multiple expansion of demand deposits on the basis of the additional reserves.

Consider the course of events in case there is too much money and it is decided that the amount should be diminished. Suppose that Federal Reserve action reduces the 20 billion dollars of reserves the member bank had in the first place by 5 billion, at the same time lowering deposits by an equal amount. The balance sheet would then read (in billions of dollars):

Loans and investments	80
Reserves	15
Demand deposits	95
Ratio of reserves to demand deposits	*15.8 per cent*

On the basis of a 20 per cent legal reserve requirement, the member bank would be deficient in reserves to the extent of 4 billion dollars. The bank would have to call loans or sell investments, and thus absorb deposits to the extent of five times its deficiency in reserves, that is, by 20 billion dollars. If its depositors repaid loans or repurchased 20 billion dollars of investments by drawing on their deposits, the result would be (in billions of dollars):

Loans and investments	60
Reserves	15
Demand deposits	75
Ratio of reserves to demand deposits	*20 per cent*

Once more we see the powerful impact of reserve banking action, this time in the direction of contraction. A reduction of 5 billion dollars in the member bank's reserves can bring about a liquidation of 20 billion in

loans and investments and a reduction of 25 billion in demand deposits, or money.

The all-important fact brought out by this discussion is that the Federal Reserve, by adding to or extinguishing the member bank's reserves, can influence it to increase or decrease its loans and its demand deposits by several times the amount added or extinguished. It is because of this fact that Federal Reserve dollars are often called "high-powered" dollars as compared with ordinary deposit dollars.

In the exposition so far we have considered one member bank, large enough to represent all the banks in the country, as doing all the banking business. We have assumed that the bank will lend or invest as much money as the law will permit, and that this action results in the creation of an equal amount of demand deposits. We have also assumed a uniform reserve requirement of 20 per cent, and we have assumed that all the money lent by the bank will be kept on demand deposit.

To the extent that the public chooses to withdraw some of the money in currency or to transfer some of the money to savings or other time deposits, this will not be the case. The changes that occur from time to time in the public's demand for currency will be described in a later chapter. For this chapter, the main point is that the people's demand for currency is related to the total money supply (demand deposits and currency) held by the public, and that it represents merely the share of the money supply that the public desires to hold in the form of currency. Currency and demand deposits are interchangeable at the option of the public; the major factor increasing or decreasing the money supply is the loans and investments of

commercial banks. It should be noted, however, that currency withdrawals from banks reduce bank reserves dollar for dollar and that such withdrawals affect the expansion potential of a given volume of new reserves.

The transfer of funds from a demand to a savings or other time deposit reflects the preference of the depositor for an asset which earns interest rather than an asset which earns no return but has immediate usefulness as a means of payment. A time deposit cannot have checks drawn against it and its conversion into cash is subject to limitations.

Commercial banks in this country have both demand and time deposits and their loans, investments, and reserves form a common pool of assets backing the two kinds of deposits. Whereas member banks must at present keep average reserves of about 18 per cent of their demand deposits, they are required to keep only 6 per cent against savings and other time deposits. If holders of demand deposits transfer them to time deposits as temporary or semipermanent saving, there is a release of reserves—the difference between 18 per cent and 6 per cent—on the basis of which the bank can expand its loans and investments and its demand deposits. Conversely, if holders of time deposits shift them into demand deposits, the bank finds it necessary to reduce its holdings of loans and investments or otherwise obtain additional reserves in order to meet the higher reserve requirements against demand deposits.

Multiplying Power of Bank Reserves

The process of reserve operation in the imaginary situation in which one member bank does all the banking

business may now be transferred to the actual and more complex situation in which thousands of member banks make loans and investments and hold deposits.

It has been seen that our consolidated bank can expand its loans and investments by as much as 40 billion dollars if Federal Reserve action adds 10 billion to its reserves. No individual bank can do that because borrowers may wish to take the money out of the lending bank. In fact, a borrower is likely to use the demand deposit created by his loan to write checks to pay various people. His banker cannot assume that the funds thus paid out will return in the form of deposits in his bank. Consequently, he does not lend more than he has in reserve funds in excess of requirements; if he did, he might not be able to honor the checks of his other depositors. How, then, can the banking system—that is, all the banks together—lend about four times as much as is obtained from the Federal Reserve?

What appears to be paradoxical is really simple and understandable. When a member bank receives a deposit of $100, in currency or in the form of a check on another bank, it must, holding to our earlier assumption of a 20 per cent reserve requirement, deposit $20 with a Reserve Bank as required reserves. It is free to lend or invest the remaining $80. In practice, as explained earlier, the bank will keep a little more than the $20 because it will need ready till cash to meet demands of depositors.

The fact that individual member banks are required to hold only a fraction of their deposits as reserves makes it possible for additional reserve funds, as they are deposited and invested through the banking system as a whole, to generate deposits on a multiple basis. The table illustrates how deposit balances are built up as reserve funds are

diffused throughout the banking system. The process may be sketched as follows: A member bank at which $100 is deposited needs to hold $20 in reserves at the Reserve Bank. The remaining $80 can be lent. This money may be paid out at once by the borrower to someone who deposits

THE MULTIPLYING CAPACITY OF RESERVE MONEY IN BANK TRANSACTIONS[1]

Transactions	Amount deposited in checking accounts	Amount lent	Amount set aside as reserves on deposit at Reserve Banks
Bank 1	$100.00	$ 80.00	$ 20.00
2	80.00	64.00	16.00
3	64.00	51.20	12.80
4	51.20	40.96	10.24
5	40.96	32.77	8.19
6	32.77	26.22	6.55
7	26.22	20.98	5.24
8	20.98	16.78	4.20
9	16.78	13.42	3.36
10	13.42	10.74	2.68
11	10.74	8.59	2.15
12	8.59	6.87	1.72
13	6.87	5.50	1.37
14	5.50	4.40	1.10
15	4.40	3.52	.88
16	3.52	2.82	.70
17	2.82	2.26	.56
18	2.26	1.81	.45
19	1.81	1.45	.36
20	1.45	1.16	.29
Total for 20 banks	$494.29	$395.45	$ 98.84
Additional banks	5.71	[2] 4.55	[2] 1.16
Grand total, all banks	$500.00	$400.00	$100.00

[1] Assuming an average member bank reserve requirement of 20 per cent of demand deposits.

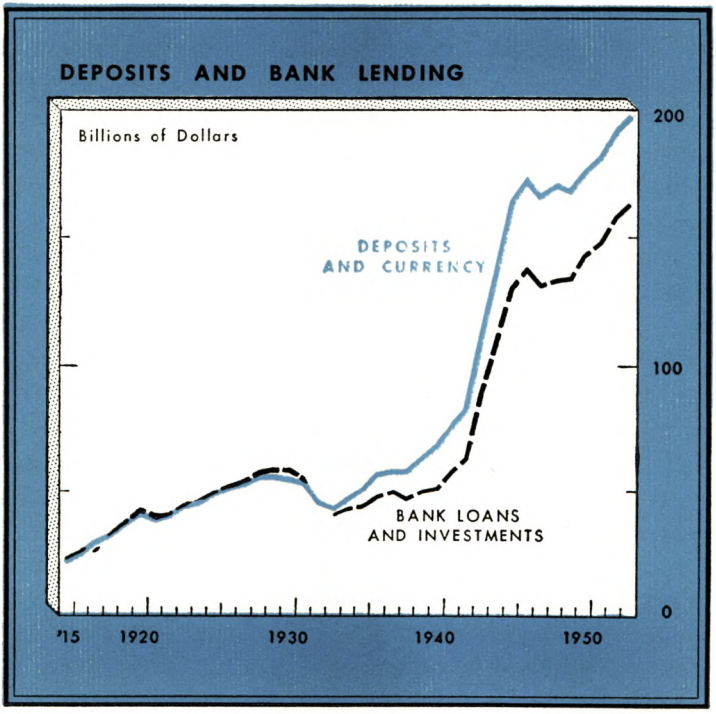
[2] Adjusted to offset rounding in preceding figures.

it at another bank. The second bank needs to hold $16 as reserve against the new deposit of $80 and can lend the remaining $64. Similarly, the borrower here may draw down the newly created deposit at once, but the funds will merely be shifted to a third bank, which in turn can lend 80 per cent of $64 and add $51.20 to its deposits. This sequence can be traced through many banks until $500 of demand deposits have grown out of the original $100 deposit. On the asset side of their books, the banks hold $100 in reserves (20 per cent of $500) and $400 in loan or investment paper.

A further point needs clarification. While in the practical workings of the banking system the bulk of deposits originates in the granting of loans or the purchase of investments by banks, the day-to-day experience of each individual banker is that deposits are brought to him by his customers, and his ability to make loans and investments arises largely from the receipt of his depositors' money. This is another apparent banking paradox which causes much confusion.

The fact is that demand deposits originating in loans and investments move from one bank to another in the course of business and seldom stay with the bank of origin. The series of transactions is as follows: When a bank makes a loan it credits the amount to the borrower's deposit account; the depositor writes checks against it in favor of various people who deposit them at their banks. Thus the lending bank is likely to retain or receive as deposits only a small portion of the money it lends, while a portion of the money lent by other banks is brought to it by its customers. Therefore, taking the banking system as a whole, deposits originate in bank loans and invest-

ments, but each individual bank's ability to lend or invest arises largely from deposits brought to it by its customers. How the process has worked out over the years is depicted by the chart.[1]



[1] The curve "Deposits and Currency" relates to the public's holdings of demand deposits, time deposits, and currency. Time deposits are included in this curve because commercial banks in this country generally engage in both a time deposit and a demand deposit business and do not segregate their loans and investments behind the two types of deposits. Since mutual savings banks are also important time deposit institutions, their time deposits and loans and investments are also included for consistency in the two curves shown on the chart. Time deposits of commercial banks are generally subject to some reserve requirements, while those of mutual savings banks are not.

Some Important Observations

Sometimes it is said that, since the banking system can lend several times as much as it obtains in reserves, individual banks create money by a stroke of the pen, but as the preceding description indicates, this is not correct. An individual bank can lend or invest only on the basis of money provided by its stockholders, its depositors, or its borrowing, and the maximum it can lend or invest is the excess over what it must hold as reserves. Only the Federal Reserve has the power to create (or extinguish) the money which serves as the reserves of banks. New reserve money, after it leaves the hands of the first bank acquiring it, continues to expand into deposit money as it passes from bank to bank until deposits stand in some established multiple relation to the additional reserve funds.

Three additional points about the functioning of the banking system are worth noting at this stage. The first is that bank credit and monetary expansion on the basis of newly acquired reserves takes place only through a series of transactions. This takes time and thus delays the multiplying effect of new bank reserves.

The second point is that for expansion to take place at all there must be a demand for bank credit by creditworthy borrowers—those whose financial standing is such as to entail a likelihood that the loan will be repaid at maturity—and/or an available supply of low-risk investment securities such as would be appropriate for banks to purchase. Normally, these conditions prevail, but there are times when demand is slack and eligible loans or securities are in short supply. Also, market conditions for bankable paper and attitudes of bankers with respect to the market exert an important influence on whether, with

a given addition to the volume of bank reserves, expansion of bank credit is faster or slower.

Thirdly, it must be kept in mind that reserve banking power to create or extinguish high-powered money is exercised through a market mechanism. The Federal Reserve may assume the initiative in creating or extinguishing bank reserve money, or the initiative may be taken by the member banks through borrowing or repayment of borrowing at the Federal Reserve. With respect to member bank borrowing, reserve banking authority is expressed principally through the cost of the borrowed reserve funds. At times the forces of initiative may work against one another, and the effect of this counteraction is mainly to avoid an abrupt impact on the flow of credit and money of pressures working to expand or contract the volume of bank reserves. This interrelation between reserve banking initiative and member bank initiative in changing the volume of Federal Reserve credit will be discussed further in the succeeding chapter.

Aside from these qualifications, what is significant from the standpoint of reserve banking operations is that the issuance of a given amount of high-powered money by the Federal Reserve may generate a volume of ordinary money which is several times as large as the amount issued, and that, on the other hand, Federal Reserve extinguishment of a given amount of high-powered money may result in a reduction of several times that amount in loans and investments and in demand deposits, that is, in ordinary money. It is this leverage which enables Federal Reserve action to bring about large changes in the flow of credit and money by undertaking relatively small operations.

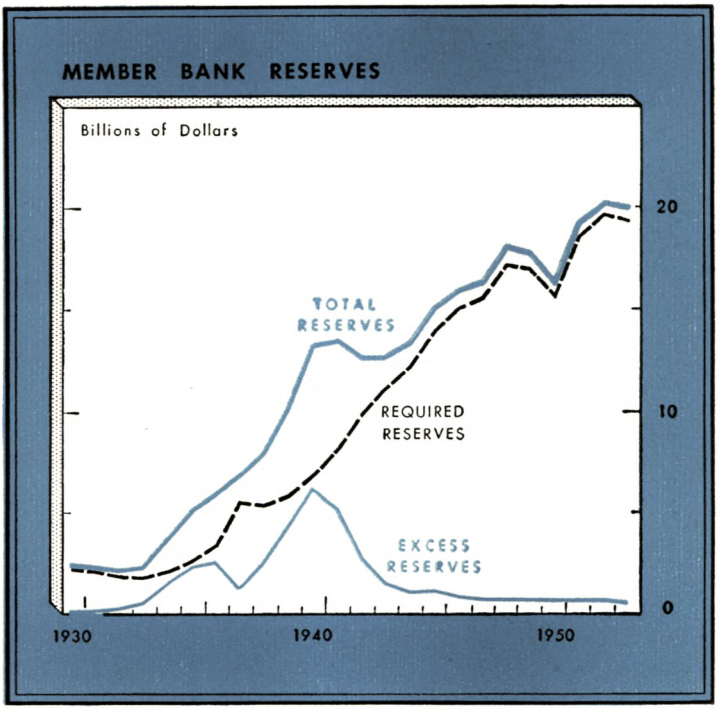
Management of Reserve Balances

The foregoing discussion sets forth the general principles on which the banking system operates. In practice an individual bank does not match one transaction against another. There is a continuous flow of funds into the bank from its depositors, who bring checks on other banks as well as currency to be added to their deposits. And there is a continuous outflow of funds as borrowers and other depositors write checks on their own accounts or cash checks drawn on other banks. The bank must constantly watch its deposits and its reserve position, which is the net result of all the transactions in the bank, to make sure that its reserves are sufficient to comply with legal requirements.

While a member bank must watch its reserve balance with the Federal Reserve Bank to make sure that it is large enough, this does not mean that the balance remains unused. Under Federal Reserve rules, reserve requirements are related to reserve balances maintained on the average over a period (a week for central reserve and reserve city banks and half a month for other member banks). While maintaining its average reserve balance at or above the required minimum, a bank may make constant use of its reserve account. Through this account the bank can not only settle adverse clearings balances with other banks but can also transfer funds to other cities. A member bank uses its reserve account with the Federal Reserve Bank in much the same way that a depositor uses his checking account. It must be careful, however, to see that over the reserve period the account averages at or above the amount required in relation to its deposits. The occasion

to borrow from a Federal Reserve Bank usually arises from the need to replenish reserves when they have fallen below the required level.

At the beginning of this chapter, it was stated that banks



as business organizations endeavor to use all their available funds in profitable ways and keep as reserves only the minimum required by law. During the greater part of the life of the Federal Reserve, member banks have put practically all their funds to use and have had practically no excess reserves. During the middle and late 1930's and

the early part of World War II, however, this was not the case, as is brought out in the chart on page 29.

After the early 1930's there was a large movement of gold into the country which greatly increased the reserves of member banks. At the same time there was only a limited demand for loans acceptable to banks at current interest rates, and a limited supply of investment securities that bankers desired to acquire at interest rates prevailing in the market. Consequently, the banks had an excessive volume of unused reserves. As credit expanded during and after World War II, as currency demand increased, and as reserve requirements were increased in a manner described in the next chapter, the greater part of the excess reserves was absorbed. In recent years excess reserves have once again constituted a relatively small proportion of total reserves, although a larger proportion than in the 1920's.

CHAPTER III

GENERAL METHODS OF REGULATION. *The principal reserve banking methods of regulating bank reserves are discounts for member banks, purchases and sales of Government securities in the open market, and changes in reserve requirements. The source of Federal Reserve lending power is the gold certificate reserves of the Reserve Banks.*

IT has been shown how changes in bank reserves influence the volume of bank credit and money. Since banks as a group can expand the country's money supply by a multiple of any addition to their reserves, and must cut back their participation in the credit market by a multiple of any reduction in their reserves, Federal Reserve operations to create or extinguish reserves exert a powerful influence on the flow of credit and money. This influence is exercised by three methods, which this chapter will describe.

These methods are discount operations, open market operations, and changes in reserve requirements. The first two are generally more flexible and more adaptable to

day-to-day changes in credit and monetary conditions than the third. The timing of the use of all three methods and their coordination are of cardinal importance in Federal Reserve policy.

Discount Operations

To a commercial bank, one of the most important advantages of Federal Reserve membership is the privilege of obtaining additional reserves on occasion by borrowing from a Federal Reserve Bank. In effecting such borrowing, a member bank may rediscount one or more of its customers' notes with a Reserve Bank, or it may give its own note to a Reserve Bank, using paper from its own holdings as collateral. The second procedure, known as an advance, differs from the first in form but not in substance. In either case the Reserve Bank gives the member bank credit in its reserve account for the amount of the accommodation and thereby increases the reserve deposit which the member bank holds at the Federal Reserve Bank. For this service the Reserve Bank charges interest at a rate known as the discount rate.

Eligible Paper

For the first two decades of the System's existence, Federal Reserve Bank authority to extend credit was confined to advances collateraled by obligations of the United States and to discounts of or advances on so-called "eligible paper." Eligible paper includes commercial paper representing loans of limited maturities to meet the current needs of commerce, industry, or agriculture but excludes loans made for investment or speculative purposes. It was thought by the System's founders that this limitation of

Federal Reserve lending authority would act as an automatic brake on overexpansion of bank credit and money.

Experience showed that such restrictions on the types of paper eligible for discount did not in fact prevent an overexpansion of bank credit and money in periods of business boom when eligible paper was plentiful. Conversely, the restrictions tended to hinder adequate assistance by the Federal Reserve to member banks in time of business recession, particularly severe recession, when eligible paper was scarce. Consequently, in 1932 the law was broadened to authorize a Federal Reserve Bank to make advances to member banks on notes secured by any collateral satisfactory to the Reserve Bank. If the collateral does not meet the requirements of eligible paper as prescribed by law, however, the Reserve Bank must charge an extra one-half per cent or more of interest.

Because of the higher discount rate on other than eligible paper, member banks usually borrow on eligible paper. The paper pledged is typically of prime quality and very short maturity; today it is usually short-term Government securities. Accordingly, member banks commonly maintain, as a second line of reserves, a portfolio of prime short-term paper, which is readily discountable or salable. The secondary reserve is a means of replenishing transitory reductions in a member bank's reserve balance.

Reserve Bank Discount Standards

When a member bank applies for accommodation, a Federal Reserve Bank is under no automatic obligation to grant the credit; its decision is expected to rest on its judgment concerning the applicant's need and the use to be made of the additional funds. In the language of the

law: "Each Federal Reserve Bank shall keep itself informed of the general character and amount of the loans and investments of its member banks with a view to ascertaining whether undue use is being made of bank credit for the speculative carrying of or trading in securities, real estate, or commodities, or for any other purpose inconsistent with the maintenance of sound credit conditions; and, in determining whether to grant or refuse advances, rediscounts or other credit accommodations, the Federal Reserve Bank shall give consideration to such information."

To meet bona fide needs, a member bank with satisfactory collateral can obtain accommodation from a Federal Reserve Bank. The Reserve Bank may stipulate, however, that the borrowing be for a short time only. An advance from the Federal Reserve has always been considered a resource available to member banks to meet temporary requirements or unusual banking situations rather than a resource to meet continuous operating needs or to substitute for new bank capital. Since the Federal Reserve System has a responsibility for furthering the maintenance of sound credit conditions in the nation and for providing an ultimate source of liquidity for the entire banking system, it is the duty of each Federal Reserve Bank to examine carefully individual cases of member bank borrowing.

Member Bank Reluctance to Borrow

In coping with emergency banking developments, member banks properly feel free to rely on full use of Federal Reserve lending facilities to meet unusual cash drains which they may experience. Under normal banking

conditions, however, member banks generally are reluctant to borrow from a Federal Reserve Bank, or to stay long in its debt. Special circumstances may at times weaken this reluctance, but it nonetheless persists as a force affecting member bank borrowing.

In part member banks' reluctance to borrow results from the disposition of depositors, especially business and financial depositors, to be critical of borrowing on the part of individual banks. Another consideration is a purely operating one, namely, that borrowed funds are more expensive than funds obtained through deposits, and usually cost a bank as much as, or more than, it would give up in earnings through the sale of some of its holdings of prime short-term paper.

In general, it is a well-established rule of prudence for member bank operations that, under normal conditions, borrowing from the Federal Reserve Banks should be to replenish reserves when, in meeting temporary banking needs, they have fallen below current legal requirements. Accordingly, when member banks are obliged to borrow, they feel under pressure to restrict their lending or to readjust their investment positions in order to pay off such indebtedness as soon as possible.

Discount Rate Practice

The policy of the Federal Reserve with respect to member bank borrowing expresses itself not only in granting or discouraging loans but also in the rate charged for discounts and advances. This rate is ordinarily maintained at a level that imposes some penalty cost on the borrowing bank. As a general rule, when the Federal Reserve is of the opinion that expansion in the flow of credit and money

should be encouraged in the public interest, it reduces its discount rate in relation to prevailing market rates. When it believes that expansion should be checked, it raises the discount rate in relation to these rates.

To the business community, the discount rate in effect at the Federal Reserve Banks, and particularly a change in this rate, serves as an objective index of Federal Reserve policy. An advance in the rate is commonly interpreted to mean that in Federal Reserve opinion there is danger of too rapid a pace of bank credit and monetary expansion, and a reduction in the rate to indicate that encouragement of expansion is in the public interest. The discount rate thus not only represents the cost to member banks of accommodation at the Federal Reserve Banks but also conveys to the public Federal Reserve judgment as to whether the current flow of credit and money is consistent with the country's transactions and liquidity needs.

Federal Funds Market

Member banks in temporary need of reserve funds may borrow from other member banks. Such borrowing, when it can be arranged, usually occurs at interest rates below the Federal Reserve Bank discount rate. There is a fairly well-organized market, known as the Federal funds market, in which member banks that hold reserve balances in excess of legal requirements offer to lend them on a day-to-day basis. The supply of funds in this market varies with general credit conditions. When funds are available from other banks in the Federal funds market, the use of the discount privilege by member banks is reduced.

Effect of Discounts on Credit Conditions

Experience has demonstrated that the pace of bank

credit expansion and in fact the tone of the whole credit market reflects the extent to which member banks are borrowing at Federal Reserve Banks. Changes in the volume of borrowing normally represent the first response of member banks as a group to losses or gains of reserve funds or to changes in the pressure of bank credit expansion on the available supply of bank reserves. When such borrowing is low, bank credit expansion tends to be encouraged and the tone of the credit market is easy. An easy market may be described as one in which funds tend to be readily available at going interest rates to all borrowers who are acceptable credit risks. When member banks are heavily in debt to the Federal Reserve Banks, bank credit expansion tends to be discouraged and the tone of the credit market is tight. In a tight market, the less creditworthy loans are subject to deferment, and even better credit risks may have to shop around for accommodation.

These responses tend to be independent to some extent of the level of the discount rate or of interest rates generally. For example, the tone of the credit market might be easy even though the discount rate were 4 per cent. This would happen where member bank borrowing was low. Conversely, the tone of the market might be tight even when the discount rate was 1¾ per cent. This would occur when member banks were heavily in debt.

Experience with Discount Operations

In important periods since establishment of the Federal Reserve System, discount operations have been a principal method of expressing Federal Reserve policy with respect to expansion of bank credit and the money supply. In some periods, however, as the result of an inflow of gold

from abroad that gave member banks additional reserves without recourse to borrowing from the Reserve Banks, and in other periods as the result of wartime developments, discounts for member banks have been small and discount operations have been of minor importance in Federal Reserve policy. During periods when discount operations have been effective, their effectiveness has been closely related to the complementary use of open market operations. This relationship is dealt with in the following discussion of open market operations.

Open Market Operations

As a method of influencing the flow of credit and money, open market operations differ significantly from discount operations in that they are initiated by the Federal Reserve, not by the member banks. In the case of discounts, the Federal Reserve establishes a discount rate at which member banks may obtain Reserve Bank credit for appropriate uses if they apply for it. Initiative, once the rate is set, is with the member banks. In the case of open market operations, the Federal Reserve can proceed of its own accord to buy or sell securities in the open market if it decides that the flow of credit and money is too sluggish or too active. Obligations of the United States Government are the principal kind of paper which the Federal Reserve is authorized to buy or sell.

General Explanation of Operations

The process through which open market operations by the Federal Reserve are reflected in the volume of member bank reserves, loans and investments, and deposits merits simplified description. If the Federal Reserve decides to

buy, say, 25 million dollars of Government securities, it places an order with a dealer in such securities and he buys the securities in the open market, or sells the securities from his own portfolio. In payment the dealer receives a Federal Reserve Bank check. The dealer deposits the check with a member bank, which in turn deposits it in its reserve account with a Federal Reserve Bank. The dealer then draws checks on these funds to pay the seller of the securities or to retire loans which he had contracted in order to carry the securities in his portfolio. The result is that the Reserve Bank has added 25 million dollars to its holdings of United States Government securities, and the same amount has been added to the reserve accounts of some member banks.

These banks are now in a position to expand their loans and investments and deposits. In so doing the banks will lose funds to other banks, which in turn may expand their loans and investments and deposits in accordance with the pattern of banking developments illustrated in Chapter II. Thus, while the open market transaction of this example has increased initially the reserve positions of a limited number of member banks, the ordinary course of banking operations will diffuse these funds throughout the banking system. The reserves, the loans and investments, and the deposits of the banking system as a whole will be increased —the loans and investments and the deposits by several times the amount of the added reserves.

If the Federal Reserve decides to reduce the amount of member bank reserves and thus to restrain credit expansion and growth in the money supply, it sells Government securities to a dealer, who may either sell them to customers or hold them in his own portfolio. In payment the

dealer draws a check on some member bank in favor of a Federal Reserve Bank and the Reserve Bank deducts the amount from the reserve deposit of this bank. The source of these funds will depend on whether the dealer sold the securities or borrowed the money to carry them in his portfolio. If the amount is 25 million dollars, the result is a corresponding decrease in Federal Reserve holdings of Government securities and in the reserves of certain member banks. These banks are then obliged to adjust their loan and investment and reserve positions, and in making the adjustment they shift the impact of the transaction to other member banks. The reserves, loans and investments, and deposits of the member banks as a group will be decreased, the latter two by a multiple of the decrease in the first.

Since the primary purpose of open market operations (buying or selling) is to influence the flow of credit and money, they necessarily reflect an active Federal Reserve policy to this end. Although such operations may be conducted in securities of any maturity, traditional reserve banking practice has been to limit transactions to short-term Government securities. These securities are the most liquid paper in the market and, because of their role as operating and liquid assets of financial institutions and business corporations, are subject to a large daily volume of trading. Moreover, open market operations in these securities are rapidly communicated throughout the credit market by the mechanism of the market itself, as well as through their effects on bank reserves.

A technical type of open market operation, which needs brief explanation, has to do with the accommodation of dealers in Government securities during temporary pe-

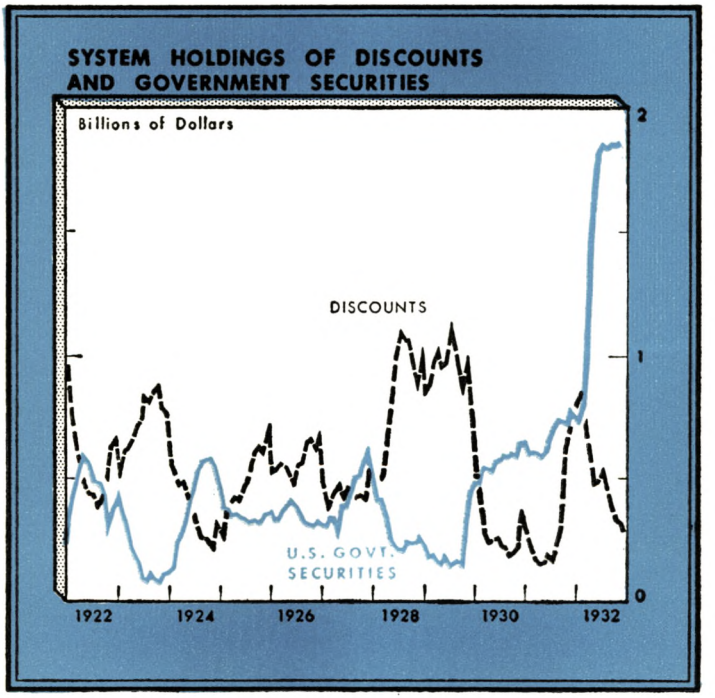
riods of credit tightness. These operations are conducted by purchasing short-term securities, primarily Treasury bills, under agreement with the selling dealer to repurchase them within a specified period of fifteen days or less. Such repurchase agreements may at times be renewed. Treasury bills, which are today the major prime short-term paper in the market, are issued weekly by the United States Treasury, at rates determined by competitive bids. On occasion, because of credit stringency, the supply of bills in the hands of dealers may greatly exceed demand. Repurchase agreement operations assist dealers to carry their inventory of bills over these periods while providing the market with reserve funds to relieve the temporary stringency. Since the dealers will repurchase the securities when the stringency has passed, the reserve funds created will be extinguished automatically, thus avoiding redundancy of funds in the market at that time.

Relation to Member Bank Discounts

Under conditions favorable to flexible open market operations, increases in Federal Reserve holdings of Government obligations (that is, open market purchases) tend to be accompanied by declines in holdings of discounts. On the other hand, decreases in security holdings (that is, open market sales) tend to be reflected in increased holdings of paper discounted for member banks. This relationship is illustrated in the chart on page 42 covering the period 1922-32. Experience with discounting since 1951, when open market operations were again used flexibly, confirms this tendency.

Federal Reserve practice over the years has been to make complementary use of these two instruments of

credit policy. If member banks are substantially in debt to the Federal Reserve when it purchases securities, they probably will use at least part of the reserves acquired as the result of the purchases to reduce their debt. This use of



reserve funds will reflect their reluctance to remain long in debt to the Federal Reserve. On the other hand, the loss of member bank reserves resulting from sales by the Federal Reserve in the open market will probably be made up, at least temporarily and in part, by additional borrowing from the Federal Reserve.

Thus Federal Reserve action in the open market is not likely to result in a sudden or extreme expansion or contraction in the flow of credit and money. Instead, under ordinary conditions it is likely to result temporarily in a marked decline or increase in member bank indebtedness, with no immediate substantial change in member bank reserves and deposits.

But this does not mean that the action can have no effect on the flow of bank credit and money. When member banks are out of debt to the Federal Reserve they are much more willing to make loans and investments and thus to increase their deposits; and the Federal Reserve can reassure them as to the availability of additional reserve funds by reducing the discount rate. When member banks are heavily in debt, they are less willing to make new loans or to renew old ones as they come due. The Federal Reserve is in a position to encourage this attitude by raising the discount rate.

Open market operations, therefore, work more gently than would be the case if the member banks were not in a position to borrow from or to repay borrowing at the Federal Reserve and if such operations led to an immediate and rapid multiple expansion or contraction of bank deposits. They nevertheless exert a definite influence on the flow of credit and money because, by decreasing or increasing member bank indebtedness, they tend to encourage or discourage expansion of deposits at member banks. They also have important effects, as explained below, on the credit market directly, and these effects contribute to their usefulness in fostering financial balance and economic stability.

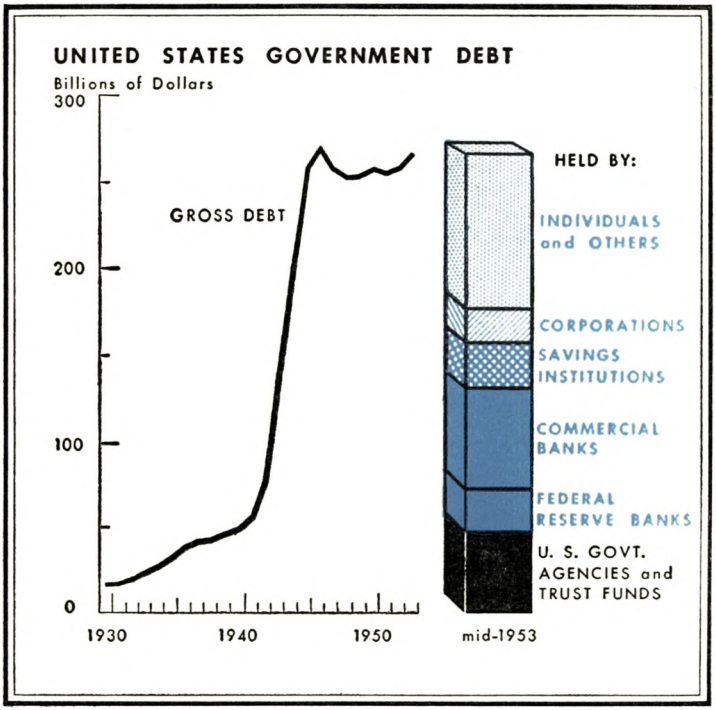
Functioning of the Market for Government Securities

Since the early 1930's perhaps the most important change in the nation's financial structure has been the great growth in the debt of the Federal Government resulting from financing economic recovery and the Second World War. This change has greatly affected open market operations as an instrument of Federal Reserve policy because United States Government securities have come to play a dominant role in the flexibility and sensitiveness of the American credit market. Relatively small reserve banking purchases or sales in this market will, by adding to or subtracting from bank reserves, affect the capacity of banks to make loans and investments, including investments in Government securities. The entire credit market will feel the effects of this shift in the banking situation and there will be an accompanying change in the market's tone, in the liquidity of all marketable securities, and in the climate of financial and business expectations.

All commercial banks as well as other financial institutions, such as savings banks, insurance companies, and savings and loan associations, have the bulk of their operating or secondary reserve funds invested in Government securities, particularly in short-term issues. Large commercial and industrial corporations also invest cash balances in excess of operating needs and funds accumulated for large payments, like taxes and dividends, in these securities. This use of Government securities as a temporary haven for liquid funds reflects the effort of many thousands of individuals and businesses to have such funds earn a return until they are needed for regular operating purposes. In these circumstances, financial and

business institutions sell Government securities when payments to be made exceed cash receipts, and buy Government securities when receipts exceed payments.

Purchases and sales of Government securities by finan-



cial institutions and business corporations to adjust their operating positions play an important part in the functioning of the Government securities market. They help to make for a continuous stream of trading activity in the market. Since there is no risk of loss on any Government security if it is held to maturity, the main considerations

for a portfolio manager are the current market yields and prices of individual security issues and, for liquidity purposes, the length of time until maturity.

Another kind of transaction, commonly referred to as "arbitrage," also contributes to trading activity in the Government securities market. Arbitrage, however, performs two additional basic functions in the market. First, it keeps the prices of different issues of securities and of different maturities in line with one another. Second, it provides a mechanism for transmitting changes in demand or supply conditions felt in one maturity sector of the market to its other sectors.

If a particular issue is selling out of line, say at a yield lower (price higher) than that on other comparable issues, portfolio managers and professional traders tend to sell the lower yielding issues and buy the higher yielding ones. Similarly, if securities maturing in, say, less than six months fall in yield (rise in price), portfolio managers and traders may find it profitable to sell these short-term securities and buy somewhat longer term issues. The arbitrage operations as between the short-term issues and those of longer maturities will tend to moderate somewhat the yield decline (price advance) in the short-term sector and at the same time extend the scope of the yield decline to other maturity sectors. In other words, these arbitrage actions will transmit the force of the stronger market for short-term issues on out to the longer term securities.

When the yields and prices of individual issues have realigned themselves, or when stable relationships between short-term, intermediate-term, and long-term securities have been re-established, the portfolio manager or trader may reverse the arbitrage transactions. Those who are

alert to such arbitrage opportunities profit by them and at the same time help to correct yield and price disparities and to spread throughout the entire credit market the effects of changes in the demand for or supply of credit in one sector of the market.

Operations in Bankers' Acceptances

Mention needs to be made of a special element in Federal Reserve open market operations that has not been important in recent years but was of considerable moment in the past, namely, dealings in bankers' acceptance bills. A banker's acceptance is a draft, often drawn by a seller of goods on a bank under a letter of credit issued by the bank at the instance of the buyer. When the bank "accepts" the draft, it becomes primarily liable on the instrument, in effect substituting its own credit for that of the buyer. In this country most acceptances arise out of exports or imports. A seller of cotton, for example, may draw a draft payable in ninety days covering a shipment to Liverpool. The buyer may have an arrangement with a bank in New York whereby the bank will accept the seller's draft on presentation and the buyer will provide funds to pay the acceptance at maturity. These instruments are readily salable in the market by the seller of the goods who originally draws the draft. They are usually based on goods in process of shipment, represented by the shipping documents. They are considered to be market paper of the highest quality.

Federal Reserve Bank practice has been to stand ready to buy seasoned acceptances from the market (acceptances of short maturity and usually carrying one or more endorsements) at a rate slightly higher than the rate on

bankers' acceptances generally prevailing in the open market. In addition to unconditional purchases, the Reserve Banks may also buy acceptance bills in the market under an agreement by which the seller agrees to repurchase within fifteen days.

Changes in Reserve Requirements

Discounts and open market operations by the Federal Reserve Banks, as has been seen, add to or subtract from the volume of funds available as member bank reserves. Changes in reserve requirements do not directly alter the total of reserves but do change the proportion of a member bank's deposits that must be held as reserves with a Federal Reserve Bank. Consequently, changes in reserve requirements affect the liquidity position of member banks and hence the amount available for lending or investing.

For example, if the reserve requirement against demand deposits is 15 per cent, a member bank must keep in its reserve account with a Federal Reserve Bank $15 of every $100 of its own deposits, and has $85 left to lend or invest. If the reserve requirement is 20 per cent, the member bank has to keep $20 uninvested and has only $80 to lend, and if requirements are 10 per cent, it needs to keep only $10 uninvested and has $90 to lend or invest. Thus a change in reserve requirements changes the rules under which the member banks must operate.

Besides affecting the liquidity of individual banks, changes in reserve requirements affect the rate of multiple expansion of deposits for the entire banking system. On a 15 per cent reserve requirement against demand deposits, $100 of reserves will support a deposit volume of $666. On a 20 per cent basis $100 will support $500 of deposits,

as was shown in Chapter II, and on a 10 per cent basis it will support $1,000 of deposits. It will be seen that changes in reserve requirements are a powerful instrument for influencing the volume of bank credit and money.

Authority to Change Reserve Requirements

The Federal Reserve Act prescribed certain reserve requirements and originally made no provision for changes by the Federal Reserve. The basic percentages prescribed by statute since June 21, 1917 are:

Demand deposits:	
Central reserve city banks	13
Reserve city banks	10
Country banks	7
Time deposits, all member banks	3

Central reserve cities now are New York and Chicago. At mid-1953 there were 53 reserve cities, including most of the larger cities of the country. For purposes of determining reserve requirements, banks outside of these cities are classified as country banks.

In 1933 banking legislation empowered the change of member bank reserve requirements when an emergency existed and in 1935 further legislation made this authority a continuously available means of Federal Reserve action. Except for a temporary broadening of powers in 1948, the authority has not been significantly changed since it was revised in 1935. As the law stands today, the Federal Reserve has authority to increase reserve requirements to twice the ratios stated in the law, and to reduce requirements that are above the statutory ratios to any level that is not below them. The range of discretion and the

requirements in effect in late 1953 are as follows (in percentages):

	Range	In effect
Demand deposits:		
Central reserve city banks	13 to 26	22
Reserve city banks	10 to 20	19
Country banks	7 to 14	13
Time deposits, all member banks	3 to 6	6

Changes in reserve requirements may be made applicable to any or all the groups of banks shown above but must be uniform for all banks within a group.

Effects of Changes in Requirements

Because changes in reserve requirements affect at the same time and to the same extent all member banks subject to the action, they are a potent instrument. Their immediate incidence, as stated above, is upon the operating reserves and liquidity positions of the affected banks. Increasing or decreasing the available reserves and liquidity of banks tends to find prompt response in the rate of bank lending and investing, in the tone of the whole credit market, and in the rate of monetary expansion. The fact that the multiplying power of bank reserves is affected exerts either a dampening or an accelerating influence on the expansion of bank credit and money.

Changes in member bank reserve requirements necessarily affect the demand for Reserve Bank credit. If reserve requirements are increased when member banks have no excess reserves, the additional reserves needed, if not supplied to member banks through open market operations, will have to be borrowed from the Federal Reserve

until banks can make the necessary contractive adjustment in their loans or investments. If reserve requirements are decreased while the member banks are substantially indebted to the Reserve Banks, the member banks can use the excess reserves so obtained to reduce or retire such debt.

Even when reserve requirements are increased to absorb excess reserves in the banking system as a whole and thus to forestall the too rapid expansion of bank credit and money, there is likely to be an effect on the demand for Reserve Bank credit. This is because excess reserves will probably be unevenly distributed among member banks. Some banks may have more than they need, and others may have less than they need. The increase in requirements will make it necessary for some banks to acquire additional reserves either by reducing their loans and investments or by borrowing.

The authority to change reserve requirements has not been used frequently. Generally speaking, action to increase requirements has been taken at times when the total of excess reserves was so large that the effect on the total demand for Reserve Bank credit and on the number of individual banks needing to acquire additional reserves was small, or at times when bank holdings of Government securities were very large and the Federal Reserve was supporting their prices and yields. On the other hand, action to reduce reserve requirements has been taken when it was desired to avert bank credit and monetary contraction and to add to banking liquidity in order to foster bank credit and monetary growth.

Numerous administrative and technical problems handicap changes in reserve requirements. Experience has shown

that this instrument of credit policy is not adapted to day-to-day changes in banking and monetary conditions. Even small changes in reserve requirements, say of one or two percentage points, result in large changes in the available reserves and liquidity positions of member banks. Frequent changes in requirements even by very small percentage amounts would be disturbing to member banks and to the credit market. For these reasons this method of influencing bank reserve positions and the flow of credit and money is usually employed only when large-scale changes in the country's available bank reserves are desired. For day-to-day operations in influencing the flow of credit and money, the Federal Reserve depends principally on the more flexible instruments of discount and open market operations.

Source of Federal Reserve Lending Power

It is clear that the reserve balances of member banks as a group serve as the source of their lending power and that the reserve requirements of member banks set the limits to the exercise of such power. In much the same way the gold certificate reserves of the Federal Reserve Banks are the source of their lending power and the gold reserve requirements to which the Reserve Banks are subject set limits to their deposit and note expansion.

The Reserve Banks can lend their credit in the form of member bank reserve balances and other deposits or in the form of Federal Reserve notes up to an amount four times their holdings of gold certificates. This limiting ratio of four to one is prescribed by the Federal Reserve Act. Thus the source of Federal Reserve lending power is not its holdings of member bank and other deposits, but its

authority provided by statute to create bank reserves and issue notes in an amount exceeding the Federal Reserve Banks' holdings of gold certificates.

There is, however, an important difference in the monetary effects of the creation of bank reserves and the expansion of Federal Reserve notes. When Federal Reserve discounts and advances or purchases of Government securities increase the reserve accounts of member banks, the basis is laid for a further multiple increase in bank credit and money through increased loans and investments by the banking system. On the other hand, when Federal Reserve notes are expanded in response to an increase in currency in circulation, bank reserves are reduced, and the increase in Federal Reserve credit that cushions or offsets this impact does not support an additional multiple bank credit and monetary expansion.

The role of the Federal Reserve System in this country's banking system can be summarized by outlining the major differences between member bank operations and those of the Federal Reserve:

1. Member banks cannot issue notes (currency); the Federal Reserve can. Thereby the Federal Reserve provides an elastic currency allowing the public to hold money in currency or on deposit at banks, as it may elect.

2. Member banks compete with one another for the deposits of their customers, while the Federal Reserve Banks do not.

3. Depositors of member banks are legally free to withdraw their deposits at any time while the member bank depositors of Federal Reserve Banks are subject to certain penalties if they fail to maintain required reserve balances with the Reserve Banks.

4. Member banks are motivated by a profit incentive and do not ordinarily keep a large volume of uninvested funds. Federal Reserve Banks, as public institutions, are responsible for adjusting the volume of their credit in accordance with the general needs of the economic situation and not in accordance with the volume of excess gold certificate reserves which they may carry.

5. Member banks are monetary instrumentalities in that an increase or decrease in the volume of their credits directly affects the nation's money supply. Primary and ultimate authority to create and extinguish money, however, rests with the Federal Reserve System. Expressed another way, changes in the volume of member bank loans and investments and of deposits are directly related to changes in the supply of reserve funds. The availability of member bank reserve funds is subject to regulation in the public interest by the Federal Reserve System.

6. The Federal Reserve Banks are the operational trustees of the nation's gold reserves, the base of its monetary system. The limits on Federal Reserve lending power are set by the requirement that the Reserve Banks must hold a 25 per cent reserve in gold certificates against their combined liabilities for deposits and notes. The Board of Governors can suspend this requirement, subject to penalty, for short periods.

In summary, Federal Reserve lending power arises from the authority given to the System by law to create money, and the limits of this power are set by the requirement that aggregate liabilities on deposits and notes must not be in excess of four times Federal Reserve holdings of gold certificates. Federal Reserve lending power is not used for profit, but for the purpose of influencing the flow

of credit and money in the interest of economic stability. Therefore, there is no attempt to extend Federal Reserve credit to the limit permitted by law, and historically the ratio of the System's deposit and note liabilities to its holdings of gold certificates (prior to 1934 holdings of gold) has generally been well below the legal requirement. At mid-1953, the actual amount of Federal Reserve deposits and notes outstanding was only 2.2 times the System's reserve of gold certificates.

CHAPTER IV

SELECTIVE CREDIT REGULATION. *In addition to its general methods of regulating the flow of credit and money, the Federal Reserve has special powers to regulate the credit terms on which transactions in stock market securities are financed. At times it has been authorized to prescribe terms on which consumer credit and certain real estate credit could be extended, and also to encourage lenders to restrict other types of credit voluntarily.*

THE instruments of credit policy so far discussed—discount operations, open market operations, and changes in reserve requirements—affect the flow of credit and money generally, without regard to the particular field of enterprise or economic activity in which the credit is used. Thus they are distinct from the three instruments now to be discussed, which are particular or selective. These three relate to stock market credit, consumer credit, and real estate credit, respectively. A further method of influencing credit in particular areas is through a program that encourages lenders to restrict voluntarily certain types of credit.

Selective instruments of Federal Reserve action do not approach the problem through influencing bank reserves. Instead they prescribe the terms on which lenders may make certain kinds of loans, regardless of the reserve position of commercial banks.

As supplements to general methods of influencing credit conditions, selective methods make it possible to reach specific credit areas without imposing stronger general credit measures than might otherwise be appropriate. For example, if an unhealthy use of credit for stock market speculation develops at a time when credit for production and trade is expanding no more than would be considered normal, and when the application of general instruments of regulation might do harm to the country's over-all economic activity, the power of the Federal Reserve to regulate stock market credit can be especially helpful.

Margin Requirements on Stock Market Credit

The Federal Reserve authorities are enjoined by law to restrain the use of bank credit for speculation; they are to keep themselves informed, in the language of the law, 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 they are authorized to take restrictive action to prevent undue use of credit in these fields. Since 1934 the Board of Governors of the Federal Reserve System has also been specifically directed to curb the excessive use of credit for the purpose of purchasing or carrying securities. It is authorized to do this by limiting the amount that brokers and dealers in securities, banks, and others may lend on securities for that purpose. At brokers, the limitations apply to credits extended for the

purpose of purchasing or carrying any type of security, and at banks they apply only to loans for purchasing or carrying securities registered on national security exchanges.[1] In neither case do they apply to any loan for commercial purposes, even though the loan is secured by stocks.

Margin requirements are established by the Board of Governors under Regulations T and U. The amount that can be lent against securities as collateral is always less than the current market value of the securities, and the difference between the two is called the margin. Thus, if a loan of $7,500 is secured by stock worth $10,000, the margin is $2,500 or 25 per cent of the value of the stock. The Board's regulations may be thought of as prescribing either minimum margin requirements or maximum loan values; the greater the margin required, the less the loan value, that is, the amount that can be lent.[2]

For several years before the war, the Board's regulations required margins of 40 per cent. During the war the requirements were raised first to 50 per cent, then to 75 per cent, and in 1946 to 100 per cent. The 100 per cent requirement was in effect from early 1946 to early 1947, when it was reduced to 75 per cent, making it possible for

[1] The provisions of the law make some distinctions between brokers or dealers and banks; brokers or dealers cannot extend credit on unregistered securities except in certain limited circumstances, such as temporarily in connection with cash transactions; banks are not restricted by margin requirements in making loans on securities other than stocks.

[2] The Board's regulations require the lender to obtain the specified margin in connection with the purchase of the security. If the collateral security for the indebtedness subsequently declines in value, the regulations do not make it necessary for the borrower either to put up additional collateral or to reduce the indebtedness. However, the banker or broker making a loan may require additional collateral if he deems it necessary.

banks and brokers to lend 25 per cent of the value of the collateral. The margin requirement was reduced to 50 per cent in the spring of 1949 at a time of moderate business recession and was restored to 75 per cent early in 1951 when inflationary pressures following the outbreak of Korean hostilities were at their peak. In early 1953, when these inflationary dangers had begun to abate, the margin requirement was again reduced to 50 per cent.

The control effected by margin requirements, though bearing directly on the lender, puts restraint upon the borrower and dampens demand. It can be used accordingly to keep down the volume of stock market credit even though lenders are able and eager to lend.

Another effect of high margin requirements is to restrict the amount of pyramiding that can take place in a rising market. In other words, they limit the extent to which traders may add to their holdings, when the market is rising, by borrowing against the additional market value of securities already held in their accounts without putting up additional money or additional securities. Restriction of pyramiding exerts restraint on rising stock prices as well as on the growth of credit employed in the stock market.

By the regulation of margin requirements the danger of excessive use of credit in the stock market, which caused serious disturbances to the economy in the past, has been minimized. A speculative stock market boom financed by credit, like the one that culminated in 1929, for example, could hardly occur except on the basis of very low stock purchase margins. A boom and a collapse in the stock market is always possible, but without the excessive use of credit it is not likely to assume the proportions or to have the effects it has had on some occasions in the past.

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 that it reaches outside the Federal Reserve System to banks that 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 an important bearing upon its use for business purposes in general.

Consumer Credit

Regulation of consumer credit by the Federal Reserve has been a temporary credit restraint in times of emergency to supplement general credit measures. It was first established in 1941 by an Executive Order of the President based on war emergency powers. Its purpose was to curb the use of credit for the purchase of automobiles, electric refrigerators, radios, washing machines, vacuum cleaners, household furniture, and other consumer goods and services. Consumer goods and services were becoming scarce because the equipment, materials, and labor required for their production were being transferred to the defense effort. At the same time, the purchasing power of consumers was increasing. In this situation, with decreased civilian supply and increased demand, there was reason to expect that expansion of consumer credit would accentuate tendencies toward rising prices.

In accordance with the President's Executive Order, the Board of Governors issued Regulation W prescribing terms upon which such credit might be granted. At the outset it applied only to instalment credit, including both instalment sales and instalment loans, in which form the

great bulk of consumer credit was being generated. All grantors of credit of the types specified in the regulation—whether financial institutions or retailers—were subject to the regulation, were required to register under it, and could be penalized for its violation.

The restraints imposed by Regulation W on instalment credit were twofold: they limited the amount of credit that might be granted for the purchase of any article listed in the regulation, and they limited the time that might be agreed upon for repaying the obligation. Instalment loans not related to specifically listed articles were subject only to limitation on the time of repayment.

Later in World War II the scope of the regulation was broadened to include a larger number of articles whose purchases involved down payments and to cover charge accounts and single-payment loans. Requirements were made more restrictive as to down payments and maturities on instalment credits; charge accounts were closed against further purchases (of listed articles) unless paid by the tenth day of the second calendar month following the purchase date; and single-payment loans of defined categories were limited to ninety days with limited renewals.

In the two-year period immediately following the war, regulation of consumer credit was continued, though some of the terms were relaxed and the scope of the regulation was contracted to about what it was at the outset, namely, the area of instalment credit. The supply of durable goods at the time was inadequate to meet the current and the war-accumulated backlog demand, and inflationary tendencies in the economy generally were strong. Restraint upon the use of credit in purchasing scarce durable articles lessened the pressure for a rise in prices, both directly and

by helping to restrain expansion in the volume of consumer credit. In addition, fixing minimum down payments for important consumer durable goods and the maximum length of contract for consumer instalment financing in general tended to cause business forces to take the direction of price competition instead of progressive easing of credit terms with continuing price advances.

Regulation of consumer credit by the Federal Reserve was terminated late in 1947, after having been in effect a little over six years. It was reinstated temporarily from early fall in 1948 until mid-1949 as a special anti-inflation measure. Inflationary forces, already strong in the United States, grew stronger after the invasion of South Korea created an international crisis. Regulation of consumer credit was again reinstated in the early fall of 1950 under the temporary authority of the Defense Production Act. The outlook was for increased consumer demand at a time when more and more labor and materials would have to be diverted from civilian to defense uses.

In the post-Korean period, Regulation W applied to instalment sale credit and instalment loan credit used for the purchase of specified major durable goods, and to instalment loan credit for some other purposes. The minimum down payments and maximum maturities first applied were only slightly more restrictive than those prevailing in consumer markets. As the strength of inflationary pressures became apparent a short time later, tighter terms were imposed and kept in effect until mid-1951. They were then relaxed to conform to actions taken by Congress in amending the Defense Production Act. In early May 1952, when it became clear that easier supply conditions for consumer durable goods were in prospect

and that less inflationary credit market conditions would permit the Federal Reserve to place increased reliance on the general instruments of credit regulation, the Board of Governors suspended regulation of consumer instalment credit. In the Defense Production Act amendments approved June 30, 1952, Congress repealed the authority for regulation of consumer credit.

Real Estate Credit

Credit extended on real estate, especially residential properties, expanded rapidly after World War II, and was exerting strong inflationary pressure in mid-1950, when it became necessary for the United States to embark on a major defense program. The economy was operating close to capacity and there was little prospect that the program could be carried out without diverting resources from other uses. Excessive credit to finance construction would have led to greater competition with defense requirements for manpower and materials, bidding up costs and prices, and increasing inflationary pressures throughout the economy.

In this setting, temporary authority to regulate certain real estate credit was granted to the President by the Defense Production Act of September 1950. The President was authorized to regulate the terms on which (1) real estate loans could be made, insured, or guaranteed by Federal agencies and (2) credit not so insured or guaranteed could be extended in connection with the construction or major improvement of real property.

The President delegated authority for regulating Government-aided lending to the Housing and Home Finance Administrator, and authority for restricting other kinds of real estate credit to the Board of Governors. The Board

was required to obtain the concurrence of the Administrator with its regulatory terms, and the Administrator was required to apply similar restrictions to the fullest extent practicable to Government-aided loans, preserving the preferences accorded to veterans under existing law.

In mid-fall 1950 the Board issued Regulation X for real estate credit. The Housing and Home Finance Administrator concurred in the Board's regulation and applied similar restraints to Federally-aided loans. Regulation X, like Regulation W for consumer credit, applied to the terms on which individual loans could be made. It specified the maximum amount that could be borrowed, the maximum length of time the loan could run, and the minimum periodic amounts that must be paid to amortize the principal amount of the loan.

After a year the permissible maximum loans were increased and the permitted maturities for residences priced at less than $12,000 were extended, thus easing mortgage credit restraints in accordance with a change in statutory directive. In mid-1952 the Board liberalized terms for credit to finance one- to four-family housing and reduced down-payment requirements for multi-unit residential structures.

An amendment to the Defense Production Act in June 1952 continued authority for real estate credit regulation until mid-1953, but required that the regulation be relaxed earlier if the estimated number of dwelling units started in each of three successive months was below an annual rate (seasonally adjusted) of 1.2 million. Estimates for the next three months were all below the specified rate and, accordingly, the Board suspended regulation of credit terms in mid-September 1952.

Action taken under Regulation X and parallel regulation of Government-aided loans were the first attempts in this country, and probably anywhere in the world, to restrain an inflationary rise in real estate credit through comprehensive regulation of mortgage terms. The experiment was too brief, however, to permit judgment concerning the effectiveness of such regulation.

Voluntary Credit Restraint

Another type of credit restraint, closely related to selective regulation in special areas, was initiated as part of the anti-inflation program of the post-Korean period. The Defense Production Act authorized the President, subject to certain conditions, to encourage financing institutions to take voluntary action to restrain credit that might interfere with the defense program, and provided protection from the antitrust laws when such voluntary action was taken. The President delegated this authority to the Board of Governors.

The program that developed was in every sense a voluntary undertaking by credit institutions. In the latter part of 1950, representatives of commercial banks, life insurance companies, and investment bankers met, at the invitation of the Board of Governors, to formulate plans, and in accordance with these plans the Board selected a National Voluntary Credit Restraint Committee. Representatives of mutual savings banks and savings and loan associations were later added to the National Committee, and this Committee appointed regional committees to be in contact with the lending institutions that cooperated in the program.

The program got under way early in March 1951 when

the conferring representatives of financial institutions issued a Statement of Principles and the Board of Governors wrote to all financial institutions in the United States requesting their cooperation in the program. The Statement of Principles set forth broad standards to be applied voluntarily by cooperating lenders in deciding whether, in the face of national defense requirements, a loan application or a proposed security offering involved an essential or a nonessential use of funds. In effect, lenders were requested to screen loan applications on the basis of this purpose in addition to their customary test of creditworthiness.

From the beginning, it was recognized that precise rules and regulations would be inconsistent with a voluntary program, and so the standards set in the original Statement of Principles and later bulletins and memoranda were in fairly broad and general language. The basic test for sound lending in an inflationary period was summarized as follows: "Does it commensurately increase or maintain production, processing, and distribution of essential goods and services?" The National Committee aided financing institutions by issuing bulletins on special types of credit from time to time, and the regional committees were always available upon request to help participating financial institutions to decide whether particular loans would be in accord with the principles noted by the National Committee.

For more than a year the Voluntary Credit Restraint Program was an essential part of the national effort to restrain the inflationary pressures generated by the Korean crisis. With cumulating evidence of the abatement of these pressures, the Board of Governors in mid-May 1952, on

recommendation of the National Committee, suspended the program. Statutory authority for the program expired at midyear.

Prerequisites of Effective Selective Regulation

Selective instruments of credit policy have been developed far enough to show that in certain situations they can be useful complements to the older and more general instruments—discount operations, open market operations, and reserve requirements. When appropriate to the circumstances and applied flexibly, they can help to make credit policy in general more effective. They apply to the flow of credit in specific channels rather than to the over-all flow of credit and money.

Federal Reserve experience indicates that effective use of selective regulation in national credit policy depends on several factors. The credit area regulated must be of sufficient size and importance to the economy to make its regulation a telling reinforcement of general credit measures. At the same time, the credit area must be reasonably definable in terms of the purpose of the credit, the collateral for it, or the nature of the credit contract. Also, the flow of credit in the area must be responsive to practical adjustments in the terms of lending. Trade practices should be sufficiently specialized and standardized for regulation to permit continuation of established procedures rather than cause a drastic disruption of them. Finally, the contribution of selective regulation to the over-all credit and monetary situation should be substantial enough to outweigh the burdens of regulation, on both those subject to it and those administering it.

CHAPTER V

STRUCTURE OF THE FEDERAL RESERVE SYSTEM. *All national banks and many State banks are members of the Federal Reserve System. There are twelve Federal Reserve Banks, each serving one of the districts into which the country is divided. The policy responsibilities of the Federal Reserve are entrusted to the Board of Governors of the Federal Reserve System, the Federal Reserve Banks, and the Federal Open Market Committee.*

SO FAR the Federal Reserve has been treated as a unit, without reference to its structure or to the distribution of duties and responsibilities among its component parts. This presentation has the advantage of emphasizing that from the point of view of regulating the flow of credit and money the responsibility rests on the System as a whole, and that all of its parts perform their allotted functions in accordance with policies directed toward accomplishing a common objective.

Consideration of the System's structure is now in order. Attention will be given first to the national and State banks that are members of the Federal Reserve System, and to

the obligations and privileges of membership. Then the responsibilities of the several parts of the System for the formation and execution of credit and monetary policy will be described.

Membership

At mid-1953, the Federal Reserve System had 6,765 member banks. Of these, 4,874 were national banks and 1,891 were State-chartered banks. All banks with national charters are required to belong to the System. Banks with State charters may voluntarily join the System if qualified for membership, and if accepted by the Federal Reserve. While somewhat less than one-half of all banks in the United States belonged to the System, in mid-1953 they held about three-fourths of the country's total bank deposits. The different kinds of banks in this country at that time and the amount of their deposits are shown in the table on the following page.

It will be noted that member banks hold about 85 per cent of the demand deposits of all banks, which along with currency serve as means of payment. Consequently, Federal Reserve policies have a direct influence on institutions holding nearly nine-tenths of the bank deposits that are the major component of the country's active money supply.

Obligations and Privileges of Member Banks

By becoming members of the Federal Reserve System, banks become eligible to use all of the System's facilities and, in return, undertake to abide by certain rules prescribed by law, or developed by regulation in accordance with the law, for the protection of the public interest.

ALL BANKS IN THE UNITED STATES, JUNE 30, 1953[1]

Kind of bank	Number	Deposits[2] (In millions of dollars)	
		Demand	Time
Member bank	6,765	93,780	34,117
Nonmember bank	7,772	15,609	32,053
Total	14,537	109,389	66,170
Classes of member banks:			
National	4,874	62,365	23,516
State	1,891	31,415	10,601
Classes of nonmember banks:			
Commercial	7,247	15,572	8,485
Mutual savings[3]	525	37	23,568

[1] Excepting national banks located in Alaska or in an insular possession or in any part of the United States outside the Continental United States.

[2] Excludes interbank deposits.

[3] Excludes three mutual savings banks that are State member banks.

National banks are chartered by the Comptroller of the Currency, a Federal Government official, and are subject in their operations to the National Banking Act as well as to the Federal Reserve Act. State-chartered banks that become members of the Federal Reserve System retain their charter privileges but agree to be subject to the requirements of the Federal Reserve Act. Since these banks join the System voluntarily they have the privilege of withdrawing from membership on six months' notice.

Every member bank is required to subscribe to the capital of its Reserve Bank. Its maximum subscription is an amount equal to 6 per cent of its capital and surplus, but only half of this amount must be paid in, with the other half subject to call. At the end of June 1953, all member banks together owned about 260 million dollars

of paid-in capital stock of the twelve Federal Reserve Banks.

Through Federal Reserve membership, a bank assumes several important obligations: To comply with the reserve requirements of the Federal Reserve and to keep its required reserves on deposit without interest at its Reserve Bank; to be subject to various requirements of the Federal law with respect to branch banking, holding company regulation, interlocking directorates, certain loan and investment limitations, and other matters; and, if the member bank is chartered by a State, to be subject to general supervision and examination by the Federal Reserve.

In return, member banks are entitled to the following principal privileges, among others: (1) to borrow from the Federal Reserve Banks, subject to tests for borrowing set by statute and regulation, when temporarily in need of additional funds; (2) to use Federal Reserve facilities for collecting checks, settling clearing balances, and transferring funds to other cities; (3) to obtain currency whenever required; (4) to share in the informational facilities provided by the System; (5) to participate in the election of six of the nine directors of a Federal Reserve Bank; and (6) to receive a cumulative statutory dividend of 6 per cent on the paid-in capital stock of the Federal Reserve Banks.

Federal Reserve Banks

For purposes of administering the Federal Reserve System the country is divided into the twelve districts shown in the map on page 74. The district boundaries do not always follow State lines and in many instances parts of the same State are in different districts. There is a

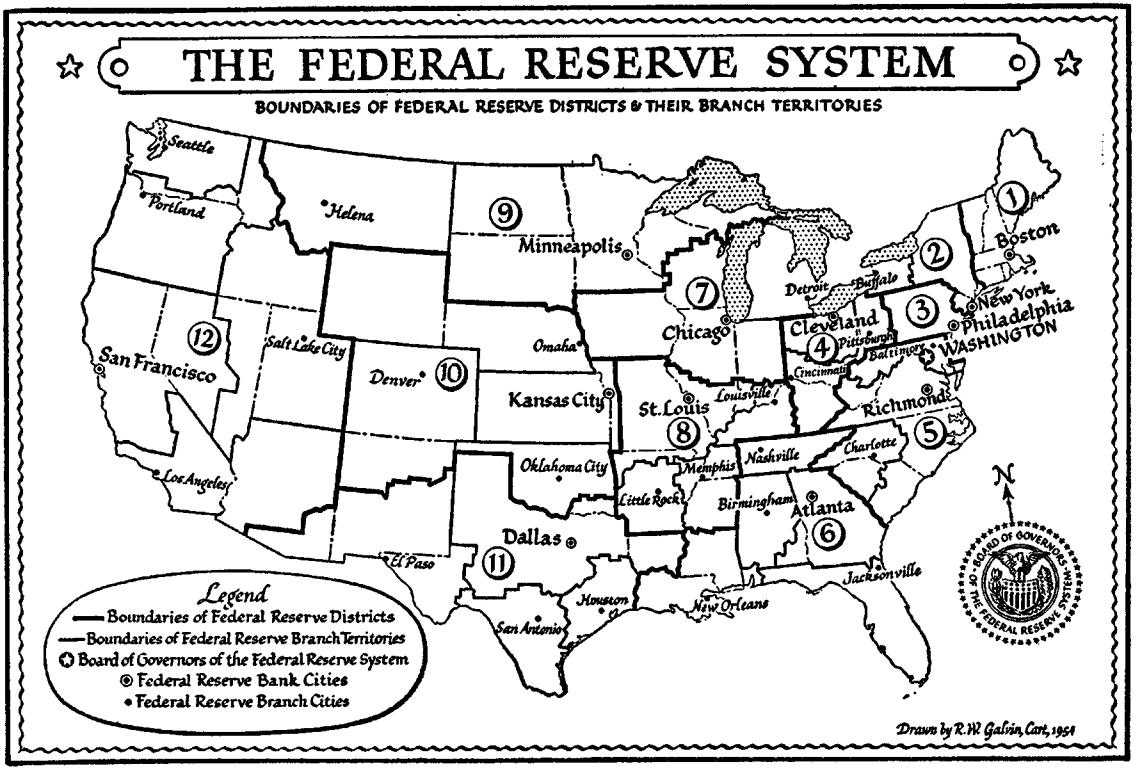
Federal Reserve Bank in each district and some of the Reserve Banks have branches. A list of the districts and branches is given below:

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	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	District Number 11
Branches: El Paso, Texas	
Houston, Texas	
San Antonio, Texas	
Federal Reserve Bank of San Francisco	District Number 12
Branches: Los Angeles, California	
Portland, Oregon	
Salt Lake City, Utah	
Seattle, Washington	

Each of the twelve Federal Reserve Banks is a corporation organized and operated for public service. The Federal Reserve Banks differ essentially from privately managed banks in that profits are not the object of their operations, and their stockholders, which are the member banks of the Federal Reserve System, 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 them are known as Class A directors, three as Class B directors, and three as Class C directors. 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 business, agriculture, or some other commercial 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 and one as Deputy Chairman. The Chairman, by statute, also serves as Federal Reserve Agent.[1]

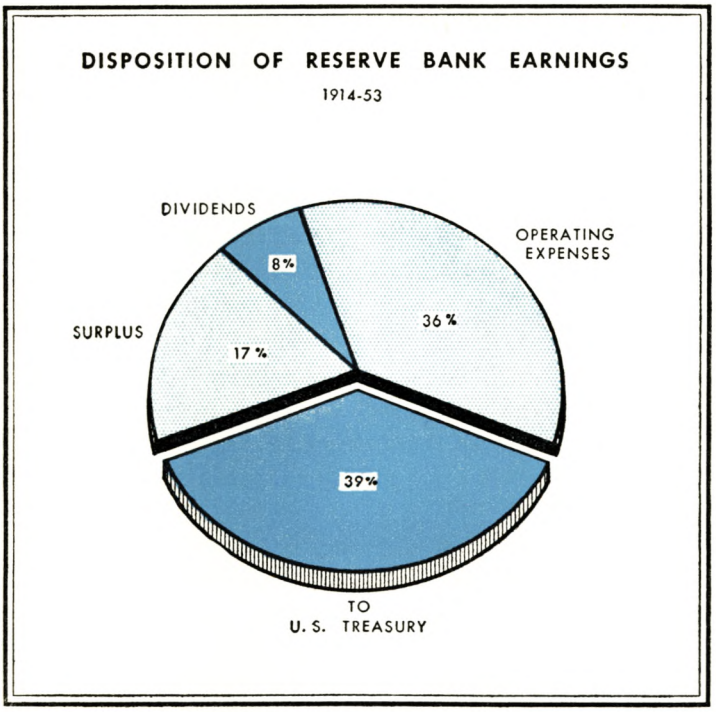
Under this arrangement, businessmen and others who are not bankers constitute a majority of the directors of each Federal Reserve Bank. The directors are responsible for the conduct of the affairs of the Reserve Bank in the public interest, subject to the supervision of the Board of Governors. They choose the Reserve Bank officers, but the law requires that their choice of President and First Vice President, whose terms are for five years, 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. The provisions of law circumscribing 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 nationwide system. Its officers and employees are residents of the Federal Reserve district, and its transactions are with regional and local banks and businesses. It gives effective representation to the views and interests of its particular region and at the same time helps to administer nationwide banking and credit policies.

---

[1] The Federal Reserve Agent, subject to approval by the Board of Governors, appoints such assistant Federal Reserve Agents as he may need in the performance of his duties.

While the Federal Reserve Banks earn an income, their operations are not carried on for this purpose but are determined by Federal Reserve credit policies, which are discussed in other chapters. A part of this income is used



to cover expenses, including the expenses of the Board of Governors in Washington, to pay the 6 per cent statutory dividend to members, and to make additions to surplus as required by law.

For many years the System's net earnings were turned over in large part to the Government as a franchise tax.

At a time when these earnings were small and after the Congress had directed the Reserve Banks to contribute half of their surplus to the capital of the Federal Deposit Insurance Corporation, the provision for the franchise tax was repealed. By 1947, reflecting the effects of war financing, earnings of the Reserve Banks were once more large. The Federal Reserve therefore adopted a procedure by which it pays to the Treasury nine-tenths of its earnings above expenses and dividends, as interest on Federal Reserve notes. The remaining one-tenth is added to the surplus of the Banks. The Federal Reserve makes these payments to the Treasury on the basis of authority contained in a section of the law dealing with Federal Reserve notes. In case of liquidation of the Reserve Banks the surplus would go to the United States Government. This is another illustration of the public character of the Federal Reserve.

From the point of view of credit policy the Federal Reserve Banks make the decisions regarding what loans and discounts to individual member banks will be in harmony with the objectives of the Federal Reserve System. The Reserve Banks also establish the discount rate, subject to review and determination by the Board of Governors. In connection with open market operations the Federal Reserve Banks, in groups prescribed by law, elect five of the twelve members of the Federal Open Market Committee—to be described later.

Board of Governors

The Board of Governors of the Federal Reserve System is a governmental institution with offices in Washington,

D. C. It consists of seven members appointed by the President of the United States and confirmed by the Senate. Members devote their full time to the business of the Board and are appointed for terms of fourteen years, with the terms so arranged that one expires every two years. No two members of the Board may come from the same Federal Reserve district. The Board's expenses are paid out of assessments upon the Reserve Banks, and the Board's accounts are audited twice each year by qualified outside auditors.

One of the Board's duties is to supervise the operations of the Federal Reserve System. As already indicated, the Board appoints three of the nine directors of each Federal Reserve Bank, including the Chairman, who is also the Federal Reserve Agent, and the Deputy Chairman. Appointments of the President and First Vice President of each Federal Reserve Bank are subject to the Board's approval. The Board also issues regulations that interpret the provisions of law relating to Reserve Bank operations. It directs the System's activities in bank examination and supervision and coordinates its economic research and publications.

Annual budgets for each of the twelve Federal Reserve Banks and their twenty-four branches are submitted to the Board. As already stated, the salaries of all officers and employees of the Reserve Banks and branches are subject to the Board's approval. Certain other expenditures such as those for purchase of real estate for banking house purposes and for the construction or major alteration of bank buildings are subject to the Board's specific approval. Reports showing expenses of the Federal Reserve Banks are analyzed by the Board's staff, which also

makes surveys at the Reserve Banks of operating procedures and of other matters relating to their expenses and cost accounting systems.

Each Federal Reserve Bank and branch is examined at least once a year by the Board's field examiners, who are directed to determine the financial condition of the Bank and compliance by its management with applicable provisions of law and regulation. These examiners conduct an examination of the Bank's expenditures, including a determination of compliance with restrictions placed thereon by the Board of Governors and a review to determine that expenditures are properly controlled. The Board's examiners also review the audit program and activities of the resident Auditor and his staff to see that they are adequate and effective. Throughout the year, the Auditor and his staff make comprehensive audits of all phases of the Bank's operations. Copies of the Auditor's reports are furnished to the Board of Governors, where they are carefully reviewed.

The Board represents the Federal Reserve System in most of its relations with executive departments of the Government and with Congressional committees. It is required to exercise special supervision over foreign contacts and international operations of the Reserve Banks. The Chairman of the Board is a member of the National Advisory Council on International Monetary and Financial Problems. The Board submits an annual report to Congress and publishes weekly a statement required by law of the assets and liabilities of the Federal Reserve Banks.

Of the principal monetary actions of the Federal Reserve, the Board has full authority over changes in

reserve requirements. It also "reviews and determines" discount rates established by the directors of the Reserve Banks. The members of the Board are members of the Federal Open Market Committee, described below, and constitute a majority of that important body. As already described, the Board has responsibility for the determination of selective regulation of stock market credit and, for limited periods, has also had responsibility for regulating consumer credit and real estate credit. It has authority to establish the maximum rates of interest that member banks may pay on savings and other time deposits. In general, the Board of Governors is largely responsible for formulating national credit policies and for supervising their execution.

Federal Open Market Committee

This Committee comprises the seven members of the Board of Governors and five representatives elected by the Federal Reserve Banks. It has responsibility for deciding on changes to be made in the System's portfolio of Government securities—in other words, when and how much to buy or sell in the open market and under what conditions. The Reserve Banks, in their operations in the open market, are required by law to carry out the decisions of the Open Market Committee.

The Federal Open Market Committee meets in Washington four times a year, or oftener if necessary, and reviews the national business and credit situation with the help of its staff, which is drawn from the staffs of the Board of Governors and the Reserve Banks. In meetings of the Committee, representatives of the Reserve Banks bring to the council table their special knowledge of

regional conditions. Decisions about open market policy are made in the light of a full discussion of national and regional factors.

Purchases and sales of securities for the Federal Open Market Committee are effected in the name of the System Open Market Account, participations in which are allocated among the twelve Federal Reserve Banks in accordance with the ratio of each Reserve Bank's total assets to the total assets for all Reserve Banks combined. All transactions are supervised by the Manager of the Account, who is an officer of the Federal Reserve Bank of New York. Such transactions are required to be in accordance with instructions issued by the Committee.

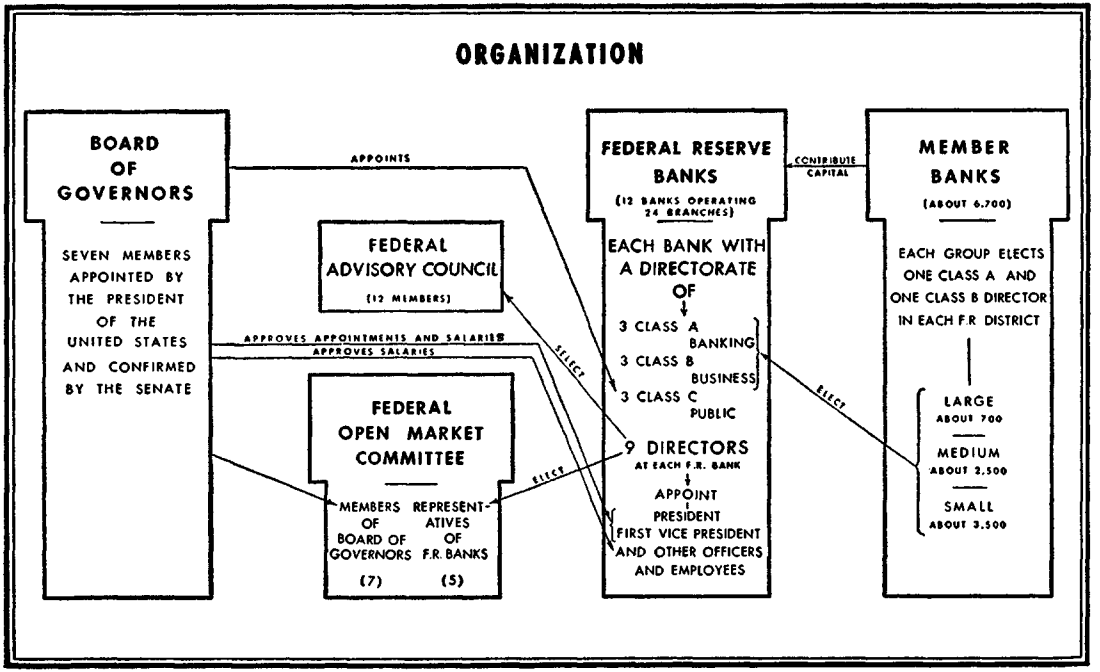
Federal Advisory Council

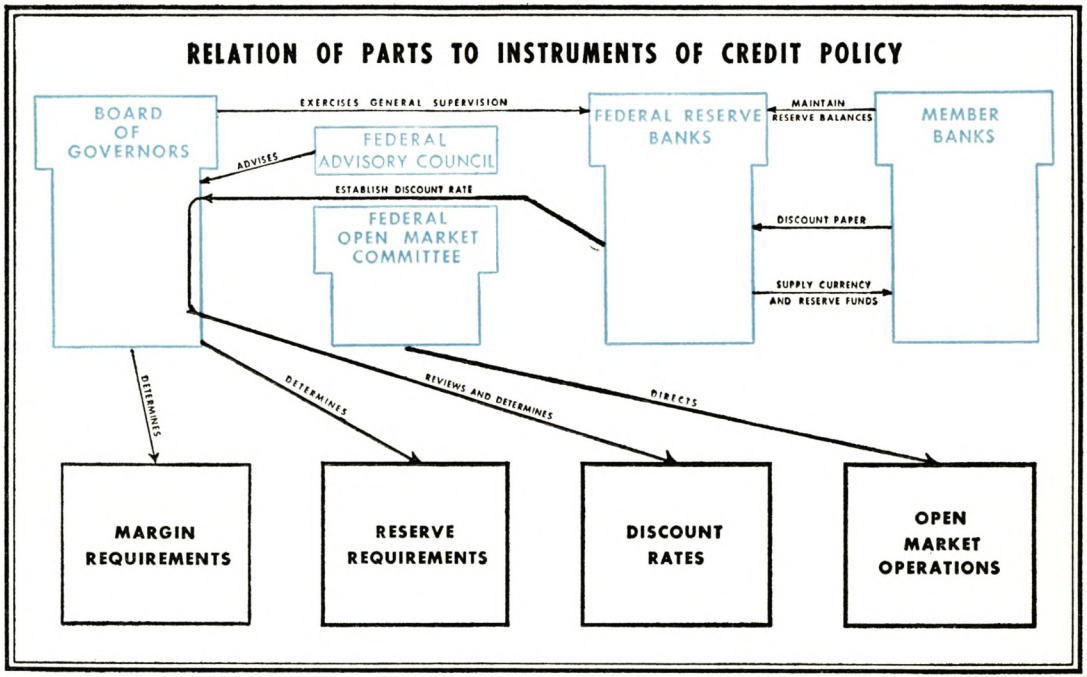
The Federal Reserve Act provides for a Federal Advisory Council of twelve members, one from each Federal Reserve district, selected annually by the Federal Reserve Bank through its board of directors. Council members are usually selected from among representative bankers in each district. The Council meets in Washington at least four times a year. It confers with the Board of Governors on business conditions and makes advisory recommendations regarding the affairs of the Federal Reserve System. It constitutes a link between the Board and representatives of banking in the twelve districts.

Other Advisory Committees

In addition to the Federal Advisory Council the System has a number of conferences and committees that help in reaching understanding on common problems. Of these the most important is the Conference of Presidents of the

THE FEDERAL RESERVE SYSTEM





Federal Reserve Banks. This Conference meets by itself and with the Board at least three times a year.

Distribution of Federal Reserve Authority

The Federal Reserve System is a unique institution designed by its founders to assist in meeting the credit and monetary needs of a large, diversified, and complex economy. A graphic view of System organization can be helpful to an understanding of its structure in relation to its primary functions. The charts on pages 82-83 show in broad outline the statutory organization of the System as it is at the present time, and also the relationship of the organizational parts of the System to the several instruments of credit policy. These are represented at the bottom of the second chart by four squares, and each of these is joined by a line to the agency or agencies that make policy decisions with reference to that instrument.

As preceding discussion has brought out, the power of decision over two of the instruments—reserve requirements for member banks and margin requirements on stock market collateral—rests exclusively with the Board of Governors. Authority over member bank borrowing resides with the Federal Reserve Banks, subject to general supervision of the Board of Governors. Authority over the discount rate is shared between the directorates of the Reserve Banks by which the rate must be "established" and the Board of Governors by which it must be "reviewed and determined." Policy with respect to open market operations is decided neither by the Board of Governors nor by the directorates of the Reserve Banks but by the Federal Open Market Committee.

Other Federal and International Credit Agencies

Since the Federal Reserve System is not the only official agency in the banking and monetary field, its operations cannot be fully understood without reference to certain other agencies. The Office of the Comptroller of the Currency, the Federal Deposit Insurance Corporation, and the State bank supervisors are referred to in a later chapter on bank supervision. There remain for consideration here the Treasury Department, certain Federal agencies that make loans or guarantee loans made by banks and other financing institutions, and certain international credit organizations.

Treasury Department. The Government department with which the Federal Reserve System is most closely related is the United States Treasury. The reason for this is manifest. Debt management policy, which is the responsibility of the Treasury, and credit and monetary policy, which is the responsibility of the Federal Reserve, must constantly be coordinated. The Treasury, in its refunding or borrowing operations, goes repeatedly to the credit market which, as has been related in previous chapters, reflects the credit and monetary policy of the Federal Reserve. It is important from the standpoint of the Treasury that there be a well functioning and resilient market for Government securities, and it is important to the Federal Reserve that these financing operations be consistent with Federal Reserve policy regarding the flow of credit and money. The Federal Reserve therefore keeps the Treasury fully informed as to its policy and counsels with the Treasury on the credit and monetary implications of its debt management program.

The Treasury has other operations that affect the responsibilities of the Federal Reserve System. For example, the flow of cash into and out of Treasury deposits with the banking system has an important influence on the credit situation. If the Treasury builds up its balances with the Federal Reserve Banks and draws down its accounts in commercial banks, its operations tend to tighten bank reserves and the credit market. Conversely, if it increases its commercial bank balances and draws down balances with the Federal Reserve, it tends to make bank reserves more plentiful and to ease the credit market. A main objective of Treasury deposit policy, however, is to smooth out the effects of seasonal or other fluctuations in Treasury cash receipts and disbursements so as to avoid undesirable effects on the reserves of the banking system or on Federal Reserve operations. The close relationship of Treasury and Federal Reserve functions in this and related areas gives rise to constant cooperation and interchange of information between the two organizations.

Domestic credit agencies. Several Federal corporations and agencies have independent responsibilities for making credit available to private borrowers. Congress has authorized some agencies to make loans and others to insure or guarantee loans made by banks and other private financing institutions. A few of these agencies can both lend and guarantee loans. In some cases the lending or insuring functions are related primarily to specific purposes, such as aid to agriculture, home owners, and veterans, and in other cases they are intended primarily to make credit available on terms not ordinarily offered by private lenders. The operations of these Federal agencies affect the flow of credit to private borrowers.

The principal Federal lending agencies include a number in the Farm Credit Administration, which make production, intermediate, and mortgage loans to agriculture; the Rural Electrification Adminstration, which makes loans to encourage the use of electricity and to extend telephone service in rural areas; a group under the Housing and Home Finance Agency, which make loans to finance housing and home ownership; the Export-Import Bank, which makes loans, mostly to foreign borrowers, to aid financing of United States exports and imports; and the newly established Small Business Administration, which is authorized to make fixed and working capital loans to small business concerns. The Reconstruction Finance Corporation, now in liquidation, was formerly engaged in lending to business enterprises, financial institutions, and municipalities and other public organizations.

Important among the Federal agencies that insure or guarantee loans are the Veterans Administration, which is authorized to guarantee and insure loans (so-called "G.I." loans) obtained from banks and other institutions by veterans of World War II, and the Federal Housing Administration, which under certain conditions can insure home mortgage and home modernization loans made by banks and other financing institutions.

International credit institutions. The International Monetary Fund and the International Bank for Reconstruction and Development, which have offices in Washington, D. C., have functions related to the Federal Reserve System. These institutions are not part of the American banking and monetary system, but they affect the domestic money market through their operations in gold and through their influence on the demand for credit in this country. The

United States shares with other nations the ownership and control of these two institutions and has representatives on their directing bodies appointed by the President with the Senate's approval.

In order to coordinate the policies and operations of these representatives and of all agencies of the Government that make foreign loans or engage in foreign financial transactions, Congress has established the National Advisory Council on International Monetary and Financial Problems, whose members are ex officio, the Secretary of the Treasury, who is Chairman of the Council, the Secretary of State, the Secretary of Commerce, the Chairman of the Board of Governors of the Federal Reserve System, and the Director of the Foreign Operations Administration.

CHAPTER VI

RELATION OF RESERVE BANKING TO CURRENCY. *The Federal Reserve pays out currency in response to the public's demand and absorbs redundant currency. Its operations make the entire currency supply elastic.*

AN important purpose of the Federal Reserve Act was to provide an elastic supply of currency—one that would expand and contract in accordance with the needs of the public. Prior to 1914 the currency consisted principally of Treasury notes secured by gold or silver and of national bank notes secured by specified kinds of United States Government obligations. These main forms of currency were so limited in amount that additional paper money could not easily be supplied when the nation's business needed it. As a result, currency would become hard to get and at times command a premium.

Currency shortages, together with other related developments, caused several financial crises or panics. One of the tasks of the Federal Reserve is to prevent such crises by providing a kind of currency that responds in volume

to the needs of the country. The Federal Reserve note is such a currency.

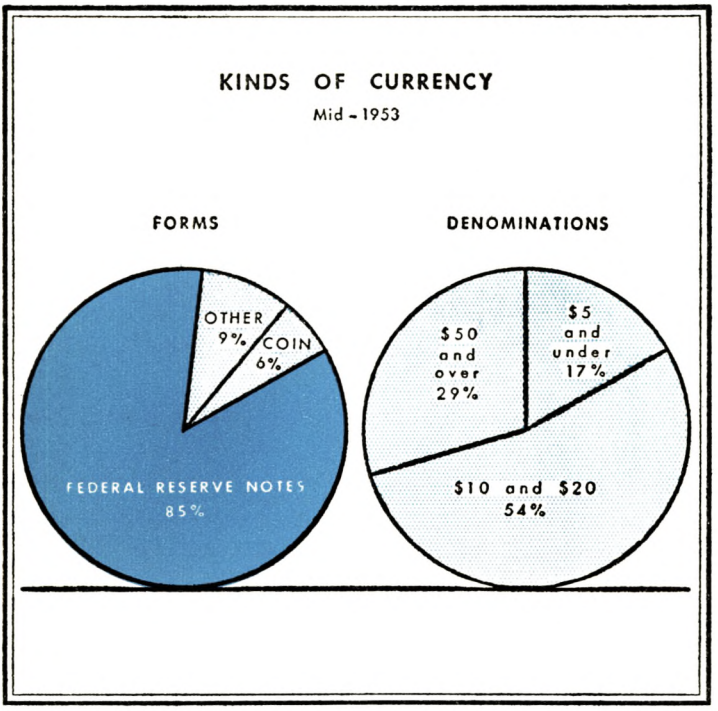
How Federal Reserve Notes Are Paid Out

Federal Reserve notes are paid out by a Federal Reserve Bank to a member bank on request and the amount so paid out is charged to the member bank's reserve account. Any Federal Reserve Bank, in turn, can obtain the needed notes from its Federal Reserve Agent, the representative of the Government. The Federal Reserve Agent is located at the Federal Reserve Bank and has custody of all unissued notes. The Reserve Bank obtaining notes must pledge with the Federal Reserve Agent an amount of collateral at least equal to the amount of notes issued. This collateral may consist of gold certificates, United States Government securities, and eligible short-term paper discounted or purchased by the Reserve Bank. The amount of notes which may be issued is subject to an outside limit in that a Reserve Bank must have gold certificate reserves of not less than 25 per cent of its Federal Reserve notes in actual circulation. Gold certificates pledged as collateral with the Federal Reserve Agent and gold certificates deposited by the Reserve Bank with the Treasury of the United States as a redemption fund against Federal Reserve notes both count as such reserves.

Under this system the volume of currency in circulation increases when the public's needs become larger, and declines when they become smaller. In the latter case member banks, on receipt of currency from their depositors, redeposit it with the Federal Reserve Banks, receiving credit in their reserve accounts. The Reserve Banks can then turn it over to the Federal Reserve Agents and redeem

the assets previously pledged as collateral for the notes.

Federal Reserve notes constitute about seven-eighths of all the currency in circulation, as shown in the chart. The other kinds of currency are Treasury currency. Treasury



currency includes United States notes (a remnant of Civil War financing), various issues of paper money in process of retirement, silver certificates, silver coin, nickels, and cents. Since Federal Reserve notes are not issued in denominations smaller than $5, all of the $1 and $2 bills, as well as some bills of larger denominations, are in other

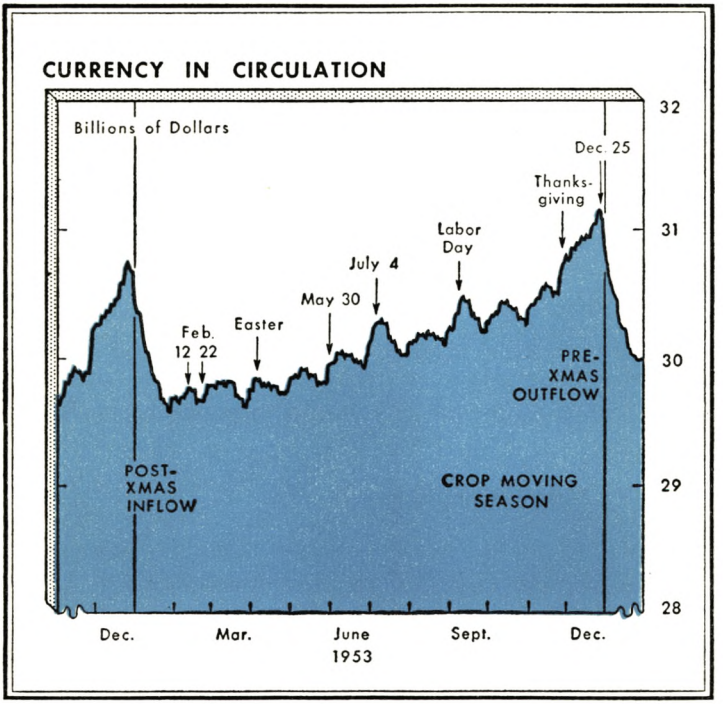
forms of paper money, chiefly silver certificates and United States notes. At mid-1953 the total amount of currency in circulation was 30 billion dollars, of which 25.6 billion was Federal Reserve notes. Of the remainder, the largest amount consisted of silver certificates.

All kinds of currency in circulation in the United States are legal tender, and the public makes no distinction among them. It may be said that the Federal Reserve has endowed all forms of currency with elasticity since they are all receivable at the Federal Reserve Banks whenever the public has more currency than it needs and since they may all be paid out by the Reserve Banks when demand for currency increases. In the subsequent discussion reference will be made to the total of currency in circulation rather than to any particular kind.

Demand for Currency

It has already been stated that the amount of currency in circulation now changes in response to changes in the public's needs. These changes are substantial and frequent. The demand varies for different days of the week, for different days of the month, and for different seasons. It increases before holidays such as Independence Day, Labor Day, and Thanksgiving, when many people take trips and need more pocket cash. There is an extraordinary increase in the demand before Christmas, when cash is used for Christmas shopping and as gifts. After the holidays, excess currency is promptly deposited in the banks by the merchants, hotel keepers, and others with whom it has been spent, and the banks in turn send it to the Federal Reserve Banks. The effect of holiday movements of currency, when they occur at a week-end or month-end, is sometimes offset by other influences.

In addition to seasonal changes in the demand for currency, there are changes that reflect variations in business conditions. When business activity is rising, the demand for currency increases, and when business activity



declines, the demand also declines. While most payments in this country are made by check, some types of payment are made principally in currency. The most important of these are payrolls and retail trade transactions, and statistical studies show that the amount of currency in circulation fluctuates in response to changes in the volume

of these two kinds of payments. There have been occasions, as in 1931-33, when the demand for currency increased because numerous bank failures caused people to withdraw their deposits from other banks.

During the war the amount of currency in circulation increased greatly in response to a variety of influences: the growth of payrolls, retail trade, and travel; many and widespread changes in places of residence; payments to members of the armed forces; larger incomes of people not in the habit of using banks; and no doubt hoarding of currency for various reasons. The demand for additional currency subsided after the war, but the volume in circulation remained extraordinarily large. Following the Korean crisis and the undertaking of a large rearmament program, demand for currency again strengthened, as shown in the chart on page 108. Over the ensuing three years, the amount in circulation continued to expand gradually.

Effect of Note Circulation on Federal Reserve Position

From the point of view of the Federal Reserve and member banks, changes in the demand for currency have a special significance that arises out of the system of reserve requirements. As has been explained, reserve requirements of member banks are expressed as percentages of their deposits. If someone borrows, say $1,000, from a member bank and leaves it on deposit to be transferred from bank to bank by check, the amount of reserves that the banking system must hold increases only $200, assuming required reserves to be 20 per cent. If, however, the borrower wishes to withdraw the proceeds of the loan in currency and the member bank has insufficient currency in its till,

it must obtain the currency from a Reserve Bank, which will charge the full amount withdrawn to the member bank's reserve account. Consequently the reserves of the bank—and of the banking system as a whole—will diminish by the full $1,000.

If the banking system had no excess reserves, it would have to obtain additional reserves. The Federal Reserve could supply the reserves by lending to member banks or it could buy an equivalent amount of Government securities in the open market if this were considered desirable. Whichever procedure was followed, the demand for Federal Reserve credit and Reserve Bank holdings of discounts and securities would increase. The increase, however, would be only $200 in the case of the demand for $1,000 of checking deposits, while it would be $1,000 in the case of demand for an equal amount of currency. Because the increase in the demand for Federal Reserve credit is so much greater when the public withdraws its funds from banks in currency than when it leaves them on deposit, the volume of discounts and securities held by the Federal Reserve Banks is greatly influenced by changes in the demand for currency. As noted before, the changes in this demand are both frequent and substantial.

Similarly, the reserve position of the Federal Reserve Banks is affected when the public elects to hold money in the form of currency rather than as demand deposits at banks. The Reserve Banks are required to hold the same ratio of reserves in gold certificates against their Federal Reserve notes in circulation as against their deposits (25 per cent), but when the public demand is for $1,000 in currency, the Federal Reserve Banks pay out that amount of Federal Reserve notes—and their reserve requirements

increase by $250. If, however, the public's demand is for $1,000 in checking deposits, member bank reserves, which are the deposits against which the Reserve Banks must hold reserves, increase by only $200 and the reserves needed by the Reserve Banks by only $50 (25 per cent of $200). Consequently, an increase in currency ties up five times as much of the Reserve Banks' reserves as does an identical increase in bank deposits.

Federal Reserve policy with respect to the expansion or contraction of Reserve Bank credit must always be alert to the character of the demand for such credit and, in the interests of economic stability, must be adapted to it. It is principally because of the large growth in currency in circulation during the war that the Federal Reserve Banks' ratio of reserves to combined note and deposit liabilities declined to a point where in 1945 it threatened to impinge upon the Federal Reserve's freedom of policy action. In these circumstances, Congress deemed it wise to reduce the reserve requirement of the Reserve Banks from 40 per cent for Federal Reserve notes and 35 per cent for deposits to 25 per cent for each kind of liability.

While the Federal Reserve pays out currency in response to the demand of the public and absorbs currency that the public does not need, it should not be concluded that currency demand is free of influence by the Federal Reserve. The policies pursued by the Federal Reserve affect this demand, as they also do the community's use of bank deposits. The main task of the Federal Reserve in providing an elastic currency, however, is to see that the total of the two forms of money is appropriately related to the volume of trade and production and does not itself tend to make the total demand for goods excessive or deficient.

CHAPTER VII

RELATION OF RESERVE BANKING TO GOLD. *Gold and Federal Reserve credit are the principal sources of member bank reserves. Gold inflows reduce reliance of banks on Federal Reserve credit and gold outflows increase it. Changes in the country's monetary gold stock are reflected in Federal Reserve holdings of gold certificates.*

THERE is a dual relationship between the Federal Reserve and gold. Gold is the ultimate basis of Federal Reserve credit, and gold movements are an important factor in member bank use of Federal Reserve credit.

Gold is the basis of Reserve Bank credit because, as explained in Chapter III, the power of the Reserve Banks to create money through adding to their deposits or issuing Federal Reserve notes is limited by the requirement of a 25 per cent reserve in gold certificates against both kinds of liabilities. That is to say, the total of Federal Reserve notes and deposits must not exceed four times the amount of gold certificates held by the Reserve Banks.

Thus the ultimate limit on Federal Reserve credit expansion is set by gold.

Flows of gold into and out of the monetary mechanism, besides increasing or decreasing the reserves of the Federal Reserve Banks, also affect the need of the banking system for Federal Reserve credit. For example, when the United States Government acquires more monetary gold, additional reserves usually become available to the member banks without their having to obtain credit from a Reserve Bank. Except to the extent that there is a more than temporary decline in the amount of currency in circulation, gold and Federal Reserve credit are the main sources of member bank reserves. The more gold that comes to the monetary system from abroad or from domestic mines, the less demand there is for Federal Reserve credit. This relationship between gold and member bank reserves requires more detailed explanation and description.

Gold as Reserve Money

In the American monetary system the standard dollar is defined as a weight of gold. Gold, however, is not coined into money, and currency based dollar for dollar on gold, represented by gold certificates, does not directly enter into circulation with the public or into member bank reserves. Gold nevertheless functions directly and without restriction as reserve money of the Federal Reserve Banks and in this role affects the reserve position of the banking system. Except that imports or exports of gold are subject to license by the Treasury, gold also functions freely as a means of settling international balances.

All gold that enters the monetary mechanism becomes reserve money of the Federal Reserve Banks, not directly

as gold but in the form of gold certificates. Under the Gold Reserve Act of 1934, private persons are not permitted to hold in this country any gold in monetary form. Monetary gold is bought by the Treasury, which pays $35 an ounce for it by check drawn against its deposit account at the Reserve Banks. Against the gold acquired, the Treasury issues an equivalent amount of gold certificates as a basis for restoring the Treasury's deposit account at the Reserve Banks.

The Treasury must hold gold at the rate of $35 an ounce for all the gold certificates it issues.[1] Consequently, while the title to the gold is in the Government, the greater part of it is held as cover for gold certificates. The gold certificates are held as reserves of the Reserve Banks and may not be used for any other purpose. The Reserve Banks are the only institutions permitted by law to hold gold certificates, which are not permitted to circulate outside the Reserve Banks.[2]

In practice the Reserve Banks actually hold only a relatively small amount of gold certificates; most of their reserves are represented by a credit in a gold certificate account on the books of the Treasury. This serves the same purpose and saves the unnecessary expense of printing and shipping the certificates.

At the end of June 1953, the Treasury held monetary gold in the amount of 22,463 million dollars. Of this

[1] The amount of gold that the Treasury must hold as cover for each dollar of gold certificates can be changed only by an Act of Congress.

[2] A total of 37 million dollars of gold certificates issued before the Gold Reserve Act of 1934, and not turned into the Treasury in accordance with the terms of that Act, are still regarded as outstanding in the official report on currency in circulation. Some part of this amount may have been lost or destroyed and some of it may be held in hoards abroad.

amount 21,323 million was cover for gold certificates, all but 37 million of which was held by the Reserve Banks as required and excess reserves. Another 156 million was held as the statutory reserve against United States notes. The remainder, 984 million, was in the general fund of the Treasury. Only the gold in the general fund is at the free disposal of the Treasury.[3]

In addition to the gold stock held in its general fund, the Treasury keeps a relatively small amount in the working balance of the Exchange Stabilization Fund. The gold so held amounted to 58 million dollars as of June 30, 1953. Most of the gold transactions of the Treasury are conducted through this Fund, which buys gold from and sells gold to foreign monetary authorities for dollars.

How Gold Is Monetized

The process by which gold produced in the United States or imported from abroad reaches the Treasury and is reflected in additions to the reserves of member banks and Federal Reserve Banks is described below.

The gold is taken to a United States assay office or to a United States mint. The United States Treasury, as

[3] When gold was revalued from $20.67 to $35.00 an ounce in 1934, there accrued to the Treasury a revaluation "profit" of 2.8 billion dollars. A total of 2 billion of this "gold profit" was placed in an Exchange Stabilization Fund, of which 1.8 billion was held inactive. Most of the "profit" not placed in the Stabilization Fund was used indirectly to retire national bank notes. In 1947, 688 million dollars of the 1.8 billion in the inactive account of the Exchange Stabilization Fund was used to pay the United States gold subscription to the International Monetary Fund, and the balance was added to the general fund of the Treasury, or used to cover issuance of gold certificates. In the latter part of 1953 the Treasury issued 500 million dollars of gold certificates against gold in the general fund and used the proceeds to purchase for redemption Government securities held by the Federal Reserve System.

explained, pays $35 an ounce for it by check. The seller of the gold will deposit this check with his bank, usually a member bank, which in turn deposits it with a Reserve Bank, where it is added to the reserve balance of the member bank and charged to the account of the United States Treasury. The Treasury replenishes its account by issuing an equivalent amount of gold certificates to the Reserve Bank. Assume that the gold is worth 10 million dollars. Then the gold stock of the Treasury, the gold certificate holdings of the Reserve Bank, the reserve balance of the member bank, and the bank deposit of the seller of the gold will each increase by 10 million dollars.

For many years movements of gold into and out of this country's monetary reserves have been handled almost exclusively by foreign governments and reserve or central banks, so that most gold transactions proceed through official channels and under a general license issued by the Treasury. When the seller of gold is a foreign official authority, the immediate purpose of the sale is often to build up dollar balances in this country. The dollar proceeds of the sale in these cases are usually deposited in a foreign deposit account with a Federal Reserve Bank. Thus, while this leads to an increase in the gold certificate reserves of the Reserve Banks, there is no immediate increase in member bank reserve balances and deposits. Such increases do occur, however, when the foreign official authority draws on its Reserve Bank deposit account to make payments in American markets.

On the other hand, when a foreign monetary authority wants to acquire 10 million dollars in gold it may draw a check on a correspondent member bank in the United States in favor of the Federal Reserve Bank. The Federal

Reserve Bank charges the check to the member bank's reserve account and turns over 10 million dollars of gold certificates to the Treasury which furnishes the gold to the Federal Reserve Bank as agent for the foreign authority. The result is that the deposits and the reserve balance of the member bank, the gold certificate holdings of the Reserve Bank, and the gold holdings of the Treasury are each reduced by 10 million dollars.

When foreign official authorities are purchasers of gold, the impact of gold transactions on member bank reserve balances and deposits often precedes the actual gold purchase. Such purchases are made after the foreign deposit account at the Reserve Bank has increased as a result of a balance of dollar receipts from transactions in American markets. Member bank deposits and reserve balances go down at the time the foreign balances at the Reserve Banks go up.

The deposits of foreign reserve or central banks and governments held at the Federal Reserve Banks are generally used in balancing international transactions between residents of the United States and those of the other countries concerned. Since they are held for these purposes and since they do not bear interest, their level is normally determined by transaction needs. When they fall below levels desired for working purposes and other means of replenishing them are unavailable, they are replenished by sales of gold. When they rise above these levels and the foreign holder does not desire to invest the excess in prime marketable securities, they are drawn down through the purchase of gold.

Gold transactions with foreign countries are frequently effected without a physical movement of gold into or out

of this country. A foreign monetary authority may purchase gold in the United States and have it "earmarked," or segregated, for its account at the Federal Reserve Bank of New York; the gold is actually held by that Reserve Bank. Conversely, a foreign authority may sell some of its earmarked gold to the United States Treasury. Earmarked gold belongs to foreign authorities and is not a part of the monetary gold stock of the United States. Foreign purchases of gold to go into, and sales of gold to come out of, earmarked accounts have the same effect on our banking system as foreign purchases of gold for export and foreign sales of gold after import.

The processes of monetizing gold described above are essentially the same as they were when gold itself was held by the Federal Reserve Banks. The only difference is that the title to the gold owned by the United States is in the Treasury and that the Reserve Banks hold claims on it in the form of gold certificates or a credit in the gold certificate account. The ultimate effects of gold flows on the reserves of Federal Reserve Banks and member banks and on bank credit and the total money supply are not changed in any significant respect by the altered procedure.

Gold in International Payments

Movements of gold from one country to another are the ultimate means by which international balances are settled. On one side of the account are all the commodities, services, and securities the United States, for example, has sold to foreigners, and on the other side are all the commodities, services, and securities the United States has bought from foreigners. There are other items, such as the Government's aid to foreign countries and remittances by

immigrants to their mother countries, that enter into one or both sides of the balance-of-payments account. If, after all of these items have been taken into account, there is still a balance due to the United States from abroad, it can be met by foreigners in one of three ways: by borrowing in the American market, by drawing down their dollar deposit balances, or by selling gold to the United States. Sale of gold is usually the last resort employed to cover the balance.

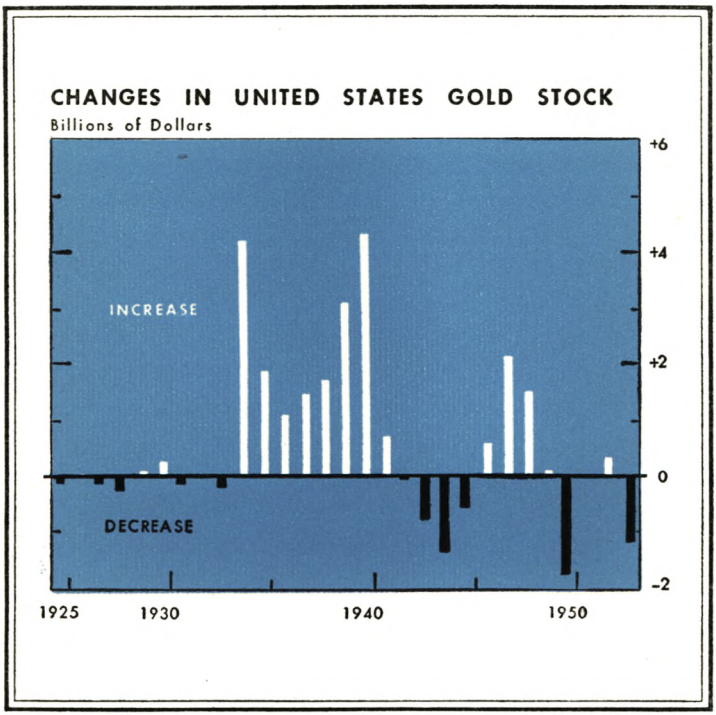
In recent years the balance of international transactions has sometimes been due to the United States and sometimes to foreign countries. Gold has therefore moved in both directions, and there have been corresponding changes in the monetary gold stock of the United States, as the chart shows. Since 1948 the movement on the whole has been outward. This development has reflected progress abroad in restoring stable monetary conditions and, in turn, has been a factor enabling foreign countries to relax controls over normal trade and foreign exchange transactions.

Gold and Federal Reserve Operations

It has been shown that gold purchases or sales by the United States increase or decrease the reserves of Federal Reserve Banks and, therefore, their ability to supply notes and create deposits. It has also been shown that, disregarding transitory lead-and-lag effects sometimes associated with the gold transactions of foreign official authorities, gold purchases or sales by the Government also affect the reserve position of member banks and hence their ability to make loans and investments and expand their demand deposits.

The ultimate effect on member bank reserves of move-

ments into or out of the nation's monetary gold stock is thus the same as that of Federal Reserve discount or open market operations. When gold flows in, it increases member bank reserves in the same way as would an equivalent



amount of discounts or open market purchases by the Reserve Banks; when gold flows out, it diminishes member bank reserves in the same way as would the paying off of a discount by a member bank or the sale of a security by a Reserve Bank. It is for this reason that the demand for Reserve Bank credit diminishes when gold comes in and

increases when gold goes out. Sometimes the Federal Reserve makes loans on gold to foreign reserve banks and this has the same effect on credit conditions in this country as any other advance by a Reserve Bank.

Except for currency movements in and out of the Federal Reserve Banks, which follow the independent pattern explained in the preceding chapter, gold and Federal Reserve Bank credit are the two principal sources of member bank reserves, which in turn are the basis of member bank credit and of the money supply. It is for this reason that the Federal Reserve, in performing its functions, must adapt its operations to the prevailing flow of gold.

The Federal Reserve's financial strength and authority is such today that it is in a position to offset, when desirable, the credit and monetary effects of any likely movement of gold. Offsetting operations can be accomplished through open market transactions or changes in reserve requirements. Nevertheless, unusually large and abrupt flows of gold in one direction or the other can present delicate problems of credit and monetary adjustment.

Under conditions of international monetary stability, gold movements are subject to frequent changes of direction, with annual changes in the country's gold stock that are relatively moderate. In such circumstances, gold flows are merely one factor to which Federal Reserve operations, in regulating the flow of credit and money, are adapted. In fact, international financial stability and convertibility of currencies can facilitate the execution of Federal Reserve functions by fostering the ready settlement of trade accounts and by minimizing speculative and capital movements, and thereby reducing the need for gold movements between countries.

CHAPTER VIII

THE BANK RESERVE EQUATION. *Gold, currency movements, and changes in Federal Reserve credit are the principal factors that influence the volume of member bank reserves—the basis of the bank credit and money supply. The interrelationship among these and other less important factors is sometimes called the bank reserve equation.*

MEMBER bank reserves and all the principal factors that affect their volume have been discussed separately and will now be brought together. These factors reflect the numerous forces in the country's economic life which affect the credit and monetary activities of the commercial banks.

All the factors that affect member bank reserves—gold, currency in circulation, and Federal Reserve credit, plus certain other factors of minor or transitory importance—can be combined into a bank reserve equation. In this equation the factors supplying member bank reserve funds are set opposite the factors absorbing such funds.

Taking the situation at mid-1953, the accompanying

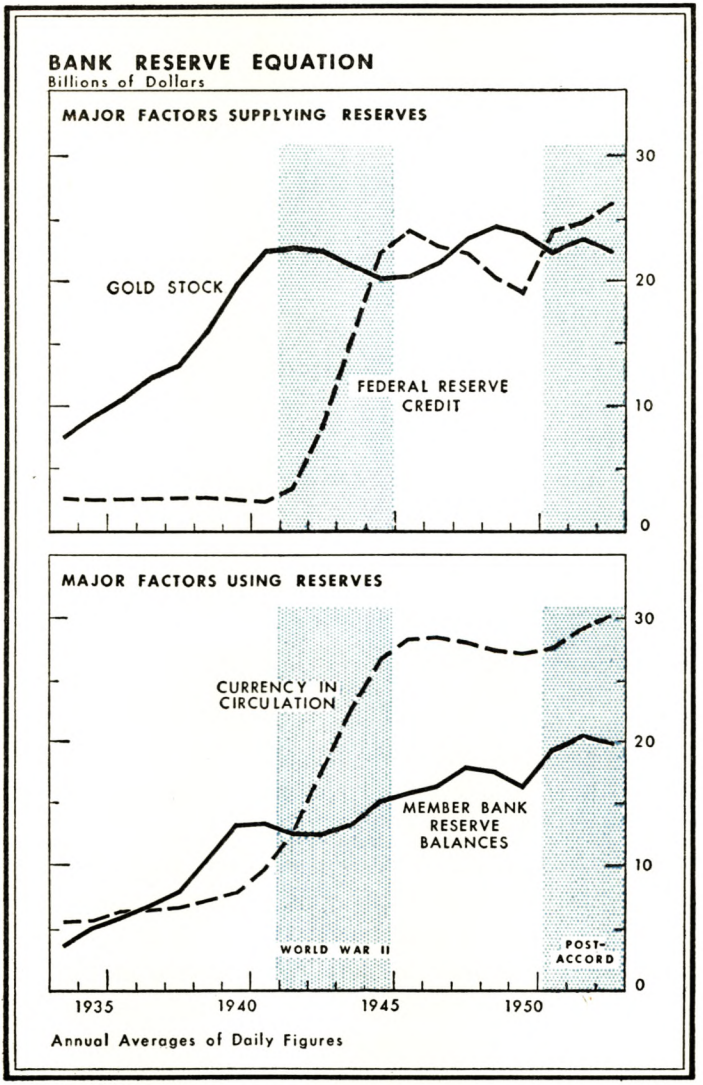


table shows that three factors—gold, Federal Reserve credit, and Treasury currency—accounted for the supply of member bank reserves. Treasury currency outstanding, as explained in Chapter VI, consists of United States notes, silver certificates, silver dollars, and subsidiary coin plus

FACTORS IN THE BANK RESERVE EQUATION, MID-1953
[In billions of dollars]

Factors accounting for supply of reserves:	
Monetary gold stock	22.5
Federal Reserve credit	25.4
Treasury currency	4.9
Total	52.8
Factors accounting for use of reserves:	
Currency in circulation	30.1
Treasury cash accounts	1.4
Nonmember bank, foreign, and other accounts at the Federal Reserve	1.7
Total	33.2
Member bank reserve balances	19.6
Total	52.8

remnants of obsolete issues not yet presented for retirement. While growth in Treasury currency over the years operates to supply bank reserves, short-run fluctuations in Treasury currency are usually small and therefore relatively unimportant in bank reserve positions.

The table also brings out that the use of reserve funds is accounted for by member bank reserve balances and three other factors—currency in circulation, Treasury cash accounts, and nonmember bank, foreign, and other ac-

counts at the Federal Reserve. As compared to currency in circulation, the other two items are small and changes in them are of only temporary importance.

The course of these factors over the period 1934-53 is shown in the chart on page 108. It will be seen that the relative importance of different factors changed from time to time during the period. Through 1941 the dominant factor was an increase in the gold stock. During the war the predominant influences were increases in currency in circulation and in Federal Reserve credit. Since the war changes in major factors have been smaller and more varied than in the earlier periods.

It will be evident that over a period of time any of the factors can increase or reduce reserves. Taking the principal factors for illustration, it is apparent that inflows of gold, decreases in currency in circulation, and increases in Federal Reserve credit add to member bank reserves, while outflows of gold, increases in currency in circulation, and contraction of Federal Reserve credit diminish member bank reserves.

Interplay of Bank Reserve Factors

Gold flows are greatly affected by forces outside Federal Reserve regulation. They necessarily depend on international as well as domestic financial conditions. For many years they have been less responsive to relative levels of interest rates than they had been in the past, but have been determined more by official policies of foreign reserve or central banks and governments and by war and political tension. Currency movements follow a course primarily influenced by the level of business activity and the habits and preferences of the public for currency.

Federal Reserve credit is the balance wheel between these two more or less independent factors and member bank reserves. It is the chief means by which the Federal Reserve, through influencing the volume of member bank reserves, can discharge its responsibility to regulate the flow of credit and money generally. The Federal Reserve can use its credit powers either to initiate changes in the volume of member bank reserves or to modify changes caused by gold or currency movements. Action to offset the effects of gold and currency movements will or will not be taken, depending on whether these effects are in harmony with current Federal Reserve credit and monetary policy.

Member bank reserves, although affected by the operations of the three other principal factors in the bank reserve equation, are not themselves an entirely passive element. They respond to economic forces that are not necessarily reflected in gold or currency movements, and their independent impulses are subject to influence by the Federal Reserve. For instance, at times of vigorous demand for borrowed funds and consequent growth in bank loans and deposits, member banks need more reserves. The need for additional reserves expresses itself in a demand for additional Reserve Bank credit. The type of Federal Reserve action taken in response to these demands depends in general upon the prevailing state of economic conditions and the desirability at the time of enlarging the flow of credit and money. The Federal Reserve ordinarily supplies its credit through some combination of additional discounts and open market purchases, but it may also meet the demand by a reduction in the reserve requirements of member banks.

Prewar Changes in Member Bank Reserves

A brief account of the interplay of the major factors in the bank reserve equation over the past two decades can illustrate the usefulness of the equation approach. How these factors affected member bank reserves from mid-1934, which was shortly after adjustment of the monetary system to gold revaluation, until the United States entered World War II, is shown in the table.

MAJOR FACTORS IN BANK RESERVE EQUATION
JUNE 30, 1934—DECEMBER 31, 1941

[In billions of dollars]

Factors supplying reserves:	
Inflow of gold	14.9
Factors absorbing reserves:	
Increase in currency circulation	5.8
Reduction in Federal Reserve credit	0.1
Other factors (net)	0.4
Total	6.3
Increase in member bank reserves	8.6
Total	14.9

It will be seen that the principal factor supplying reserves was a huge inflow of gold and that the principal factor absorbing reserves was a steady increase in currency in circulation. This was a period of world depression and of unsettled political conditions abroad. With the nation's own manpower and other resources continuously underemployed, the Federal Reserve authorities pursued a policy of monetary ease to encourage their fuller utilization.

As the gold inflow continued, the effect on member bank

reserves was substantial and excess reserves became large. As economic recovery progressed, it seemed desirable to temper this effect and also to restore the contact of the Federal Reserve Banks with the credit market. Accordingly, in 1936 and 1937 the Federal Reserve authorities raised the reserve requirements of member banks by steps to their statutory maximum. Some downward adjustment of reserve requirements was made as business activity receded in 1938, but with the threat of excessive bank credit and monetary expansion resulting from the national defense emergency in the early 1940's, the Federal Reserve, just prior to this country's entering the war, raised them again to their statutory maximum. Over this entire period, Federal Reserve credit remained fairly stable with practically no use made of Reserve Bank discount facilities.

The War and Postwar Adjustment Periods

After the United States entered the war and began to provide exports under lend-lease, the gold inflow to this country stopped. During the war period, gold flowed out of the United States, reflecting chiefly large-scale purchase of goods from South American countries. For a period after the war the gold inflow was resumed, but beginning in 1949 there was some outflow. Taking the war period and the postwar adjustment period as a whole, as in the table on page 114 which shows the major factors affecting reserves in this period, gold was a factor operating on balance to absorb member bank reserves.

By far the major factors affecting member bank reserves over these abnormal years were the increases in Federal Reserve credit and in currency in circulation, most of which occurred during war years. During these years, the

Federal Reserve System, in support of war finance, undertook to supply through open market operations enough Federal Reserve credit to enable the banking system to purchase the Government security offerings not taken up by nonbank investors and to meet the rapid wartime increase in currency in circulation. Another objective of

MAJOR FACTORS IN BANK RESERVE EQUATION
DECEMBER 31, 1941—JUNE 30, 1951

[In billions of dollars]

Factors supplying reserves:	
Increase in Federal Reserve credit	21.7
Other factors (net)	2.5
Total	24.2
Factors absorbing reserves:	
Increase in currency circulation	16.6
Outflow of gold	1.0
Total	17.6
Increase in member bank reserves	6.6
Total	24.2

operations in war years was to maintain a stable credit market so that the credit needs of Government and essential industry could be met promptly and cheaply. Federal Reserve discount rates were maintained at low levels. In support of this program, the authorities in 1942 reduced reserve requirements of central reserve city banks to make them the same as those of reserve city banks.

The financial needs of the war effort expanded rapidly up to the end of hostilities, and the net effect of Federal

Reserve policies was to offset the drain on bank reserves resulting from the increase in currency circulation and to enlarge bank reserve positions enough, together with excess reserves carried over from the prewar gold inflow, to support a more than doubling of commercial bank deposits. Since Federal Reserve credit was supplied freely during this period through open market operations, very little use was made by member banks of the discount privilege despite the low level of Reserve Bank discount rates.

The Federal Reserve authorities carried over into the postwar period a policy of supporting the prices of Government securities at close to par, thus maintaining a high degree of yield stability in this and other sectors of the credit market and continuing a policy of credit and monetary ease. In this situation banks, and indeed all holders of Government securities, were able to make adjustments in their operating positions through transactions in Government securities. Since Federal Reserve credit was freely available at the call of the market, the System was precluded from absorbing substantial additions to reserve balances from a return flow of gold and currency. Because of their easy reserve positions, member banks had only infrequent occasion to obtain reserve funds through rediscounting with the Reserve Banks.

In early postwar years, Federal Reserve credit, which had expanded so rapidly during the war, tended to be reduced by Treasury retirement of Government debt held by the Reserve Banks. But this factor was more than offset by credit extended through open market operations to maintain Government security prices and yields, by the postwar gold inflow, and by some reduction in currency

in circulation. In order to curb inflationary credit expansion based on further growth in member bank reserves, the Federal Reserve authorities in 1948 increased the Reserve Bank discount rate modestly and raised reserve requirements in several steps, in part under special temporary authority granted by the Congress. As banks sold Government securities to supply themselves with reserves to meet the higher requirements and as nonbank investors also liquidated some of their holdings, the Federal Reserve made purchases in support of the market, thus expanding the volume of its credit.

Early in 1949, inflationary pressures abated and a moderate recession in business activity set in. In these circumstances the Federal Reserve authorities lowered reserve requirements by steps over the period from late spring to early fall. Commercial bank demands for Government securities resulting from the increased availability of reserve funds were met largely by Federal Reserve sales in order to stabilize prices and yields in the Government securities market. This action reduced the volume of Federal Reserve credit.

Economic recovery from mild recession was in full swing by mid-1950 when the outbreak of hostilities in Korea touched off another surge of inflationary pressures. In the nine months following, Federal Reserve credit expanded rapidly as a result of System purchases of Government securities from bank and nonbank investors in stabilizing market prices and yields. The increase more than offset the drain of a large gold outflow and some increase in currency circulation. As a measure to reduce the over-all liquidity of the banking system and thus to help curb inflationary bank credit trends, the Federal

Reserve authorities early in 1951 raised reserve requirements. One effect of this action, under conditions of Federal Reserve support of the Government securities market, was to increase Federal Reserve credit through open market purchases.

There was a growing recognition in this period that Federal Reserve support of Government securities prices and yields at arbitrary levels was incompatible with effective Federal Reserve regulation of the volume of bank reserves. In March 1951 the Treasury and the Federal Reserve agreed to discontinue the policy. The major objective of the accord was to minimize the creation of reserve funds at the initiative of the banks and other investors through sales of Government securities to the Federal Reserve at pegged prices and yields.

The Post-Accord Period

After a brief adjustment period during which the Federal Reserve continued to buy some Government securities in the open market, Federal Reserve operations were readapted to the flexible use of its general methods of influencing bank reserve positions in accordance with the transitory and growth needs of the economy. Over the next two years, the principal factors affecting bank reserve positions changed as shown in the table on page 118.

Further increase in member bank reserve balances was limited. A sizable gold inflow occurred during the first year and some outflow in the second, with a net gold inflow supplying reserves. Currency circulation growth continued and was a factor absorbing reserve funds. Federal Reserve credit also expanded, the expansion reflecting a combination of discount and open market operations rather than

open market operations alone. To make these combined operations effective in regulating the volume of Federal Reserve credit, Federal Reserve Bank discount rates were raised moderately early in 1953.

MAJOR FACTORS IN BANK RESERVE EQUATION
JUNE 30, 1951—JUNE 30, 1953

[In billions of dollars]

Factors supplying reserves:	
Increase in Federal Reserve credit	1.4
Inflow of gold	0.7
Other factors (net)	0.7
Total	2.8
Factors absorbing reserves:	
Increase in currency circulation	2.3
Increase in member bank reserves	0.5
Total	2.8

With other factors about in balance in the first part of 1953, a reduction in Federal Reserve credit from open market operations early in the year and later from repayment of member bank borrowing resulted in a decline in member bank reserve balances. To keep this decline from exceeding seasonal proportions, and in view of the prospects ahead for Treasury financing and also for expansion in bank credit consistent with normal economic growth, the Federal Reserve authorities toward midyear increased the supply of reserve funds through open market operations and later made reserves available through a reduction in reserve requirements.

Concluding Comment

The foregoing analysis indicates how the major factors in the bank reserve equation are interrelated, and how ups and downs in any one of them may be offset by changes in the others or may be reflected in changes in member bank reserves. Changes in minor factors are usually either small or temporary in importance. The discussion has also brought out how Federal Reserve operations may be adjusted to the various factors affecting member bank reserves. Students of monetary and banking developments can gain considerable insight into the developments of any particular period by arranging and analyzing the monetary factors in this way. The data are published each month in the *Federal Reserve Bulletin* and weekly changes are reported in the regular Federal Reserve Bank condition statement described in Chapter XIII. Behind all the changes in this equation, of course, is the impetus of innumerable economic forces.

CHAPTER IX

INFLUENCE OF RESERVE BANKING ON ECONOMIC STABILITY. *Federal Reserve influence on the flow of credit and money affects the volume of lending, spending, and saving in the economy generally. Reserve banking policy thus contributes to stable economic progress.*

EARLIER chapters have described the way the Federal Reserve operates to affect member bank reserve positions in order to curb the flow of credit and money when it is excessive or to encourage the flow when necessary to foster economic expansion. Not much has been said about the various ways Federal Reserve actions actually influence commercial bank lending and investment decisions. Nor has consideration been given to how reserve banking policy can operate to influence the economic decisions of other lenders and of individuals and businesses. In this chapter the discussion is pursued along these lines. The object is to describe the broader working of reserve banking operations in influencing the lending, spending, and saving of all sectors of the economy.

General Effects of Credit Tightening or Easing

Credit and monetary policy has widespread effects in discouraging or encouraging expenditures. A general tightening or easing of credit has its most direct effect in restricting or increasing the amount of spending with borrowed funds. Credit restraint or ease also curbs or promotes expansion of the money supply and so affects the amount of cash balances which individuals, businesses, and other groups have available for spending.

Credit restraint or ease, moreover, has important deterrent or stimulative effects on spending out of existing cash balances and from funds obtained by the sale of assets, where no credit granting and no money creation are involved. These are indirect effects, which come about in a number of ways.

Credit restraint, for example, will tend to dampen the too optimistic expectations of businesses and consumers. A rise in interest rates produced by credit tightening will tend to reduce the value of capital assets, a development that will discourage some new investment in construction and in producers' equipment. Consumers and businesses may decide to save more, either because they are less sure that credit will be available to meet possible emergencies or to ensure fulfillment of future plans, or because the interest return on savings has become more attractive.

Easing of credit, on the other hand, tends to have opposite effects. It encourages spending with borrowed money. It also stimulates more spending out of current income and past savings. Credit easing does this by promoting the belief that prices of goods and services will rise, by reducing interest rates and thereby both lowering the cost of borrowing and stimulating a rise in capital

values, and by making it less necessary and less profitable for businesses and consumers to save.

Whether a tightening or an easing of credit will find a response in the demand for credit depends on the existence of a fringe of borrowing or potential borrowing. That is, greater difficulty in obtaining credit or increased cost of credit influences decisions of borrowers by deterring them from using credit for investments with marginal profitability or for consumption of marginal usefulness. It may also deter borrowers from using as much credit for other purposes as might have seemed profitable or useful had credit conditions remained unchanged. In a boom period when credit is in great demand, there is always fringe borrowing that can be cut out either by greater selectivity in lending or by higher interest costs. If an easing of credit is to stimulate borrowing in a period of business recession, there must be a similar fringe of potential borrowing that will become effective when credit is more readily available and cheaper. Under most conditions such a fringe exists, and an easing of credit will stimulate borrowing in amounts or for purposes that were previously not regarded as profitable or useful, and for purposes for which credit could not previously be obtained.

This fringe of potential borrowing, however, may be very limited under special circumstances. In a period of inflationary boom, investment in plant and equipment (productive capacity) and in housing and purchases of consumer durable goods may proceed so rapidly, unless checked somewhat, that future needs will be too far anticipated. Then in case of a serious business downturn, many activities involving credit that would ordinarily have been greatly stimulated by an easing of credit may not

respond. For the time being the demand for them will already have been filled in the previous boom. Other potential borrowers may feel so discouraged about profit possibilities as a result of the downturn that they too will not borrow, however cheaply and readily credit may be available. Once such conditions and attitudes have developed the immediate effect of an easing of credit will be limited, although such an easing is still an essential measure in setting the stage for ultimate recovery. The ability to combat a recession with credit and monetary action depends in large part, therefore, on the extent to which restrictive credit action has been taken in the preceding boom so as to leave an unsatisfied fringe demand for credit, as well as on how early and aggressively the easing action occurs after a downturn.

How a Tightening or Easing of Credit Comes About

A general tightening of credit results from a reduction in the availability of credit relative to the demand for it. Such tightening may develop because the supply of credit has contracted without a corresponding reduction in demand, because the demand for credit has increased without a corresponding increase in supply, or from some combination of these factors. In a boom period demand for credit typically increases and credit conditions tend to tighten even though there is an actual increase in the amount of credit granted. In order to keep credit from tightening under such conditions, the total credit and monetary base would need to expand at a pace set by the progress of the boom, regardless of the inflationary or other unsound developments that might be occurring.

A general easing of credit results from an increase in

the supply of credit relative to the demand for it. Easier credit conditions may generally be expected to develop in a period of economic recession, unless there are banking difficulties or extreme pressures for liquidity on the part of consumers and businesses. Credit and monetary policy in such a period should promote the development of easier credit conditions.

Effect on Lenders

A general tightening or easing of credit affects lenders in all sectors of the credit market, from short- to long-term. In the short- and intermediate-term sectors of the market, the major suppliers of funds are the commercial banks. Expansion or contraction of their loans and investments tends to expand or contract the volume of money. There are, however, many other lenders that supply a substantial volume of short- and intermediate-term credit through investment in prime-grade marketable paper of secondary reserve funds and of cash balances not needed for current expenditures. The volume of such investment varies with the attractiveness of the interest return. The supply of bank credit is dependent on bank reserve positions, which in turn may be tightened or eased by reserve banking actions, as was explained in Chapters II and III. The total supply of short- and intermediate-term credit is thus highly flexible.

In the market for long-term credit the supply of funds is closely related to the volume of saving. Major lenders in this market, in addition to individuals, are insurance companies, savings banks, savings and loan associations, public and private pension funds, and nonprofit institutions. Commercial banks, although primarily short- and

intermediate-term lenders, invest their savings and other time deposits in real estate loans and in long-term corporate, Federal, and State and local government securities.

The supply of investment funds is relatively fixed at any time and does not adjust quickly to changes in demand. In a period of boom, however, increased demand for long-term credit tends to spill over into the short-term credit market, and in a period of recession lack of long-term credit demand may induce investment funds to seek short-term outlets. Conditions of availabilty and cost of short-term and long-term credit thus are constantly interacting. Moreover, the lending and investing activities of commercial banks bridge the credit markets and help to link them together.

Commercial banks. Individual commercial banks obtain funds primarily from the deposit of working balances and savings of individuals and businesses. For the banking system as a whole, however, most of the deposits result from credits extended by banks, as has been explained in preceding chapters. Commercial banks as a group can expand their credits only to the extent that they have or can obtain the reserves needed to support the resulting growth in deposits, and the availability of bank reserves is directly subject to Federal Reserve influence.

Commercial banks, as was noted earlier, consider that they should borrow only as a temporary expedient. They do not like to be long in debt. Any individual bank can get additional funds to lend by selling Government or other securities or by permitting maturing issues to run off. The action of this bank affects other banks, however, for the buyer of securities sold by the bank will draw down a bank account to make payment. Consequently, banks

as a group cannot expand their total supply of lendable funds in this way except when such paper is being bought by the Federal Reserve System. Unless the Federal Reserve is supplying reserves, a reduction in security holdings by one or more banks will normally draw reserves from other banks and no net addition to reserves will occur. An attempt by banks as a group to obtain additional reserves by selling securities, or by allowing maturing issues to run off, will increase the supply of short-term paper for sale in the market, thus lowering prices and raising yields on such paper. Similar market pressure may result if banks, in order to build up their reserves, draw upon balances with correspondents or call loans made in central credit markets.

At the lower prices and higher yields, Government and other short-term securities will be more attractive. Nonbank investors may be induced to buy more of them, using temporarily idle deposit balances. Sales of short-term paper by banks to other investors and the use by banks of the proceeds to make loans will shift the ownership of deposits and may increase the activity of existing deposits, but such sales will not increase total bank reserves so as to permit an increase in total bank credit and deposits.

With prices lower and yields higher on short-term paper, banks are less likely to reduce their holdings of secondary reserve assets, notably short-term Government issues. Some banks may continue to do so, but others will stop selling or may buy. In the aggregate, the secondary reserve position of banks will tend to stabilize.

This development is brought about in several ways. Many banks and other potential lenders are reluctant to sell securities at a loss. As the potential loss becomes

greater, this reluctance deepens. Rising yields on short-term paper, moreover, make the credit outlook uncertain. This uncertainty, together with the possibility of losses on the sale of paper held, makes the secondary reserve positions of banks less satisfactory to bank managements. Hence the amount of liquid assets held as secondary reserves, which was previously viewed as adequate or even more than adequate, comes to be viewed with concern. The result is a greater unwillingness on the part of bank managers to reduce holdings of secondary reserve securities in order to make more loans.

The key fact is that, with a tightening in the credit situation, banks cannot count with as much certainty on the ready availability of additional reserve funds and will therefore tend to be more restrictive in their lending practices and standards. This restraint both reflects and is a part of the process of credit tightening. As the credit and monetary climate changes, bankers modify their expectations about the general outlook for business and commodity prices. Applications for loans, particularly inventory loans, are more carefully screened. Businesses that obtain credit to accumulate inventories are under pressure from their bankers to keep inventories more closely in line with actual requirements. Bankers may also bring pressure for repayment of outstanding obligations on some borrowers whose financial positions have become less satisfactory. In general, rather than being eager to extend credit, they are more selective in their loan judgments, especially where there are reasons for refusing credit requests or not meeting them fully and for accelerating repayment of outstanding loans.

When credit conditions ease, more and more banks free

themselves from borrowing and, as reserves accumulate in excess of working requirements, they become more aggressive in competing for loans and marketable paper. Other lenders and investors are also under pressure to keep their funds employed. This change in the credit situation finds prompt response in declining yields in all sectors of the market. Uses of credit that under conditions of credit tightness were postponed or not cultivated by lenders are promoted by them under conditions of credit ease.

Lenders and investors in the long-term market. A tightening in credit and the accompanying increase in interest rates significantly affect lenders and investors who operate primarily in the long-term credit market, including life insurance companies, mutual savings banks, savings and loan associations, and pension funds. They become less willing to make any but the best grade loans and investments, and they generally exercise greater caution in accepting credit applications from marginal risks.

This change in attitude reflects in part the declining value of assets associated with rising interest rates. All income-producing assets yielding a fixed rate of return tend to decline in price when market rates of interest rise. This is true because they are valued in the market on the basis of expected returns, capitalized at the appropriate current rate of interest including allowance for risk. It is easy to see this relationship in the case of prime-risk securities, since their market value changes only with changes in interest rates; when interest rates rise, the value of such securities correspondingly declines. Actually the decline can be even more marked in the case of securities or other income-yielding assets of lesser grade. As interest rates

increase, investors become less optimistic about the business outlook and therefore change their appraisals of risk positions. Such changes in appraisals of risk, combined with the general increase in interest rates, result in an even greater decline in value for lesser grade securities than for prime assets.

Thus in a period of tightening credit, long-term lenders and investors, while at first attracted by the higher yields available on assets of less than top grade, gradually become more restrictive and selective. They become less willing to sell prime securities to acquire higher yielding but more risky assets, partly because they can sell the prime securities only at a loss, which they hesitate to accept. They also become more interested in retaining in or adding to their portfolios the more liquid types of assets, because of concern about the decline in the market value of their entire investment portfolio and the general uncertainty about future developments. In addition, the higher interest rates on these more liquid assets in a period of tightening credit come closer to providing the average interest rate that institutional lenders must obtain on their earning assets in order to meet contracts with their own creditors.

In recent decades the flow of savings to nonbank institutional lenders, particularly insurance companies, has increased rapidly and the size of the investment problem of these lenders has grown accordingly. In order to ensure the ready placement of funds regularly becoming available for investment from new savings and from repayment of old loans, the major savings institutions have developed methods of committing their funds in advance to corporate, mortgage, and other borrowers. Such commitments make it possible for potential borrowers to proceed with

projects that they might not undertake without assurance of financing on satisfactory terms. But nonbank institutional lenders will hesitate to commit themselves beyond the funds they expect to have coming in, if they fear that interest rates may rise in the near future and that they may therefore have to sell securities at a loss to meet future commitments. As a result, when credit is tightening, some proposed projects requiring long-term credit may be deferred because financing commitments cannot be arranged.

When interest rates decline, investors in the long-term market will find their positions more liquid. The yields available on high-grade securities will fall and the prices of such securities will rise. This development in itself will encourage long-term lenders to extend investment into areas with more attractive rates of return. Moreover, if institutional lenders are quite certain that interest rates will fall and that prices of high-grade securities will rise, they will be willing to commit themselves to future lending that will require the sale of high-grade securities in order to make loans with a more attractive interest return.

Underwriters and security dealers play an important role in the credit market, and their responses to credit tightness in turn affect the availability of credit. They are particularly sensitive to changes in interest rates because they customarily carry a large inventory of securities in the process of distribution. They risk large losses if they are holding large amounts of securities in a period of rising interest rates, since they may not be able to sell them except below cost or may have to carry the securities for some time on borrowed money. Thus underwriters and dealers may be expected to carry securities less readily and hence to discourage security flotations while interest rates

are rising. When yields are stable or are expected to fall, they will be more likely to encourage such flotations.

Effect on Borrowers

Restraint on borrowing exerted by tightening credit results in part, as already explained, from the increased difficulty of finding lenders and obtaining loans. It also results in part from the influence on the borrower of higher interest costs and from his greater uncertainty about future credit and business developments.

Borrowers for business investment. Business borrowing is done on the basis of being able to obtain capital at rates of interest lower than the return that is expected from the use of that capital. These margins will be affected by changes in interest rates and by changes in the profitability of the business concerned. Each change, though small, may influence borrowing for which the profit margin is narrow, while not affecting the bulk of economic enterprise. Such small effects, however, help to maintain economic balance.

The sensitivity of business borrowers to changes in interest rates varies widely. Business borrowers in the short-term market may be greatly influenced by changes in credit conditions. Inventory accumulation is normally financed in substantial part by short-term credit. When businesses have been building up inventory positions, a tightening in the credit and monetary situation removes some of the incentives for inventory accumulation. Uncertainty with respect to renewing the credit, moreover, increases the possibility that inventory holdings may have to be sold under unfavorable market circumstances. This deters particularly inventory accumulations of a speculative variety.

In certain fields of long-term investments, such as industrial and commercial construction, public utilities, and railroads—each of which is a large and important field—interest costs are particularly significant. In such fields comparatively small increases in interest rates can have a substantial effect in postponing the demand for capital. Even in other fields where interest costs are less important, fringe borrowers may be deterred from borrowing when interest rates rise, while other borrowers may decide to get along with less credit. The higher long-term rates become, and the more likely this condition is temporary, the greater will be the tendency for long-term borrowers to postpone investment expenditures because they expect to be able to borrow later at considerably lower interest costs.

An increase in interest rates does more than affect the cost of credit to borrowers. It also reduces the market value of existing assets unless the actual or expected earnings on these assets rise, since earnings are capitalized at a higher rate of interest. The liquidity position of all asset holders is adversely affected by this development, and their willingness to undertake new long-term commitments may be influenced.

A rise in interest rates also influences the utilization of productive resources, directing some activity away from production of long-lived, slowly depreciating capital goods and thereby freeing resources for an immediate increase in output of consumption goods and of producers' equipment to make consumption goods. A rise in interest rates brings this about both by increasing the cost of long-term borrowing and by changing the relationship between prices of existing capital assets and the cost of producing new

assets. In the fixed capital area these changes, together with changes in the outlook for profits and risks due to the altered credit and monetary situation, shift the balance of business decisions toward holding or buying old assets, and adapting old assets to new uses, rather than producing new ones.

How the changed relationship between prices of existing capital assets and costs of producing new ones occurs is indicated below. The illustration pertains to an office building with a net income from rent of $100,000 a year.

Estimated cost of constructing a new building	$1,500,000
Capitalized market value of an existing building with earnings from rent (net of all current costs and depreciation) of $100,000:	
If the current interest rate, with allowance for risk, is 6 per cent	1,666,667
If the current interest rate, with allowance for risk, is 7 per cent	1,428,571

If the current interest rate for such investment, with allowance for risk, were 6 per cent, the capitalized value of the existing property would be more than the cost of constructing a new building with the same earning prospects. An investor in this type of real estate, instead of buying an existing building, would build a new structure, other things being equal. On the other hand, if the relevant interest rate were 7 per cent, it would not pay to build a new structure and the decision would go the other way.

Lower interest rates, through their effects on costs, capital values, and business anticipations, will encourage borrowers to make additions to physical property and also to accumulate inventory.

Consumer borrowers. Use of credit by consumers is not readily subject to direct limitation by higher interest rates in the credit market. Consumer credits are generally extended on fairly standardized terms and at relatively high and inflexible credit charges. The rate paid for money at wholesale by the institutions that lend to consumers is only one of a number of important cost elements in the credit charge to consumers at retail. Thus changes in interest rates in the credit market have a less than corresponding effect on the charge for credit to consumers. Nevertheless, the interest cost is one important element in lenders' cost, and general credit tightness or ease tends to be transmitted to consumer credit through its influence on the strictness or leniency of credit standards applied by institutions granting such credits. Alteration of credit standards is a method by which lenders in this area control other important elements of their costs, namely, collection costs and losses by default. Because of the nature of the consumer credit market, selective credit regulation has been used in this field during emergency periods.

Borrowers on residential mortgages. Mortgage borrowing for house purchases is considerably affected by tightening credit conditions and increases in interest rates. Borrowing to buy houses is typically long-term and on an instalment-repayment basis. An increase in the interest rate, which adds to the monthly mortgage payment, raises the attractiveness of rental housing compared with ownership. Total spending for houses may thus be reduced, as some buyers are discouraged altogether and others are induced to buy cheaper houses. This affects economic activity most directly through the market for new houses.

Since the size of the monthly payment on a mortgage

reflects the length of the borrowing term as well as the interest rate, the restrictive effect in the housing sector of an increase in interest rates may be largely offset by lengthening the period of mortgage repayment. It is, consequently, highly important to avoid encouragement of longer mortgage maturities during a period of boom when credit tightness is being relied on to help hold down spending pressures and maintain economic stability.

The tendencies here described, of course, work in reverse to stimulate house purchases during a period of recession.

Investors and traders in corporate stock. The direct effect of changes in credit conditions and interest rates on demand for credit to finance purchases of corporate stocks depends largely on what is happening in the stock market. When stock prices are stable, credit tends to be used by regular investors and professional traders who deal in lots of substantial size and expect only small unit profits. Credit demand for such transactions may be sensitive to interest rates, since the increased cost of higher rates may wipe out profits, while lower rates will tend to add to profits. On the other hand, when stock prices are rising or declining under the impact of speculative pressures, the expectation of quick capital gains may be so strong as to make borrowing costs a matter of distinctly secondary importance. In such circumstances, selective credit regulation of margin requirements on loans to purchase or carry stocks can aid in restraining credit expansion in this area.

Tighter or easier credit conditions may indirectly affect borrowing on stocks through their influence on the pace of economic activity. The willingness of individuals to buy

and hold stocks, both outright and on credit, is necessarily related to their judgments of business developments and prospects.

Effect on Saving

Changes in credit conditions and concomitant changes in interest rates will affect the volume of saving. When, for example, some groups in the economy increase their saving, an increase can take place in investment expenditures, or in consumption expenditures financed by borrowing or by drawing down asset holdings, without resulting in an increase in the total demand in the economy.

To trace the effects on saving of a tightening or easing of credit and the accompanying changes in interest rates requires a many-sided approach. To begin with, one needs to keep in mind some facts about the term "saving" as it is generally used. First of all, saving may be done not only by individuals (including unincorporated businesses) but also by corporations and certain other institutional forms in the economy. Second, and more important, the aggregate volume of individual or other saving in any period is the total accumulated by all who saved in the period, minus the total of all who consumed, or distributed as dividends, more than their incomes—that is, dissaved—by borrowing or by drawing on accumulated assets. Third, there are many forms of saving, or rather many uses of saving, and they vary in their response to credit tightening or ease and in their economic effects. In a discussion of how saving is affected by changes in credit conditions, each of these points must be considered.

For saving by individuals, credit tightness and a rise in interest rates, for example, may set up cross currents of

response. Some individuals save for the purpose of building up assets that will provide a retirement income of a certain size. As long-term interest rates rise, the amount of saving required for such an income declines. Such savers can reduce their saving and still meet their needs, if they choose to do so. On the other hand, some individuals are concerned about the current return and will save more when a more attractive return is available. It is not easy to establish where the balance of these motivations may be.

It is not necessary, however, that those who save increase their total saving in order to have an increase in the aggregate of personal saving. An increase in the aggregate of saving may be achieved by a reduction in the volume of dissaving—that is, a reduction in the extent to which consumption is financed by using past savings or by borrowing.

Here the effect of a tightening credit policy is clearer. First, since credit is less readily available, the amount of dissaving with borrowed funds will be reduced from what it would otherwise have been. Second, dissaving through the use of previous savings will also be discouraged, depending on the form in which such savings are held. For savings held in marketable bonds and many other noncash assets, a decline in market values will accompany the general rise in interest rates. The sacrifice of principal involved in liquidation of these savings will deter dissaving of this kind. Dissaving through the use of past savings held in savings accounts or in other liquid forms will be less penalized. For some types, however, the current interest return will rise with the general advance in interest rates and thus will make it more attractive to continue to hold the accumulated savings.

Another important consideration when credit conditions are being tightened is that dissaving of any kind will be discouraged, and saving encouraged, by the fact that action to restrict the availability of credit is being taken for the purpose of restraining speculative and inflationary trends. There will be less incentive to hedge against advancing prices by buying in anticipation of such advances. The fact that measures are being taken to tighten credit and to curb monetary expansion will in itself reduce the likelihood of rising prices and lessen the incentive of individuals to buy goods ahead of needs. Also, overly optimistic expectations as to future income, other than from interest, will be tempered, and saving will be encouraged as a matter of prudent management of personal finances.

A business corporation saves when it pays out less in dividends in any period than it makes in profits. Dissaving occurs when losses are sustained or when more is distributed in dividends than is made in profits. Total corporate saving over any period is equal to the sum of all such saving minus all such dissaving.

Again taking the situation of credit tightening, corporations that plan to expand plant and equipment are likely to be more cautious in their dividend policies (save more) in order to ensure that funds will be available for such outlays. Because availability of credit is uncertain, other corporations will be inclined to hold larger cash balances rather than to increase dividends—on the chance that an emergency or a profit possibility requiring cash might develop.

Savings may be held or used in many different ways. Personal savings, for example, may be invested in capital

assets, either directly, such as in houses or individual business enterprises, or indirectly, such as in corporate stocks or bonds. Savings may be held as accumulated cash balances in demand deposit accounts or as currency holdings. They may be channeled into savings institutions through increased ownership of savings deposits or shares, or through the building up of claims in pension funds, annuities, or life insurance. Savings may also be kept in savings bonds or other Government securities.

The form in which people wish to hold savings, current or past, is of great importance for economic stability. A policy of credit and monetary restraint, for instance, can influence the decisions of many savers, both individuals and corporations, to invest new savings in dollar claims, such as savings deposits or Government securities, and to keep old savings in that form. Yields on these investments tend to become more attractive. At the same time the desire to invest in goods in order to beat price increases is reduced because the expectation of price increases, particularly of capital goods, is lessened. Holders of certain liquid savings, such as bonds, are discouraged from liquidating them to invest elsewhere by the fact that the selling prices of the bonds decline with increasing interest rates.

In a period of recession, increased credit availability and declining interest rates, together with the expectation of continuing monetary ease, will tend to make employed individuals more willing to spend and to go in debt for consumption and business purposes, and corporations more willing to maintain dividend payments even though borrowing is required to provide for plant and equipment outlays. Both individuals and corporations will be en-

couraged, by the greater certainty of credit availability and capital gains on assets held, to rely on sales of such assets if necessary to meet future needs. Added to all this will be a growing confidence that declines in incomes and prices will be checked. Relatively low levels of interest rates on prime assets under such circumstances may encourage savers to invest in lower grade, higher yielding securities.

Secondary Effects

The effects of changes in credit conditions on lending, spending, and saving discussed in this chapter are their initial and more direct results in combating excess or deficient demand and resultant inflationary or deflationary pressures. These initial effects are succeeded by secondary effects which may be of great importance.

At a time when productive resources are virtually fully employed, for example, tighter credit conditions will mean that initially less money is paid out to consumers when additional money income would merely increase prices without expanding the supply of goods available. As a result, there will subsequently be less to spend for goods and services and accordingly an abatement in pressure of demand against the supply of goods. Curtailed spending for consumer goods and other finished products in turn will have a dampening effect on the demand for the machines and other producers' equipment required to make them. Consumers and investors may anticipate these secondary effects and, through their attitudes and actions, may bring them about more promptly and in greater degree. In an inflationary period these developments tend to restore stability in the economy.

On the other hand, in a period when the total demand for goods and services tends to be deficient, the initial stimulation to spending arising from easier credit conditions will likewise be multiplied. Increased activity arising from credit ease will add to the money income available for subsequent spending, thereby expanding the demands of consumers for goods and services and strengthening incentives to improve and add to production facilities.

CHAPTER X

INTEREST RATE CHANGES. *In a flexible credit market, tightness or ease is reflected in changes in interest rates which are essential to the mechanism of the market.*

INTEREST rates are the prices paid for credit. In a free enterprise system, they are established by the interplay of market forces. Interest rates perform the important function of influencing the volume of funds flowing into various channels. They also serve as a basis for establishing the present value of any assets which are expected to provide income to their owners over a succession of years. Changes in interest rates constitute incentives and disincentives by means of which demand for funds is kept in balance with supply.

In the discussion in the preceding chapter no specific reference was made to the magnitude of interest rate changes. As was explained, a tightening of credit involves an increase in interest rates; an easing of credit, a decline in interest rates. Higher interest rates tend to eliminate some marginal demand for loans. At the same time the increased interest rates, combined with capital losses on

assets and a change in business expectations, make lenders more selective in their lending activities and spenders in general less willing to spend. Conversely, lower interest rates tend to increase marginal borrowing, to encourage lenders to expand into lower grade securities, and to make spenders generally more willing to spend.

The magnitude of interest rate changes necessary to bring supply and demand for funds into equilibrium and to retard the development of inflation or deflation depends on many factors. This chapter will give some examples of these, with specific reference to their operation in periods of tightening credit conditions.

Kinds of Interest Rates

There are many interest rates because there are many kinds and grades of loans and investments. They are all related to one another in some degree and reflect in varying measure the relationship in the market between the demand for credit and the supply of funds available for lending and investing.

Traditionally, Reserve banking operations are not directed toward establishing any particular level or pattern of interest rates. Rather, they are aimed at expanding or contracting the flow of Federal Reserve credit as needed to maintain general economic and financial stability. This activity necessarily affects the flow of bank and other credit and the level of interest rates. Moreover, the Reserve Bank discount rate has a relationship to the cost of credit generally. Since Reserve Bank advances are extended on short-term paper of prime quality, the relationship between the discount rate and other market rates is closest in the short-term prime credit area.

As pointed out earlier, Government securities under existing conditions play a dominant role in the credit market. The market rate on Treasury bills is the most sensitive index of changes in credit market forces, including particularly changes in commercial bank reserve positions. Other short-term interest rates usually have similar movements. When credit and monetary demands expand and member bank borrowing at the Reserve Banks increases, rates on short-term Government securities tend to rise, and this tendency toward higher rates is in turn transmitted to other credit markets. Adjustment of the discount rate to these changes depends on the judgment of the Federal Reserve as to the general economic situation and the strength and soundness of credit developments. The relation of the discount rate to a representative short-term interest rate during the 1920's and since World War II is shown in the upper section of the chart on page 147.

Long-term rates generally rise when short-term rates rise and decline when short-term rates decline. The tighter or easier credit conditions that accompany changes in business activity are generally felt directly in both long- and short-term fields. One reason is that, for some lenders, the long-term markets for credit are competitive with the short-term markets.

While short- and long-term rates generally move together, the change in long-term rates is ordinarily smaller than that in short-term rates. Lenders generally expect extreme levels of short-term rates to prevail for only a short period of time. Since the current yield on long-term securities will be received until the maturity of the security, a relatively small change in long-term rates will restore the competitive relationship. As already noted, moreover,

when such yields rise the capital loss incurred on long-term securities may serve to check sales and thus moderate the rise in long-term yields. On the other hand, investors generally hold short-term paper for the express purpose of adjusting to changes in their requirements for funds. Hence short-term paper tends to be sold or bought as cash assets of investors temporarily fall below or rise above desired levels. In recent years, long-term rates have been constantly above short-term rates, but this has not always been the case, as the chart on page 147 shows.

Influence of General Economic and Financial Factors

The extent of interest rate increases under conditions of credit tightness will depend on the entire economic background at the time. To understand that background calls for careful consideration of many questions. For example, how strong are the credit demand pressures? By what forces are they being generated? How extended or overextended is the underlying economy itself? How optimistic is the climate of business expectations? And always, in appraising the possible response of interest rates to a general tightening of credit, it is necessary to take into account the established organization of the credit market and the investment and operating experience of the institutions which make up this market.

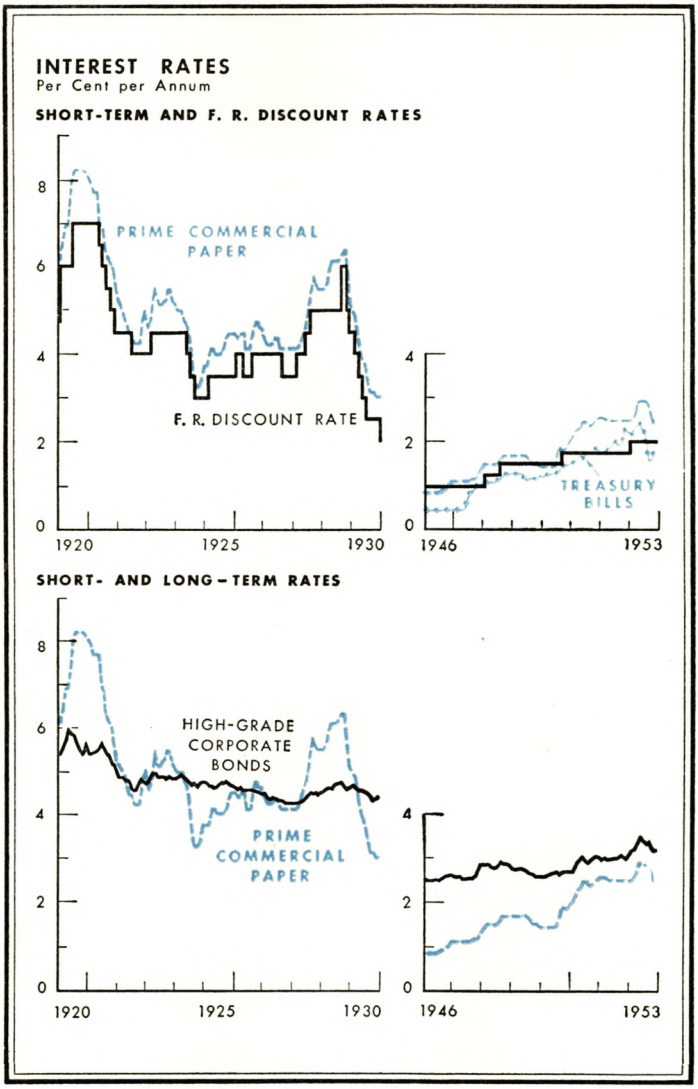
Under some circumstances, reserve banking measures to restrain undue credit and monetary expansion might be reflected in only minor increases in interest rates; with another background, the increase in rates might be pronounced.

The response of the economy to reserve banking action will depend in part on the habits and patterns of financial

management built up over the preceding months and years. Restrictive action, for example, may be effective with relatively small increases in interest rates if existing interest levels have prevailed for some time. Under these circumstances institutional investors will be doing business on the assumption that interest rates will remain substantially stable and that consequently securities may be sold without significant loss. To these investors and to a great many others, a tightening of credit will introduce new problems of liquidity and bring about a retrenchment in their activities, including their commitments to grant credit at some future time. In the light of extensive past experience, uncertainty regarding future increases in interest rates will promote caution among lenders as long as demand for credit continues strong.

The absolute level of interest rates prevailing at a given time and the range of variation in interest rates for various kinds and grades of credit are other factors influencing the extent to which a given credit action may cause interest rates to change. A given absolute increase in rates, for example, has a more depressing effect on the capital values of prime long-term investments if they are capitalized on the basis of a 2½ per cent rate rather than at 4 per cent. More significantly, if the spread between the rate on prime paper and the rates on secondary grade credits has been small, the impact on capital values of a given increase in prime rates will tend to be carried more quickly throughout the entire credit market than if a wider spread in rates had prevailed.

The effect of a change in interest rates depends also on the total volume of those types of assets having market prices that will respond quickly to such a change. The



larger this volume is, the greater and more immediate will be the impact on the entire economy of a given interest rate movement. On balance, developments in the American credit market in the past twenty-five years, including particularly the large expansion in marketable public debt, have increased the importance of assets having prices that move promptly with interest rate changes.

Influence of Special Credit Conditions

Institutional and other factors that exist in the credit market at a particular time can have a big influence on the responsiveness of the economy to credit tightness and on the size of interest rate increases that credit tightness will bring about. In 1928 and 1929, for example, speculation in the stock market had raised stock prices so high that equity capital was available to corporations on more attractive terms than debt capital. The cost of debt financing (the long-term interest rate) was increasing, but a corporation could sell stock on such favorable terms that this became the favored method of financing.

In this period corporations relied heavily on the equity market for capital. Investors on their part were attracted into equities by prospects for future gains, even though yields on high-grade bonds were higher than those currently obtainable on stocks. The stock market boom in those years was based largely on margin trading financed heavily in the brokers' loan market, mostly by nonbank credit (loans to brokers and dealers for the account of others). Interest rates of 9 per cent or more in this market did not prevent a large volume of borrowing for speculation in stocks.

Under such circumstances, credit actions to restrict the

general availability of credit could not easily be made effective in curbing an unsustainable speculative boom in the stock market except by affecting economic activity in general and in that way making investment in equities unprofitable. After the downturn that followed the eventual stock market crash, long-term interest rates declined sharply. Even after the decline, however, borrowing costs were higher than the very low cost of equity financing that had been available to prime companies during the stock market boom of 1929. Legislation designed to prevent a repetition of this situation authorized the Federal Reserve to regulate the use of credit in the stock market through margin requirements, as discussed in Chapter IV.

Under other and quite different circumstances, restraint on credit may have a sharply restrictive influence before the interest rate rise has been large. For example, when a large amount of business financing is being done in the bond market, investment underwriters and security dealers need to carry a substantial inventory of bonds. For these institutions the ratio of capital to this inventory is typically small, and their operations are heavily dependent on the use of short-term bank credit. Moderate increases in interest rates raise their cost of operation, cause the value of their inventory of bonds to decline, put their capital positions in jeopardy, threaten their credit-worthiness, and cause them to reduce the volume of new flotations of securities that they are willing to underwrite.

To give another example, the mortgage market was particularly sensitive in the spring of 1951 to a moderate increase in long-term rates. This was because major lenders were overextended in their lending commitments. Up to that time lending had been running substantially in excess

of the funds they had from repayments of old loans and new savings, with the difference made up by sales of Government securities, which in turn had been purchased by the Federal Reserve at support prices. In response to the change in the credit situation at that time, and the uncertainty as to future interest rate and security price levels, these lenders reduced sharply their commitment activities in mortgage financing and to some extent in other financing also. This brought about some limitation on the volume of their lending.

Purposes of Chapters IX and X

This chapter and the preceding one have described the way in which a general tightening or easing of credit, with accompanying changes in interest rates, may function to help maintain economic stability. The many forces, other than credit and monetary forces, that cause instability have not been considered. The chapters have taken for granted that credit and monetary measures are not the only reliance of public policy in sustaining economic balance.

The discussion in these chapters has focused more largely on the broader effects of credit tightness and rising interest rates on lending, spending, and saving in a free enterprise system. The mechanism of credit ease is in general the opposite of tightness. It has been noted that the response to credit easing is greatly influenced by cyclical or other prevailing circumstances, and that the effectiveness of credit easing in checking monetary contraction and in bringing about resumed growth in economic activity depends greatly on earlier effective reliance on credit tightness to limit excessive credit and monetary expansion.

The mechanism of credit tightness and of related increases in interest rates counteracts unsound business booms to a large extent by curbing the pace of investment. In appraising the operation and effects of this mechanism, it is important to bear in mind the alternatives. To avoid credit tightness in such a boom situation, it would be necessary to create enough additional funds so that all credit demands could be met, even though they might be excessive from the standpoint of the maintenance of stable values and sustainable economic progress. Actually, the extent to which it is possible to devote resources to expansion of productive capacity and the stock of housing and commercial construction without generating an excessive, inflationary flow of credit and money depends largely on the current aggregate volume of saving.

In a free enterprise economy the volume of saving is not dictated by Government but depends rather on the composite of decisions regarding the use of purchasing power made by all those who receive incomes, who have cash balances on which they can draw, who can liquidate other assets for spending, or who can borrow. When savings are very large, as they ordinarily are in this country, sustained expansion of productive capital in substantial volume is possible without an excessive and unstabilizing growth of credit and money.

CHAPTER XI

FEDERAL RESERVE SERVICE FUNCTIONS. *The Federal Reserve Banks handle the legal reserve accounts of member banks, furnish currency for circulation, facilitate the collection and clearance of checks, and act as fiscal agents of the United States Government. To guide System policy and to inform the public, the Board of Governors and the Reserve Banks analyze national and regional economic changes.*

THE Federal Reserve System, in addition to its responsibility for regulating the flow of credit and money, performs a variety of regular services for member banks, the United States Government, and the public. The principal service functions of the Federal Reserve are described in this chapter.

Handling Member Bank Reserve Accounts

A substantial part of the daily work of the Reserve Banks relates to member bank reserve accounts. Member banks use their reserve accounts much as individuals use their bank accounts, drawing on and replenishing them in day-to-day transactions. The Reserve Banks must record

all transactions and strike a daily balance for the reserve account of each member bank. As previously indicated, the average balance that a member bank must maintain with a Federal Reserve Bank as a required reserve is related to the member bank's deposits, which are constantly changing. Reserve requirements are computed by averaging daily deposits over a weekly period for central reserve and reserve city banks and over a semimonthly period for country banks. When the reserve account of a member bank falls below its requirement, the bank, in preference to other adjustments of its position, may borrow temporarily from its Federal Reserve Bank to restore its balance to the required level. With some 7,000 member banks, the number of such borrowing transactions in any year may run into the thousands, even when the great majority of member banks do not borrow.

The credit transactions of member banks described in earlier chapters are by no means the only entries in their reserve accounts at the Reserve Banks. For example, entries are made as member banks obtain currency (paper money and coin) to pay out to their customers or redeposit currency in excess of the amount needed for circulation, checks are collected and cleared, Treasury deposits are transferred from member banks to the Federal Reserve Banks, and funds are transferred by telegraph for various purposes. These transactions are described in subsequent paragraphs.

Distributing Currency

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 services or his merchandise with currency that has been drawn out of a bank by someone else. Practically all currency, therefore, passes into and out of banks at one time or another.

As was shown in Chapter VI, there are times when banks are called on to pay out more currency than they receive and there are times when they receive more than they pay out. In agricultural regions there is a heavy demand for currency at times when crops are being harvested; in cities there is a heavy demand for currency at certain times in the summer and in the fall before the Christmas holiday season. Moreover, the demand varies for different kinds of currency. Some communities use more coin and less paper money than others, and some use more of certain denominations than others do.

When the demand for currency increases, banks provide themselves with the amounts and kinds of currency 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. Nonmember 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 Reserve Bank liabilities, and Treasury currency, which consists principally of silver certificates, United States notes, and coin. A Reserve Bank pays for currency obtained from the Treasury by crediting the Treasury's checking account for the amount obtained.

When the demand for currency abates, currency flows back from the public and the nonmember banks to the

member banks. The member banks return the currency to the Federal Reserve Banks, where it is credited to member bank reserve accounts. The Federal Reserve adjusts its operations so that the outflow and return flow of currency may take place with minimum tightening or easing effect on the general credit situation.

Before establishment of the Federal Reserve Banks in 1914, the means of furnishing currency for circulation were unsatisfactory. A gap existed between the Treasury and the banking system, and the demand for additional currency could not always be met promptly. This was the case in the panic of 1907 and, as already related, the experience of that year highlighted the need for a reserve banking system.

The currency mechanism provided under the Federal Reserve Act has worked satisfactorily—currency moves into and out of circulation automatically in response to an 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 that distributes currency promptly wherever it is needed and also enables surplus currency to be retired from circulation at times when the public demand subsides.

Collecting, Clearing, and Transferring Funds

Currency is indispensable, yet it is used only for the smaller transactions of present-day economic life. A century ago it was used far more generally. Since then the use of bank deposits has increased to such an extent that payments made by check are now many times greater than payments made with paper money and coin. The use of checking deposits by business and the general public

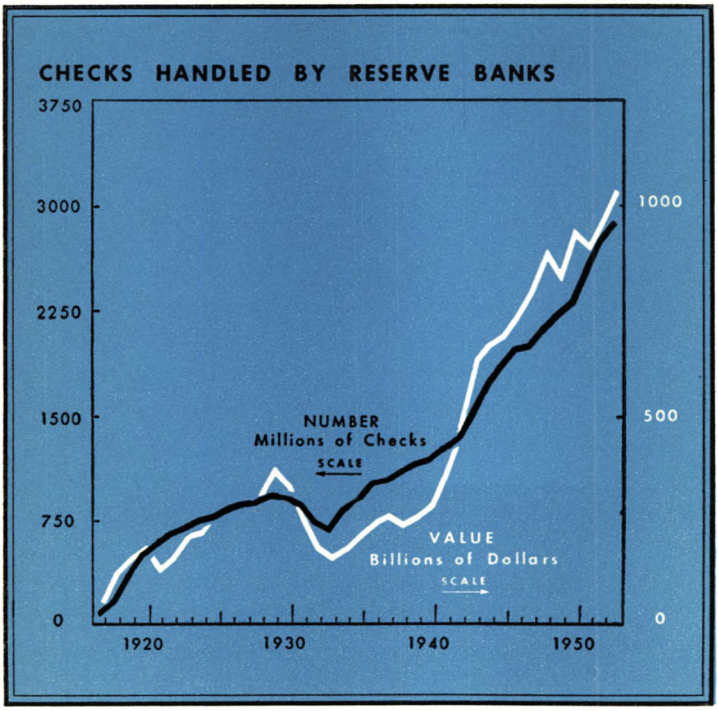
is facilitated by the service of the Federal Reserve Banks in clearing and collecting checks and in providing the mechanism through which commercial banks settle for the checks they clear and collect.

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 Hartford manufacturer deposits the check in his Hartford bank. The Hartford bank does not want currency for the check; it wants credit in its reserve account at the Federal Reserve Bank of Boston. Accordingly, it sends the check (together with other checks) to the Federal Reserve Bank of Boston, which sends it to the Federal Reserve Bank of San Francisco, which in turn sends it to the Sacramento bank. The Sacramento bank charges the check to the account of the depositor who wrote it, and has the amount charged to its reserve account at the San Francisco Reserve Bank. The Federal Reserve Bank of San Francisco thereupon credits the Federal Reserve Bank of Boston, which in turn credits the account of the Hartford bank.

Since promptness is important in collecting checks, the Federal Reserve Banks extend to member banks having a substantial volume of checks payable in other Federal Reserve districts the privilege of sending such checks direct to other Federal Reserve Banks for collection. The Hartford bank, therefore, might have forwarded the $1,000 check direct to the Federal Reserve Bank of San Francisco for collection, at the same time informing the Federal Reserve Bank of Boston of its action. Credit would then have been given to the Hartford bank's reserve account by the Federal Reserve Bank of Boston on the basis of

this information just as if the check had been sent through Boston.

The volume of checks handled through the Federal Reserve Banks has grown rapidly over the years, as the



accompanying chart shows. During 1953 the number was nearly 2.9 billion, amounting to 1,026 billion dollars. In addition, many other checks are collected by the city correspondent banks and local checks are collected by banks through local clearing houses or by direct presentation to one another. In such cases, however, the settlement

or payment for checks on member banks is largely made, directly or indirectly, through the member banks' reserve balances with the Federal Reserve Banks. Thus, the facilities of the Reserve Banks aid in check clearing and collection whether or not the checks originate locally or move across the country.

All checks 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 payable at par; otherwise the Reserve Banks will not receive them for collection. Banks on the par list include all member banks and those nonmember banks that maintain clearing balances with a Reserve Bank. At the end of 1953, nearly 90 per cent of all commercial banks and branches, accounting for 98 per cent of all commercial bank deposits, were on the Federal Reserve par list.

Over the years the process of clearing and collecting checks has been greatly shortened and simplified. In that development both commercial banks and the Federal Reserve Banks have taken a part. 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.

Besides checks, the Federal Reserve Banks also handle other items for collection. These include such items 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 gold certificate fund in Washington called the Interdistrict Settlement Fund, in which each

Reserve Bank has a share. This fund represents a substantial part of the gold certificate reserves of the Federal Reserve Banks. Through it money is constantly being transferred by telegraphic order from the account of one Reserve Bank to that of another. On an average business day, over a billion dollars of transfers and payments are made, consisting for the most part of settlements for checks collected, transfers of balances for account of member banks and their customers, and transfers for the United States Treasury. During the month of December 1953 the total of such transfers and payments was nearly 75 billion dollars.

The cost of clearing and collecting checks and of supplying and shipping currency and coin is a major part of Federal Reserve Bank expenses. These and other services are provided for member banks free of charge. This practice is consistent with the ideal of a money that circulates at par in all regions of the country.

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 and spending funds in all parts of the United States. Its receipts come mainly from taxpayers and purchasers of Government securities and are deposited eventually in the Federal Reserve Banks to the credit of the Treasury. Its funds are disbursed mostly by check, and the checks are charged to

Treasury accounts by the Federal Reserve Banks.

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 Treasury accounts. As brought out below, these payments for the most part are initially made to and kept on deposit in tax and loan accounts at member and nonmember banks.

Each Federal Reserve Bank administers for the Treasury the tax and loan deposit accounts of banks in its district. Both member and nonmember banks, by complying with the Treasury's requirements, may become "special depositaries" of the Treasury and carry tax and loan deposit accounts. The principal requirement is the pledge with a Federal Reserve Bank, as fiscal agent of the Treasury, of Government securities or other acceptable collateral that will fully secure the balance in the account.

A bank designated as a special depositary credits to the tax and loan account the proceeds of its customers' and its own subscriptions to Government securities issued by the Treasury from time to time. Taxes withheld at the source are also deposited in these accounts. As the Treasury calls for the funds, they are transferred to a Treasury account at a Federal Reserve Bank and become available for disbursement. Tax and loan deposit accounts are a convenient and practically indispensable device for the sale of Government securities in large volume and, coupled

with their use for tax receipts, they provide a means of moderating the effect on member bank reserves of fluctuations in the Treasury's cash receipts. The great bulk of Government deposits is carried by the Treasury in these accounts, pending transfer to the Federal Reserve Banks.

The Reserve Banks redeem Government securities as they mature, make exchanges of denominations or kinds, 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 public debt transactions. The Federal Reserve Banks furnish these facilities.

During World War II the Federal Reserve Banks, under the general direction of the Board of Governors, acted as fiscal agents for the Army, the Navy, and the Maritime Commission in guaranteeing war production and contract termination loans made by commercial banks and other financing institutions. The guarantee arrangement was a war measure to expedite production of essential goods and materials by competent contractors and subcontractors who lacked sufficient working capital. Following the outbreak of hostilities in Korea in mid-1950, a program of guaranteed loans patterned after the wartime program was inaugurated. The Federal Reserve Banks are again serving as fiscal agents under the general direction of the Board's Regulation V, issued after consulting with the guaranteeing agencies. These are the Departments of the Army, Navy, Air Force, Commerce, Agriculture, and Interior, the Gen-

eral Services Administration, and the Atomic Energy Commission.

The Federal Reserve Banks may also perform fiscal agency services in connection with the financial activities of various Government lending agencies. 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 other than depositary functions.

Because of its location 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 gold and foreign exchange transactions. It acts as depositary for the International Monetary Fund and the International Bank for Reconstruction and Development; it receives deposits of foreign monetary authorities and performs certain incidental services as their correspondent. These services include handling their short-term investments in this market and holding gold under earmark for them in the United States. All the Federal Reserve Banks participate in foreign accounts carried on the books of the Federal Reserve Bank of New York, which, in these matters, acts as agent for the other Federal Reserve Banks. The Board of Governors in Washington exercises special supervision over all relationships and transactions of Federal Reserve Banks with foreign monetary authorities and with the International Monetary Fund and the International Bank.

Volume of Reserve Bank Service Operations

The annual volume of Reserve Bank service operations described thus far runs into huge number and dollar

figures. Both the composition and the total volume of these operations vary considerably with short-term fluctuations in the level of production, trade, and prices. Over the forty years of the Federal Reserve System's existence, they have grown rapidly as the financial resources of the nation have grown. The accompanying table shows the volume figures for the principal operations of the Federal Reserve Banks for the year 1953.

VOLUME OF SELECTED FEDERAL RESERVE OPERATIONS, 1953

Type of operation	Pieces handled	
	Number (thousands) [1]	Amount (thousands of dollars)
Member bank borrowing:		
Discounts and advances	20	93,364,640
Currency received and counted:		
Paper currency	4,405,255	29,514,663
Coin	5,889,238	607,205
Checks handled:		
U. S. Government checks	458,607	140,739,438
Other	2,415,164	885,726,031
Postal money orders	366,807	6,091,173
Transfers of funds	1,718	876,838,475
Treasury debt transactions:		
Issues, redemptions and exchanges of U. S. Government securities	177,596	381,877,330

[1] Two or more checks, coupons, etc., handled as a single item are counted as one "piece."

Informational Services

Since economic forces are interacting, accurate background as well as current information about major

economic conditions is essential in determining and carrying out credit and monetary policy. The staffs of the Board of Governors and the Federal Reserve Banks are constantly engaged in assembling and analyzing economic and financial information that serves as a guide to the System in the formulation and administration of policy. By making the bulk of this information available in its publications, the System helps to keep the public informed about the functioning of the economy and the reasons for Federal Reserve action.

The Federal Reserve System follows the practice of explaining its credit actions to the public and publishing the factual information on which policy decisions rest because it believes that public understanding helps to make effective a credit and monetary policy designed to foster stable economic development and a stable dollar. The more fully the public understands the issues involved, the simpler and easier credit and monetary administration can be. Accordingly, System publications undertake to present objective, authoritative, and comprehensive discussions of economic and financial trends, together with related statistical series.

The major publications of the Board of Governors are listed following the closing chapter of this book. These publications deal for the most part with national economic problems and trends. Each Federal Reserve Bank has its own publications, presenting for the most part regional material. Board and Federal Reserve Bank publications together reflect the national and regional considerations that must be welded in forming Federal Reserve policy.

CHAPTER XII

SUPERVISION OF BANKS BY THE FEDERAL RESERVE. *By keeping individual banks strong, bank supervision helps to maintain an adequate and responsive banking system and thus contributes to the smooth functioning of economic processes.*

EFFECTIVE operation of individual banking institutions is essential to the orderly functioning of the whole banking system. The current financial needs of commerce, industry, and agriculture are met partly through loans and investments made by individual banks, and the bulk of the nation's payments is made through the checking deposits resulting from these lending activities. Failure of banks to meet their liabilities can reach far beyond depositors and borrowers and the immediate territory that the banks serve. The business of banking, therefore, is vested with a public interest and is subject to supervision by governmental authorities.

Bank supervision, which began in this country more than a century ago, is rooted in two characteristics peculiar to the American banking system: first, a great number of commercial banks of wide variation in size and in type of

banking service offered; and second, a mass of detailed State and national banking legislation, and of regulations issued under general legislation, designed to safeguard the public interest.

Purpose of Bank Supervision

Briefly stated, the major purpose of supervision is to aid in maintaining a system of sound individual banks—banks that are in a position not only to meet their liabilities but also to supply the legitimate and changing credit needs of their communities. Such a banking system is one composed of individual banks in strong financial position, operated by competent management in accordance with tested banking principles and applicable banking laws and regulations. It is also a banking mechanism through which the flow of credit and money will be responsive to reserve banking policy and consistent with the public's financing needs under conditions of stable economic progress.

Four groups have a direct and vital interest in bank supervision: the banks subject to supervision; the customers who have entrusted banks with their deposits and who look to banks for credit accommodation and other financial services; the investors who have purchased bank stock; and those whose task it is to administer the supervisory function in the public welfare.

Bank Supervisory Functions

As a governmental activity, bank supervision encompasses a wide variety of technical functions relating to the operations of banks. These concern the issuance and enforcement of supervisory and other regulations; the

organization and chartering of banks; the periodic examination of banks and the requiring of steps by bank management to correct unsatisfactory or unsound conditions found through such examination; the review and analysis of periodic reports of condition and of earnings and expenses; the rendering of counsel and advice on bank operating problems when requested, particularly in the case of smaller banks; the approval of proposed changes in the scope of corporate functions exercised by individual banks and of proposed changes in their capital structures; the authorization of branches and of the exercise of trust powers; in some instances, the approval of bank mergers and consolidations; the regulation of bank holding companies; and the liquidation of banks, including the appointment of a conservator under certain conditions or a receiver in other circumstances.

While the technical functions of bank supervision are many and varied and relate to the full life cycle of a banking institution, its chief preoccupation is with banks as going concerns. Its objective is to protect the banking structure against weakness of the component banks and whenever possible to assist them in becoming stronger units. Consequently, a major responsibility of the supervisory authorities is to keep informed of the condition, operations, and quality of management of the banks subject to their review and to contribute to the correction of unsound situations when they develop. Compared with this primary and continuing supervisory function, other functions, however necessary, may be regarded as limited and occasional.

Bank Examination

Bank examination, the best-known form of supervisory activity, is the fact-finding function of the supervisory authorities. Its purpose is to develop information that will disclose the current financial condition of the individual bank, ascertain whether it is complying with applicable laws and regulations, and indicate its future operating prospects.

The examination process involves a number of detailed steps: verification of all the examined bank's assets and the proof of its liabilities; analysis and appraisal of its assets; analysis of its liabilities; review and appraisal of its management; determination of its liquidity position and operating trends; study of the bank's position in relation to community factors and general business conditions; and consideration of the bank's operating record in the light of various statutory and regulatory limitations affecting the conduct of its business.

Supervisory uses of the information developed through examination are threefold: first, it is used by the authorities as the basis of supervisory policy with respect to particular institutions; second, it is used by the directors and officers of examined banks as the basis of corrective action to prevent future difficulties; third, the information accumulated from many examinations is used by the authorities as a guide in framing or revising regulations and in shaping or reshaping supervisory policies. Information derived from examination processes has at times pointed the way to necessary or desirable changes in banking laws. The composite data thus obtained are an essential part of the nation's economic intelligence.

Governmental Agencies Concerned with Supervision

The complex nature of this country's banking system is reflected in, and indeed is in part the product of, the governmental structure of bank supervision. State banks are chartered by and operate under the laws of any one of the forty-eight States. National banks operate under Federal banking law, with membership in the Federal Reserve System mandatory.[1] System membership is also available to State banks that meet membership qualifications. A system of Federal insurance of deposits is applicable to all member banks and to others that voluntarily desire and qualify for insurance. In such a structure of bank supervision, there are necessarily cases of overlapping responsibilities and functions. Inasmuch as the basic objectives of all supervisory authorities are similar, however, much of the seeming duplication of supervisory activity is averted in practice by common interests that result in close working arrangements among the governmental agencies concerned.

Federal Government legislation to deal with national banking problems at different times has given rise to three Federal agencies actively and directly engaged in bank supervisory functions.

The Office of the Comptroller of the Currency, a bureau of the Treasury Department established in 1863, has charter and supervisory authority with respect to the national banks of the country.

The Federal Deposit Insurance Corporation, established in 1933, has supervisory authority in connection with its

[1] Excepting national banks located in Alaska or in any insular possession or in any part of the United States outside the Continental United States.

responsibility to insure deposits of Federal Reserve member banks and other banks that voluntarily become members of the Corporation. The Corporation makes a practice of applying its visitorial examination authority only to those insured banks that are not subject to examination by another Federal supervisory agency.

The Federal Reserve System, established in 1913 to provide, among other purposes, a "more effective supervision of banking in the United States," has supervisory authority with respect to all of its members. In practice, the System confines its visitorial examination powers to State member banks and, whenever practicable, such examinations are made jointly with State supervisory authorities.

Supervisory Functions of the Federal Reserve

The supervisory functions of the Federal Reserve relate primarily to the operations of its State bank members. Its responsibilities have to do particularly with the admission of State banks into System membership; the examination of such banks and review of operations of all member banks; the correction of unsatisfactory conditions in, or violation of banking law by, these banks, including, if necessary, disciplinary action to remove officers and directors for unsafe or unsound banking practices or for continued violation of banking law; the issuance and enforcement of regulations pertaining to member banks; and the granting of certain banking and trust powers.

Examples of special Federal Reserve supervisory functions are: to authorize national banks to exercise fiduciary responsibilities; to permit holding companies to vote stock in member banks; to charter foreign banking corporations

and permit member banks to engage in banking in foreign countries; to regulate loans by banks, brokers, and dealers in securities for the purpose of purchasing or carrying stocks registered on national securities exchanges.

Some phases of the field work involved in Federal Reserve supervisory activities, notably the bank examination function, have been delegated by the Board of Governors to the Federal Reserve Banks under a policy of decentralization. The Board of Governors directs and coordinates the supervisory work of the Reserve Banks, reviews the results of their examination activities, and determines broad supervisory policies. Since national banks are subject to examination by the Comptroller of the Currency, the Reserve Banks, to avoid duplication, are furnished by the Comptroller's Chief District Examiners with copies of reports of examination of all national banks in their respective districts. Inasmuch as State member banks are subject to examination by the State supervisory authorities, the Reserve Banks and these authorities cooperate, whenever feasible, in joint or alternate examinations. The established policy is for a Federal Reserve Bank to conduct one regular examination of each State member bank every calendar year.

Supervision in Relation to General Credit Policy

To the extent that bank supervision helps to maintain strong individual banks under competent management and thus an adequate and responsive banking system collectively, it contributes to the smooth functioning of the economy. Bank supervision, however, cannot and should not be used for the purpose of enforcing the System's general credit policy by compelling member banks to

restrict credit in times of inflationary boom or to extend credit in times of general recession. In a free enterprise economy, whether credit availability is tightened in booms or eased in depressions will depend on national credit conditions. The Federal Reserve's responsibility in regularizing the flow of credit and money with a view to stable economic progress is to influence these conditions through its established instruments of credit policy rather than through the mechanism of bank supervision.

CHAPTER XIII

BALANCE SHEET OF THE FEDERAL RESERVE BANKS. *Federal Reserve functions are reflected in the balance sheet of the Reserve Banks. Changes in credit and monetary conditions may also be traced in this record.*

MAJOR reserve banking functions, as described in other chapters, are reflected in the combined balance sheet of the twelve Federal Reserve Banks. The balance sheet, which is one of the most complete statements of its kind, is released every Thursday, showing the condition of the Reserve Banks on the Wednesday immediately preceding. The statement, known generally as the weekly condition statement, appears in the Friday issue of the principal daily newspapers of the country and is usually accompanied by explanatory comment. The first page shows the changes in the bank reserve equation, discussed in Chapter VIII.

The Federal Reserve condition statement is necessarily complex because its purpose is to provide a summary of the many factors which enter into the nation's reserve

banking position. The nation's demand for money converges on the commercial banks, especially the member banks, and through them on the Federal Reserve Banks. Accordingly, much can be learned about current banking and financial trends by following the week-to-week changes in the principal items of the statement.

The combined balance sheet of the Federal Reserve Banks for December 23, 1953 is shown in condensed form on the following page. Explanation of its items provides a review of many important points made in earlier chapters and an opportunity to mention briefly some technical aspects of Federal Reserve operations not heretofore dealt with.

Explanation of Asset Accounts

1. GOLD CERTIFICATE RESERVES. Although the law does not permit the Federal Reserve Banks to own gold and forbids the use of gold or gold certificates in circulation, it does authorize the Treasury to issue gold certificates to the Federal Reserve Banks for the gold it acquires. In exchange for these certificates the Federal Reserve Banks credit Treasury checking accounts. The Federal Reserve Banks do not actually hold any large amount of gold certificates, however, their actual receipt and transfer being unnecessary and cumbersome. Instead the Reserve Banks and the Treasury keep a book record of gold certificates *due* the Federal Reserve Banks. This arrangement gives the Reserve Banks an asset in the form of a *due from* claim on the United States Treasury.

2. Other cash is coin and paper money (other than gold certificates and Federal Reserve notes) in the Reserve Bank vaults.

COMBINED BALANCE SHEET OF THE RESERVE BANKS

December 23, 1953

	Millions of dollars
ASSETS	
1. GOLD CERTIFICATE RESERVES	21,339
2. Other cash	298
3. DISCOUNTS FOR MEMBER BANKS	420
4. Other discounts and advances	15
5. Industrial loans	2
6. Acceptances purchased	..
7. U. S. GOVERNMENT SECURITIES	25,886
8. Federal Reserve notes of other Reserve Banks	167
9. Uncollected cash items	4,503
10. Other assets	197
TOTAL ASSETS	52,827
LIABILITIES	
11. FEDERAL RESERVE NOTES	26,808
12. Deposits	
(a) MEMBER BANK—RESERVE ACCOUNTS	20,064
(b) U. S. Treasurer—general account	799
(c) Foreign	461
(d) Other	427
13. Deferred availability cash items	3,134
14. Other liabilities	26
TOTAL LIABILITIES	51,719
CAPITAL ACCOUNTS	
15. Capital paid in	265
16. Surplus (Section 7 and Section 13b)	612
17. Other capital accounts	231
TOTAL LIABILITIES AND CAPITAL ACCOUNTS	52,827
18. THE RESERVE RATIO (per cent)	43.9

3. DISCOUNTS FOR MEMBER BANKS represent the amount of Federal Reserve credit created by Reserve Bank lending to member banks, and for the repayment of which member banks have a direct responsibility. This is a very important item in that the money and financial markets are highly

sensitive to its size.[1] Indebted banks, as a result of the tradition against borrowing, tend to retire their borrowing before seeking other uses for the funds that become available to them. The act of repayment by one bank is likely to reflect transfers of reserve funds from other banks, which in turn borrow to replenish their reserve balances and are put under pressure to reduce their borrowing. Accordingly, member bank indebtedness is usually owed by a shifting group of member banks and the restrictive effects of the borrowing tend to spread through the whole commercial banking system. Experience over the forty years of Federal Reserve operations, as previously brought out, shows that there is a close correlation between increases or decreases in the volume of member bank discounts and a condition of tightness or ease in the credit market.

Member banks borrow from the Federal Reserve Banks either by discounting commercial, industrial, and agricultural paper of appropriate quality and short maturity or by offering their promissory notes secured by such eligible paper, by Government securities, or by other satisfactory collateral. Reflecting in part the important role played in bank assets by Government securities and in part the greater convenience of using collateral free of credit risk, most member bank discounts represent advances secured by short-term Government securities. Borrowing against eligible paper or Government securities is done at the established discount rate; borrowing secured by other collateral satisfactory to Federal Reserve Banks

[1] Inasmuch as the volume of discounts varies widely from day to day, the weekly condition statement includes the average daily member bank borrowings for the week covered by the statement.

is charged a rate not less than one-half per cent higher.

4. Other discounts and advances include, first, loans secured by gold made to foreign monetary authorities, and, second, advances to individuals, partnerships, and corporations on the security of direct obligations of the United States. Under the authority for this second type of advance, the Federal Reserve Banks may lend to nonmember banks as well as other financial institutions, subject to such regulations as the Board of Governors may prescribe, against Government securities as collateral. Rates charged for such borrowing are usually higher than those charged member banks. As of December 23, 1953 discounts and advances other than for member banks represented entirely foreign loans secured by gold.

5. Industrial loans. These are working capital loans to established commercial and industrial enterprises. Such loans may have a maturity up to five years and be arranged with the participation of a bank or other financing institution. Although loans of this kind may be made directly by Reserve Banks when eligible enterprises are unable to obtain financial assistance on a reasonable basis from usual sources, the majority of such loans are made by member and nonmember banks with commitments on the part of the Reserve Banks to discount or purchase the paper on demand without recourse. A financing institution participating in such loans must obligate itself for at least one-fifth of any loss sustained. Commitments to make such loans usually bear a charge known as the commitment rate and funds actually advanced command a rate higher than the established discount rate. The amount of commitments outstanding is shown regularly as a memorandum item on the weekly condition statement.

6. Acceptances purchased. These are prime bankers' acceptances purchased by the Federal Reserve Banks at the buying rate in effect when they are offered for sale by bankers, dealers, and others on their initiative. Sometimes such purchases are made under repurchase agreement whereby the seller agrees to buy them back within fifteen days or less. At the date of the accompanying statement the Federal Reserve Banks held no acceptances.

7. UNITED STATES GOVERNMENT SECURITIES comprise Treasury bills, Treasury certificates of indebtedness, Treasury notes, and Treasury bonds. Since Reserve Bank purchases of securities are a principal means of creating Reserve Bank credit at the initiative of the Federal Reserve, the amount of securities held is one of the most significant items of the Reserve Bank balance sheet. A breakdown of holdings, by type of security, is published each week in the full condition statement.

Federal Reserve holdings of Government securities sometimes include purchases from dealers under dealer agreement to repurchase them within a specified period of fifteen days or less, and these are shown separately in the complete weekly statement. Repurchase facilities are made available to dealers in Government securities from time to time in order to meet market needs during periods of temporary credit stringency and also to assist dealers in carrying their inventory of securities over such periods. Use of the facilities, when available, is at the initiative of the dealers.

On December 23, 1953, 568 million dollars of United States Government securities were held by the Reserve Banks under repurchase agreements with dealers. All other United States Government securities owned by the Reserve

Banks on this date had been purchased outright in the market from previous owners—banks, dealers in securities, and others. The law authorizes the Reserve Banks to hold at any one time as much as 5 billion dollars of Government obligations acquired directly from the Treasury. Such direct transactions are infrequent and of very short duration. When these special obligations are outstanding on the Wednesday statement date, they are reported separately in the weekly statement. Use of this special authority enables the Treasury to permit its balances with the Federal Reserve Banks to decline to a minimum immediately prior to tax-collection peaks, and at such times the Treasury may sell special certificates of indebtedness to the Reserve Banks to cover what would otherwise amount to a temporary overdraft in the Treasury's checking accounts with the Reserve Banks.

8. Federal Reserve notes of other Reserve Banks. The law requires that when notes of one Reserve Bank are received by another, they shall be promptly returned to the Reserve Bank of origin for credit or redemption, or, if unfit for further circulation, forwarded to the United States Treasury for retirement. This item, therefore, represents notes held and in transit pending receipt of credit from other Reserve Banks.

9. Uncollected cash items are checks and other cash items deposited with the Federal Reserve Banks and in process of collection at the time the statement is made up. The item has a counterpart on the liability side of the statement in a technical account described as *deferred availability cash items*. This account represents checks in process of collection that are to be credited to banks in accordance with a specific time schedule. The difference

between the asset account (uncollected cash items) and the liability account (deferred availability cash items), which is sometimes a sizable amount, is generally referred to as Federal Reserve Bank "float."

10. Other assets for this condensed statement consist of balances due from foreign central banks, bank premises, premium on securities owned, accrued interest and other accounts receivable, and various other items of small magnitude.

Explanation of Liabilities and Capital Accounts

11. FEDERAL RESERVE NOTES, which constitute the principal part of currency in circulation, are liabilities of the Federal Reserve Banks and also obligations of the United States Government. They are a first lien on all the assets of the issuing Reserve Bank and, as explained in earlier chapters, they are backed by not less than a 25 per cent reserve of gold certificates. The amount not covered by the pledge of gold certificates must be covered by eligible paper or Government securities pledged as collateral. Changes in the amount of Federal Reserve notes in circulation occur in accordance with changing demands of the public for currency and reflect seasonal and other variations in the volume of business activity.

12. Deposits consist mainly of the RESERVE ACCOUNTS OF MEMBER BANKS.[2] They also include checking accounts of the United States Treasury, deposits of foreign reserve

[2] The weekly condition statement shows in a special item an estimated breakdown of member bank deposits into required reserves and excess reserves. Because these items are subject to wide daily fluctuation, the statement also provides an estimate of the daily average of excess reserves for the statement period.

banks, foreign governments, international agencies, and clearing accounts maintained by nonmember banks. Of the nonmember deposit accounts, the largest week-to-week changes usually occur in Treasury accounts, which are used by the Treasury to make payments for Government purchases of goods and services. These changes, although occasionally directly related to accompanying changes in other balance sheet accounts, will most often be reflected in opposite changes in member bank reserve deposits. The Treasury also maintains deposit accounts with approved commercial banks for the receipt of certain taxes and of payments for securities sold to the public. Its established practice is to schedule the transfer of its funds from the accounts at commercial banks to its account at the Federal Reserve Banks in such a way as to minimize the effects on member bank reserves of seasonal and other fluctuations in Treasury receipts and expenditures.

Changes in the deposits of foreign authorities, which are maintained with the Reserve Banks for international settlement and foreign monetary reserve purposes, are sometimes an important factor affecting member bank reserves. Changes in these accounts, however, may be directly associated with changes in other accounts, particularly in gold certificate reserves.

13. Deferred availability cash items, as discussed on page 179, are of technical significance. The account arises from the fact that Federal Reserve Banks do not give immediate credit for all checks deposited with them for collection. The credit is deferred according to a schedule that allows time for out-of-town checks to go through the mail to the banks on which they are drawn. Maximum deferment of credit is now two days. Since the time actually taken to

collect checks is often longer than that allowed in the schedules, the result is that some Federal Reserve credit is extended in connection with the check collection process.

14. Other liabilities consist principally of unearned discount on notes and securities, miscellaneous accounts payable, and accrued dividends.

15. Capital stock of the Federal Reserve Banks is owned by the member banks of the Federal Reserve System, which are required to subscribe for such stock in a percentage of their own capital stock and surplus.

16. Surplus is governed by two sections of the Federal Reserve Act (Sections 7 and 13b). The first and main category of surplus (Section 7) represents earnings derived by the Reserve Banks from their loans and investments. Ordinarily, these earnings are adequate to cover the expenses of the Reserve Banks, the statutory 6 per cent annual dividend payable to member banks, and additions to surplus. In recent years, net earnings have been large and, beginning in 1947, 90 per cent of them, after dividends, has been paid to the United States Treasury as interest on Federal Reserve notes, with the remainder being added to surplus. In some past years, however, the Reserve Banks operated at a loss. The surplus can be drawn on to meet deficits and pay dividends in years when operations result in loss, but it cannot be distributed otherwise to the stockholding member banks. The law provides that if the Reserve Banks are dissolved any surplus is to be paid to the United States Government.

The second category of surplus (Section 13b), which is a relatively small amount, represents funds received from the Secretary of the Treasury in accordance with the law for the purpose of making working capital loans to estab-

lished businesses, that is, industrial loans, plus or minus the net earnings or net loss arising from using such funds.

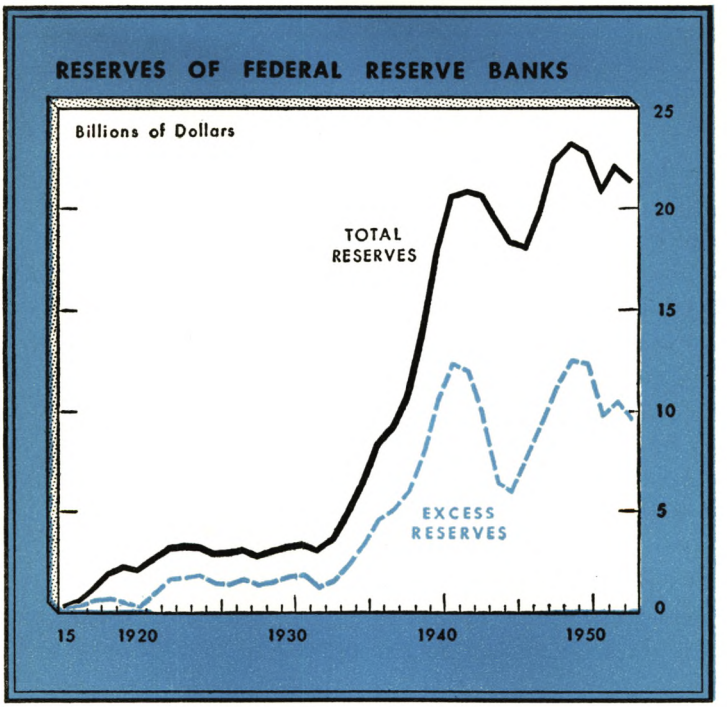
17. Other capital accounts at the date of this statement comprised reserves for contingencies and unallocated net earnings for the year to the date of the statement.

18. THE RESERVE RATIO. By law, our standard unit of value, the dollar, is defined in terms of gold. The Treasury buys gold in monetary form at $35 an ounce. The Treasury pays for such gold out of its general fund; it can then replenish this fund by issuing gold certificates to the Federal Reserve Banks, which credit its account. When it sells gold, on the other hand, the proceeds are added to the general fund of the Treasury, which may in turn use them to redeem gold certificates. Reserve Bank holdings of gold certificates constitute their basic reserves and so set a limit to expansion of Reserve Bank credit.

The reserve ratio of the Federal Reserve Banks, which is published regularly as a memorandum item on their financial statement, is a constant reminder of these important facts. The law prescribes that gold certificate reserves must be maintained equal to at least 25 per cent of Federal Reserve deposit and note liabilities, unless the requirement is suspended by the Board of Governors subject to a graduated tax upon any reserve deficiency. At its recent high level—43.9 per cent on December 23, 1953—the reserve ratio has little operating significance. In fact, during most of the existence of the Federal Reserve System, excess or unused monetary reserves have been sufficient, as the chart on page 184 shows, to permit a further large expansion of Federal Reserve credit if that had been desirable in the public interest.

That Federal Reserve Bank reserves exceed the minimum

legal requirement reflects the fact that these Banks are not operated to make a profit and consequently do not extend additional credit simply because they have enough reserves to do so. The volume of Federal Reserve credit is deter-



mined, as has already been emphasized, by the demand of the public for currency and bank deposits and by the policy pursued by the Federal Reserve to encourage or discourage this demand. This policy is determined exclusively in the public interest and it is not motivated by any profits that could be obtained by putting to

work the unused reserves of the Federal Reserve Banks.

Historical Comparison

It is plain from preceding chapters, as well as from this item-by-item discussion of the condensed Federal Reserve statement, that five accounts reflect the essential credit and monetary operations of the Federal Reserve Banks. These accounts include, among the assets, gold certificates, discounts for member banks, and holdings of Government securities and, among the liabilities, Federal Reserve notes and reserve balances of member banks. In the course of years these accounts have undergone important changes in volume resulting from changed economic and monetary conditions generally; to indicate these changes, condensed balance sheet data for dates near the end of 1920, 1930, 1940, and 1953 are shown on page 187.

GOLD CERTIFICATES. The increase in the amount of gold certificates from 1920 to 1953 reflects the enormous increase in this country's stock of monetary gold that occurred principally in the decade between 1930 and 1940. By the terms of the Gold Reserve Act of 1934, the value of the stock of gold held as monetary reserves and taken over at that time by the Treasury was raised from 4 billion dollars to about 7 billion, and subsequently the release of some gold devaluation funds was a factor in the increase in Federal Reserve gold certificate holdings. Another factor in the increase over this decade was the Treasury purchase of domestic production of gold. By far the greatest factor, however, was the flow into this country of foreign gold, reflecting the pulling power in world depression of this country's strong creditor position as well as unsettled political conditions in Europe. Between January 1934 and

the end of 1940, imports of gold exceeded exports by almost 16 billion dollars.

During World War II the country's stock of gold declined somewhat but after the war it again increased. In recent years, changes in the monetary gold stock and the Federal Reserve's gold certificate reserves have occurred in both directions.

DISCOUNTS FOR MEMBER BANKS and HOLDINGS OF GOVERNMENT SECURITIES. The change in relative importance of these two accounts reflects several important developments. In 1920 Federal Reserve Bank credit was being furnished mainly in the form of discounts for member banks, but a few years later member banks had to a great extent ceased to borrow at the Reserve Banks. At the same time, open market purchases of Government securities had become important as a means of supplying member banks with the reserves they had previously obtained by rediscounting.

Between 1930 and 1940, member banks borrowed at the Reserve Banks less than in the preceding decade, and the Federal Reserve authorities purchased more Government securities. The increased purchases occurred mainly in the years 1931-33 when Reserve Bank holdings rose from 729 million dollars to 2,437 million. This was the period of drastic recession and banking crisis that culminated in the bank holiday of March 1933, and the Federal Reserve authorities bought securities for the purpose of easing the money market and offsetting contraction in the flow of credit and money that resulted from bank failures and the liquidation of bank loans. The Reserve Bank portfolio of Government securities remained close to 2,500 million dollars until the end of the decade.

COMPARISON OF BALANCE SHEETS OF FEDERAL RESERVE BANKS[1]

(In millions of dollars)

Account	1920	1930	1940	1953
ASSETS				
Gold certificate reserves	[2]2,060	[2]2,941	19,692	21,339
Other cash	264	220	229	298
Discounts for member banks	2,687	251	3	420
Other discounts and advances	...	...	1	15
Industrial loans	...	...	8	2
Acceptances purchased	260	364	...	...
U. S. Government securities	287	729	2,184	25,886
Federal Reserve notes of other Reserve Banks	31	22	27	167
Uncollected cash items	637	585	914	4,503
Miscellaneous assets	28	89	88	197
Total assets	6,254	5,201	23,146	52,827
LIABILITIES				
Federal Reserve notes	[3]3,553	1,663	5,965	26,808
Deposits:				
Member bank—reserve accounts	1,781	2,471	13,837	20,064
U. S. Treasurer—general account	57	19	482	799
Foreign and other deposits	23	28	1,712	888
Deferred availability cash items	519	564	774	3,134
Miscellaneous liabilities	19	11	5	26
Total liabilities	5,952	4,756	22,775	51,719
CAPITAL ACCOUNTS				
Capital paid in	100	170	138	265
Surplus	202	275	179	612
Other capital accounts	([4])	([4])	54	231
Total liabilities and capital accounts	6,254	5,201	23,146	52,827
The reserve ratio (per cent)	43.3	73.7	90.6	43.9

[1] As of Dec. 31, 1920 and 1930; Dec. 24, 1940, and Dec. 23, 1953.

[2] Prior to enactment of the Gold Reserve Act of 1934, the amount reported under this item included gold owned by Federal Reserve Banks.

[3] Includes 217 million dollars of Federal Reserve Bank notes, which are no longer issued.

[4] Included in "miscellaneous liabilities."

The low level of member bank discounts that continued throughout the 1930's is only partly explained, however, by the increase in the Federal Reserve Banks' holdings of Government securities during recession years early in the decade. It is also to be explained by the very large increase in member bank reserves that arose out of gold imports during the latter half of the decade. By the fall of 1940 all member banks together held 7 billion dollars of excess reserves. This volume of excess reserves was capable of supporting an expansion of demand deposits about five times as great. In the circumstances, few member banks needed to obtain Federal Reserve credit through discounts or advances, and Reserve Bank discount facilities had only standby importance.

Between 1940 and 1953, the most noteworthy change in the Federal Reserve condition statement was the increase of nearly 24 billion dollars in Government security holdings. Most of this increase occurred in the years of United States participation in World War II when the Federal Reserve pursued a policy of supporting war finance by stabilizing yields on Government securities at low levels. With Federal Reserve credit freely available through open market operations, member banks made little use of Reserve Bank discount facilities.

The Treasury-Federal Reserve accord in March 1951 provided a basis for returning to a program of adjusting Federal Reserve credit availability to the seasonal and growth needs of the economy through the flexible and complementary use of the System's general instruments of policy. This change in the pattern of Federal Reserve operations resulted in an increase in member bank use of Reserve Bank discount facilities, and near the end of 1952

the discounts of member banks amounted to more than 1,700 million dollars compared with only 3 million near the end of 1940. By December 23, 1953, however, they had been reduced to 420 million dollars, mainly reflecting a shift in Federal Reserve policy from credit restriction in the first half of the year to credit ease in the second half.

FEDERAL RESERVE NOTES. Compared with earlier levels, the volume of Federal Reserve notes outstanding was unusually large in 1920. In that year, which was one of high prices, the amount of currency in circulation was larger than ever before, and Federal Reserve notes made up about three-fifths of the total. For the remainder of the decade the volume of notes was substantially less, but in the years 1931-33 it increased greatly as a result of the banking weakness of that period and the general withdrawal of deposits from banks.

Thereafter the amount of Federal Reserve notes outstanding rose steadily until 1940. In that year, in response to wartime demand for currency, the volume began to increase far more rapidly than at any previous time. By the end of the first year after the war, currency in circulation amounted to nearly 29 billion dollars, of which Federal Reserve notes accounted for almost 25 billion. From 1946 the level of currency in circulation receded gradually through 1950 and then, following Korean hostilities, increased again during the defense program to 31 billion dollars by the end of 1953.

RESERVES OF MEMBER BANKS. Increases in the country's gold stock and in the amount of Reserve Bank credit have tended since 1920 to augment member bank reserves. On the other hand, growth of currency in circulation has tended to reduce member bank reserves. All three of these

elements, as well as member bank reserves, reflect in some way basic economic and political conditions. For instance, the tremendous growth in the monetary gold stock between 1930 and 1940 reflected the unsettled foreign conditions that were driving gold to the United States; the great expansion in Reserve Bank credit that resulted chiefly from purchases of United States Government securities during World War II reflected the immense monetary expansion associated with war finance, including the wartime demand for currency. The volume of member bank reserves, therefore, is not the product of domestic policy alone; indirectly it is also the product of conditions arising from developments all over the world.

OTHER STATEMENT ITEMS. The principal other changes in the Federal Reserve Bank statement over a period of years have occurred in *uncollected cash items* and *deferred availability cash items*. The recent great increase in these accounts, which reflect the volume of bank checks deposited with the Federal Reserve Banks and in process of collection, is a consequence mainly of the greatly increased volume of monetary payments in recent years and the increase in the use of bank checks in making out-of-town payments.

CHAPTER XIV

SUMMARY. *Experience over four decades shows that reserve banking is of vital importance to the national economy. Provision of bank reserves has come to be the major Federal Reserve function.*

AS the foregoing chapters have explained, the basic powers of the Federal Reserve relate to credit and money. They are credit powers in that they directly affect the ability of commercial banks to supply funds to the credit market and indirectly influence the willingness of other lenders and investors to supply funds. They are monetary powers in that they affect the size of the money supply, which consists in part of currency and in much larger part of demand deposits.

Before the Federal Reserve System was established, the outstanding defects of our bank credit and monetary mechanism were diagnosed as "inelastic currency" and "scattered bank reserves." The System promptly cleared the way for correcting these defects.

From its beginning, the System through its currency function has provided elasticity. The machinery for supply-

ing currency for circulation when it is needed and withdrawing it when no longer needed has proved adequate and has worked almost automatically. For many years, including two major wars, the volume of currency in circulation has expanded and contracted in accordance with the varying requirements of the public. Today the currency function of the Federal Reserve System is a matter of routine, virtually free from uncertainties or administrative difficulties.

Four decades of reserve banking experience have made clear, however, that the reserve function of the System is much more than a matter of pooling or mobilizing scattered reserves and making available to banks in need of funds the surplus reserves of other banks. It is a function of providing a pool of reserve funds which adjusts to the changing pace of business activity and increases over time as the economy grows. Moreover, the continuing ability of individual banks in many growing communities to adapt to the varying bank credit and monetary needs of their localities depends on the effective performance of the reserve function. It requires the constant use of the Federal Reserve's power to create reserve funds or to extinguish them.

If the funds lent by a Federal Reserve Bank, or paid by it in purchasing securities, were merely the funds deposited with it by its member banks, its loans and security purchases would not enlarge the total volume of reserve funds. The significant fact to bear in mind, however, is that the credit operations of the Reserve Banks do affect the total volume of reserve funds available to commercial banks. 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 its assets and its liabilities, and these continue to be expanded as long as the obligation is held. Such action creates reserve funds which may become the basis for a multiple increase in commercial bank credit and demand deposits and thus an expanded flow of credit and money.

This does not mean that the permissive power of the Federal Reserve to create or extinguish bank reserves is unlimited. The law sets an ultimate limit on the System's power to expand its deposits and its notes by restricting its liabilities to a maximum of four times the System's holdings of gold certificates. Moreover, operating limitations on both its power to expand and its power to contract these liabilities derive from the law through the System's responsibilities for fostering economic stability.

Federal Reserve action to affect the volume of bank reserves encourages an increased or decreased use of bank and other credit. It has this result for two reasons. First, a change in the reserve position of banks affects the incentives of bankers to lend or invest. Second, a tighter or easier bank reserve position usually results in a change in credit conditions generally and in interest rates, which in turn influences the incentives of other lenders to supply funds and of borrowers to demand them. In other words, a change in bank reserve position initiates a chain reaction in the credit market with powerful secondary effects upon decisions to buy or sell commodities and services, decisions to save and invest, and total spending in this free enterprise economy. The powers of the Federal Reserve to regulate the flow of credit and money are thus among the important factors that influence the current financial and

economic situation. It is because of these far-reaching effects that reserve banking policy is considered so important a force in contributing to economic stability at high and rising levels of output and employment.

The objective of Federal Reserve functions, like that of governmental functions in general, is the public welfare. Federal Reserve policy must be viewed in the light of this broad objective, which is approached through action directed toward regularizing the flow of credit and money, fostering a stable dollar, and providing an effective monetary mechanism that will be conducive to the country's growth and economic well-being. In carrying out policy the Federal Reserve, after taking into account the factors making up the prevailing economic situation, strives to use its powers in the way that will contribute to economic stability and progress.

Instruments of Federal Reserve Policy

To recapitulate—The Federal Reserve has three general means of influencing over-all credit and monetary conditions by affecting the reserve position of member banks—discount operations, open market operations, and changes in reserve requirements. Changes in member bank reserve positions affect the total volume of credit that can be granted by member banks, and thereby the volume of the economy's money, without directing the flow of credit and money into particular sectors of the economy. Decisions regarding the use of available funds are left to the banks, their borrowers and other depositors, and the currency-holding public.

Discount operations. Through discounts for and advances to member banks, the Federal Reserve is able to supply

individual banks with additional reserve funds. By this means and by raising or lowering Reserve Bank discount rates, the Federal Reserve can influence directly the availability and cost of bank credit and indirectly the availability and cost of nonbank credit. Discounts for proper banking purposes are initiated by individual member banks, subject to Reserve Bank approval, but changes in the discount rate are made at the discretion of the Federal Reserve after consideration of the need to tighten or ease credit conditions. The volume of member bank discounts has come to be regarded as an important factor in the tightness or ease of the credit market, and changes in Reserve Bank discount rates are viewed by the business community as an objective index of Federal Reserve policy.

Open market operations. Through purchases of Government securities in the open market, the Federal Reserve can take the initiative and offset drains on or expand member bank reserves. Similarly, through sales of such securities, it can extinguish reserves and reduce their total volume. Because Government securities play a key role in the credit market, and because all financial institutions are affected by changes in the yields and prices of such securities as well as by changes in member bank reserve positions, open market operations have direct effects upon credit availability and the climate of business expectations. Traditionally, open market operations are used flexibly in combination with discount operations to provide an orderly and adequate flow of credit and money.

Changes in reserve requirements. Raising or lowering reserve requirements of member banks has the effect of diminishing or enlarging the volume of funds that member banks have available for lending. Such action also im-

pinges on the liquidity position of banks and so affects the deposit expansion potential of bank reserves. The law sets certain basic requirements for each of three classes of member banks, but empowers the Federal Reserve to increase the requirements up to twice the prescribed basic percentages. For many years the actual requirements set by the Federal Reserve have been at or near the permissible maximum percentages. The use of this power encounters numerous administrative and technical problems which handicap its frequent and continuous application in affecting the demand for Federal Reserve credit. For this reason it is used mainly for influencing unusual and large changes in bank reserve positions occasioned by special circumstances. It is not so adaptable to meeting day-to-day changes in credit conditions.

Selective credit regulation. The types of credit to which selective regulation has been applied by the Federal Reserve authorities are stock market credit, consumer credit, and real estate credit. Stock market credit has been subject to margin requirements since 1934. The other two types of credit have been regulated only temporarily.

By limiting the terms on which a given type of credit may be granted, selective credit regulation affects decisions regarding individual loans in the area to which it is applied. It is thus a supplement to general credit regulation in that it can be directed to specific problem areas without involving action to influence credit conditions generally. For selective credit regulation to be practicable, the area to which it relates must be reasonably definable, and the trade practices of the area must be sufficiently specialized and standardized for the regulation to be readily tailored to them.

Federal Reserve Service and Supervisory Functions

In addition to credit functions, the Federal Reserve performs certain services of which the most important are: handling member bank reserve accounts; furnishing currency for circulation; facilitating the clearance and collection of checks and the transfer of funds; acting as fiscal agents, custodians, and depositaries of the United States Government; and making available to the public the economic and financial information that serves to guide System policy administration. The System also performs important supervisory functions that help to keep individual member banks in sound condition and to maintain the strength of the banking system as a whole.

Concluding Comment

The Federal Reserve System was established in an era when the country's financial problem was one of scarcity of credit and money and rigid limitation on expansion. To a considerable extent because of a long period of international political unsettlement, involvement of the United States in two major wars, and the inflow of gold following two world-wide economic depressions, the financial problem with which the System has been concerned during much of its existence has been one of abundance and need for restraint.

The Federal Reserve System is a unique reserve banking mechanism, essential to a dynamic, private enterprise economy like ours. It is especially adapted to a banking system with many independent unit banks, today numbering some 15,000, of which nearly 7,000 are System member banks. Through its twelve Reserve Banks and their coordination through the Board of Governors in Washing-

ton, the System is designed to combine private and public interests in an organization that serves efficiently the public welfare. Experience during the System's four decades of operation has shown that reserve banking is a potent and indispensable instrument of public policy; that under conditions of peace it can facilitate economic stability and progress; and that, in the event of the threat of war or war itself, it can be an invaluable aid in facilitating the financing of essential programs and in ameliorating resulting economic disturbances.

The Federal Reserve System is a service institution to the nation. The more than 250 directors of the twelve Reserve Banks and their twenty-four branches, the 20,000 officers and others who work in them, as well as the Board of Governors and its staff in Washington, are all serving as trustees of the nation's money.

FEDERAL RESERVE BOARD PUBLICATIONS

ANNUAL REPORT of the Board of Governors of the Federal Reserve System. Issued each year. Available without charge upon request.

FEDERAL RESERVE BULLETIN. Issued monthly. Subscription price in the United States and its possessions, Bolivia, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Haiti, Republic of Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, El Salvador, Uruguay, and Venezuela is $2.00 per annum or 20 cents per copy; elsewhere $2.60 per annum or 25 cents per copy. Group subscriptions in the United States for 10 or more copies to one address, 15 cents per copy per month, or $1.50 for 12 months.

FEDERAL RESERVE CHARTS ON BANK CREDIT, MONEY RATES, AND BUSINESS. Issued monthly. $6.00 per annum including historical supplement (listed below). 60 cents per copy; in quantities of 10 or more copies of a particular issue for single shipment, 50 cents each. (domestic rates).

HISTORICAL SUPPLEMENT TO FEDERAL RESERVE CHARTS ON BANK CREDIT, MONEY RATES, AND BUSINESS. Issued annually in September. Subscription to monthly chart book includes one copy of supplement. Single copies 60 cents each; in quantities of 10 or more copies for single shipment, 50 cents each (domestic rates).

BANKING AND MONETARY STATISTICS. Statistics of banking, monetary, and other financial developments. November 1943. 979 pages. $1.50 per copy.

A STATISTICAL STUDY OF REGULATION V LOANS. September 1950. 74 pages. 25 cents per copy; in quantities of 10 or more copies for single shipment, 15 cents each.

THE DEVELOPMENT OF BANK DEBITS AND CLEARINGS AND THEIR USE IN ECONOMIC ANALYSIS. January 1952. 175 pages. 25 cents per copy; in quantities of 10 or more copies for single shipment, 15 cents each.

THE FEDERAL RESERVE ACT, as amended to November 1, 1946, with an Appendix containing provisions of certain other statutes affecting the Federal Reserve System. 372 pages. 50 cents per paper-bound copy; $1.00 per cloth-bound copy.

Copies of this book, THE FEDERAL RESERVE SYSTEM—PURPOSES AND FUNCTIONS, may be secured without charge, either individually or in quantities for classroom and other use.

In addition to the publications listed, the Board issues periodic releases, special studies, and reprints. Lists of available material may be obtained upon request. Inquiries regarding publications should be directed to the Division of Administrative Services, Board of Governors of the Federal Reserve System, Washington 25, D. C.

INDEX