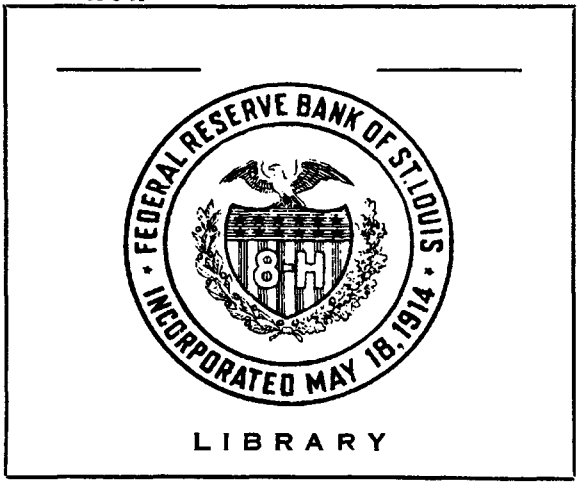
THE
Federal Reserve System

PURPOSES AND FUNCTIONS



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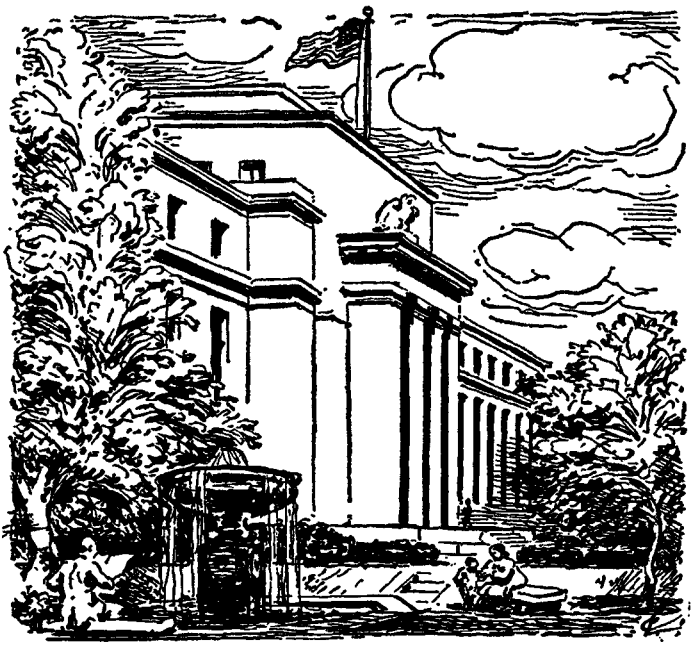

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FOREWORD

THIS edition of *The Federal Reserve System: Purposes and Functions* is dedicated to a better public understanding of the System's trusteeship for the nation's credit and monetary machinery. It describes the System's organization, the range of its operations, and its contribution to stable economic progress. On the cover of the book is a facsimile of the bronze relief that is set into the marble fireplace of the Board room of the Federal Reserve Building in Washington. This relief symbolizes the aims of Federal Reserve functions in furthering orderly growth, stability, and productivity.

The coverage of this edition is comparable with that of the one published in 1954. The revision, however, takes into account the lessons taught by the flexible administration of monetary policy during the past decade as well as the advances that have been made in monetary knowledge through systematic research. Aside from the desire to improve content and organization, the single objective of the revision has been to help the reader understand the subject matter.

The present edition, like the former one, was prepared as a collaborative effort of the Board's technical staff. Ralph A. Young, Adviser to the Board, was responsible for coordinating and supervising this task.

BOARD OF GOVERNORS
OF THE FEDERAL RESERVE SYSTEM

Washington, D. C.
February 1961

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THE content and arrangement of this edition has benefited from suggestions by many members of the Board's staff and by readers and critics of the previous edition. All of these suggestions are acknowledged with appreciation.

Special acknowledgment should be made to Woodlief Thomas, Adviser to the Board, and Guy E. Noyes, Director, Division of Research and Statistics, for criticism on matters of substance. Susan S. Burr, former Associate Adviser in the Division of Research and Statistics, helped greatly in the original planning and development of the revision.

Of particular help in reviewing the book as a whole, or in pointing out or formulating needed revisions, were: Frederic Solomon, Director, and Robert C. Masters, Associate Director, Division of Examinations; M. B. Daniels, Assistant Director, Division of Bank Operations; Lewis N. Dembitz, Associate Adviser, Division of Research and Statistics; J. Herbert Furth and A. B. Hersey, Advisers, Division of International Finance; and Robert Solomon, Chief of the Capital Markets Section, and Charles Yager, Economist, Division of Research and Statistics. Stephen H. Axilrod, Economist, Division of Research and Statistics, contributed a new chapter describing the credit market, collaborated in revising chapters dealing with the economic effects of monetary policy, and assisted in preparing the final text.

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RALPH A. YOUNG

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CHAPTER I

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

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 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

has 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 supply of bank credit and money was inelastic. This resulted in an irregular flow of credit and money and contributed to unstable economic development.

Commercial banks in smaller cities and rural regions maintained balances with commercial banks in larger cities, which they were permitted to count as reserves against the deposit accounts of their customers. Large amounts of these reserve balances were 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 deposit 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, these demands ultimately converged on a few commercial banks situated in the financial centers. In ordinary times the pressures were not excessive, for while

some out-of-town banks would be drawing down their balances, others would be building theirs up. But in periods when business was unusually active and the public needed 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 sharp liquidation of bank credit. These liquidations were called money crises.

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 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, commonly called central banks, to perform functions corre-

sponding to those of the Federal Reserve System. In England 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 bank credit and money. Essential to the performance of this main function is the supplemental one of collecting and interpreting information bearing on economic and credit conditions. A further function is to examine and supervise State member banks, obtain reports of condition from them, and cooperate with other supervisory authorities in the development of policies conducive to a system of strong individual banks.

Other important functions include the provision of cash-balance or payment services to the member banks of the Federal Reserve System, the U.S. 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; and acting as fiscal agents, custodians, and depositaries for the Treasury and other Government agencies.

Since the main concern of the Federal Reserve is the flow of credit and money, these words must be given meaning at the outset. This can best be done by considering these four questions: (1) What is money and how is it

used? (2) How is money related to bank deposits and to bank credit? (3) How do changes in credit and monetary conditions affect the lives of the people? (4) By what means does the Federal Reserve regulate credit and money?

Money and Its Uses

Money is most meaningfully defined in terms of how it is used. Money serves as: (1) a means of payment; (2) a standard of value; and (3) a store of purchasing power.

As a means of payment, money allows individuals to concentrate their productive efforts on those activities for which they are best equipped and in which they are

trained to engage. Money is what people receive in return for their services and what they use to buy the goods and other things they need for themselves and their families.

As a standard of value, money provides the means by which a day's work can be equated with a family's food, housing, and other bills, including what is set aside for old age or for children's education. It is thus the measuring rod in terms of which producer and consumer choices can be assessed and decided.

As a store of purchasing power, money enables us to set aside some of our present income for future spending or investing. It is a way in which labor and work expended in the present can be saved for education, old age, and for the many contingencies that individuals and families are likely to meet.

Because money has all these uses, it is vital and necessary to the functioning of our economic system. If money were impaired as a means of payment, or a standard of value, or a store of purchasing power, the economy's ability to grow and to produce and distribute goods in accordance with the needs and wishes of the people would be jeopardized.

Currency, Bank Deposits, and Bank Credit

In the United States circulating paper money and coins of all kinds (currency) and the demand deposits held by banks perform all the functions of money. The reason that currency and demand deposits are both money is not far to seek. When a person has $10 of paper money and coin 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 sums represent his active cash balance; they serve the same

general purpose and each can be converted into the 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 amounts of currency and of demand deposits at mid-1960 are 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-1960 is also shown in the chart.

All bank deposits basically represent amounts owed by banks to depositors. They come into existence as banks extend credit to customers by exchanging bank deposits for the various assets that banks acquire — promissory notes of businesses and consumers, mortgages on real estate, and Government and other securities.

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

books 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 deposits in checking accounts — should be considered together. For the most part both kinds originate in bank credit, that is, the loans and investments of commercial banks. The Federal Reserve influences the flow of bank 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 nation's 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 that all the people have available that is important, but what those dollars will buy today as compared with earlier periods and as compared with the future.

People have different tests of whether they as individuals 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, at a cost and on repayment terms that he can meet, to buy what he needs. Essentially, however, people are concerned mainly with what they can do with the dollars they earn, are indebted for, or need to

borrow. The ultimate test, in other words, is the stability of the purchasing power of the dollar over time.

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, incomes, and consumption and to foster a stable value for the dollar. When credit, including bank 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 prices of 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, prices of finished products, wages, and the cost of living will rise

together or in closely linked sequence. At some point the upward spiral will break, perhaps because prices of finished goods get so high that ultimate consumers, even though many of them receive higher wages, can no longer buy the goods produced. Then a downward spiral will develop. The higher that values have risen, the more abruptly and lower they are likely to fall and the greater will be the associated unemployment and distress.

The above recital is oversimplified in that it does not include all the factors that affect the level of economic activity. Nevertheless, it shows how the lives of people are affected 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. By influencing the flow of bank credit, with resulting effects on the flow of money and the flow of credit generally, 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 that people use reaches them, directly or indirectly, through banks. They may receive their pay in cash, but the employer who pays them will have cashed a check at a bank or may have borrowed from a bank before making up his payroll. Therefore, the flow of money in the country depends greatly on the activities of commercial banks in accommodating the credit and monetary requirements of industry, trade, agriculture, and all the other sectors of economic life.

The ability of commercial banks to extend credit and provide cash-balance and payment services to the people

depends on the amount of reserve funds the banks have. This amount is directly 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, is discussed in Chapter II.

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. The reserve position of banks affects directly the willingness of banks to extend credit and the cost, or rate of interest, that borrowers from banks will have to pay to obtain it. In this way the Federal Reserve has the power to influence the country's over-all credit situation and its money supply.

While the Federal Reserve directly influences the availability and cost of bank credit and thereby affects the total flow of credit, a great variety of other forces also affect the total flow of credit in the economy. These include, among others, governmental policies in regard to expenditures, taxes, and debt; the distribution of income among different groups of the population and the allocation of income between current consumption and saving; the bargaining strength and policies of management, labor, agriculture, and other sectors of the economy; the course of foreign trade and foreign investment; the prospects for peace or war; and the expectations of businesses and consumers as to future changes in economic activity, especially in prices.

Thus the Federal Reserve alone cannot assure favorable economic conditions nor can it direct whether bank or any other 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.

Economic Intelligence

For monetary regulation to be most effective and successful, it must be supported by adequate current information. This requires analysis of the developing economic situation and of the forces shaping basic trends, and calls for an efficient mechanism of economic intelligence. The staffs of the Board of Governors and of the twelve Reserve Banks are constantly engaged in assembling and observing economic and financial information to guide the System in the formulation and administration of policy.

From its formative years, the Federal Reserve System has undertaken, through its publications, to help keep the public informed about the functioning of the economy, as well as to make relevant statistical material available for public use. The System has also come to follow the practice of publishing promptly the key factual information on which policy decisions have been based and of explaining in official reports why past actions have been taken.

These practices are based on the belief that public understanding helps to make effective a credit and monetary policy designed to foster stable economic development and a stable dollar. It is the Federal Reserve view that the more fully the public understands the issues involved, the simpler and easier credit and monetary administration can be.

CHAPTER II

FUNCTION OF BANK RESERVES. *Bank reserves constitute both the legally required basis and the functional basis of bank deposits. Changes in the reserve position of banks, therefore, will affect directly the flow of bank credit and money. In carrying out its central responsibility, the Federal Reserve System relies primarily on its ability to increase or decrease the availability, volume, and cost of bank reserves.*

COMMERCIAL banks, like other business organizations, are in business to make a profit. The bulk of a commercial bank's earnings come from the returns it receives on its loans and from its security holdings. 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 reserve assets 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 temporary drains of reserve funds caused by their depositors' withdrawals as well as to elicit depositors' confidence in the banks' ability to redeem their deposits when called upon to do so. 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 continuously pay out for their depositors' benefit the cash they were required to keep as reserves without drawing down such reserves below legal requirements and threatening their ability to continue active operations. Since other ways of protecting depositors have been developed (for example, Federal insurance of deposits), required bank reserves have become for the most part a medium through which the flow of bank credit and money is influenced.

Member Bank Reserve Requirements

If a bank is a member of the Federal Reserve System, it is required to keep as reserves the following percentages of its demand deposits:[1]

Central reserve city banks	16½
Reserve city banks	16½
Other member banks (often described as "country banks")	12

[1] These are requirements in effect in December 1960. Under the Federal Reserve Act as amended in 1959, the separate category of "central reserve city banks" is to be abolished in 1962.

These reserves must be on deposit with a Federal Reserve Bank, except for any amounts that the member bank may choose to hold in actual cash. As explained in Chapter III, the Federal Reserve may alter the required percentages within limits specified by law when credit conditions make a change appropriate and feasible. Banks that are not members of the Federal Reserve System are subject to reserve requirements that vary from State to State.

The function of bank reserves may be easily explained in a general way. For instance, assume that banks are required to hold a 20 per cent reserve against demand deposits. This 20 per cent figure is higher than the actual percentages given above, but it is a convenient round figure for illustrative purposes.

In this example, when a member bank receives a demand deposit of $100, in currency or in the form of a check on another bank, it must hold $20 as required reserves against the deposit. These reserves must be deposited with a Federal Reserve Bank, unless held in currency in the bank's own vault. The bank 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.

How the Banking System Works

To further clarify 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 of its liabilities to customers are in the form of demand deposits. Furthermore, let us give this single member bank enough resources to represent all the commercial banks in the country. Let

us assume that the relevant items in its balance sheet are as follows (in billions):

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

Let us again 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 finds that additional loans are desirable to meet the credit needs of the country, and let us also assume that its actions add $10 billion 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):

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 of reserves required for its deposits of $110 billion and also has $8 billion of reserves above requirements, or excess reserves.

Let us next 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 remain 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 stay at the higher level made possible by the increase in reserves.

Another calculation will show that on the basis of the $8 billion 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):

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

This simplified picture of bank transactions indicates that a deposit of $10 billion 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 of monetary regulation 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 a multiple of the additional reserves — five times in this example.

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 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):

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. 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. If its depositors repaid loans or repurchased $20 billion of investments by drawing on their deposits, the result would be (in billions):

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 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 the bank to increase or decrease its loans and its demand deposits (the major component of the money supply) by several times the amount added or extinguished. This is why the dollars

created by Federal Reserve action that become bank reserves are often called "high-powered" dollars to distinguish them from ordinary deposit dollars.

Other Influences

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 reserve requirement of 20 per cent, and we have assumed that all the money lent by the bank will be kept on demand deposit. In practice, 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 (currency and demand deposits) held by the public, and that such demand reflects merely the share of the money supply that the public desires to hold in the form of currency. Since 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. For this reason, currency withdrawals affect the expansion potential of a given volume of new reserve funds.

The transfer of funds from a demand to a savings or other time deposit reflects the preference of the depositor for an asset that earns interest rather than an asset that 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 15 per cent against demand deposits, they are required to keep only 5 per cent against savings and other time deposits. If holders of demand deposits transfer them to time deposits, there is a release of reserve funds from the required reserve category — the difference between 15 per cent and 5 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 loans and investments or to obtain additional reserve funds in some other way 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 hypothetical bank can expand

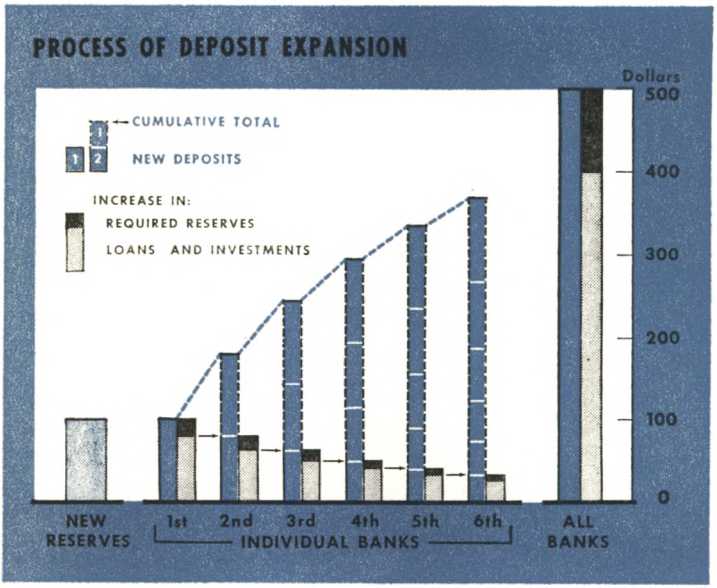
its loans and investments by as much as $40 billion if Federal Reserve action adds $10 billion to its reserves. In practice, of course, there are a great many banks in this country and no one bank can do that since borrowers may wish to take the money out of the lending bank. In fact, a borrower is likely 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 to his bank in the form of deposits. 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 banks together—lend four times as much as is obtained from the Federal Reserve?

The process by which this happens is simple and understandable. It is illustrated in the following chart and table, which show how deposits are built up as reserve funds are diffused throughout the banking system, and may be sketched as follows: We can suppose that new reserve funds of $100 are made available to member banks in a manner that also increases deposits by that amount at one bank. The member bank at which $100 is deposited needs to hold $20 in required reserves, in keeping with our earlier assumption, and the remaining $80 can be lent or invested.

Suppose that all the money is lent. The amount lent is first credited to the borrower's deposit account. This money is then paid out at once by the borrower to someone who deposits it at another bank. The cash holdings and newly created deposits of the first bank are thus drawn down and transferred to a second bank.

The second bank receives $80 in cash reserves and in new

deposits; it holds $16 as required reserve against the deposit received and can lend the remaining $64. Similarly, the borrower here may draw down the additional 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, thereby adding a further $51.20 to 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.

Thus, an individual bank does not lend out more than it receives, but the banking system as a whole expands by

a multiple of new reserve funds made available to it. The fact that individual member banks are required to hold only a fraction of their deposits as reserves, and the fact that payments made with the proceeds of bank loans are eventually redeposited with banks, make it possible for

MULTIPLYING CAPACITY OF RESERVE MONEY IN BANK TRANSACTIONS [1]

Transactions	Amount deposited in checking accounts	Amount lent	Amount set aside as reserves
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
Total for 10 banks	$446.33	$357.07	$ 89.26
Additional banks	53.67	[2] 42.93	[2] 10.74
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.

additional reserve funds, as they are deposited and invested through the banking system as a whole, to generate deposits on a multiple scale.

An Apparent Banking Paradox?

The foregoing discussion of the working of the banking system explains an apparent paradox that is the source of

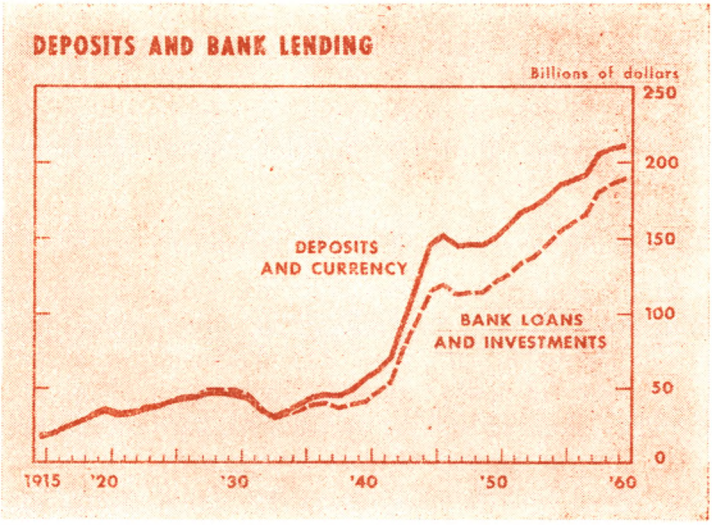
much confusion to banking students. On the one hand, the practical experience of each individual banker is that his ability to make the loans or acquire the investments making up his portfolio of earning assets derives from his receipt of depositors' money. On the other hand, we have seen that the bulk of the deposits now existing have originated through expansion of bank loans or investments by a multiple of the reserve funds available to commercial banks as a group. Expressed another way, increases in bank reserve funds are to be thought of as the ultimate source of increases in bank lending and investing power and thus of deposits.

The statements are not contradictory. In one case, the day-to-day aspect of a process is described. In a bank's operating experience, the demand deposits originating in loans and investments move actively from one bank to another in response to money payments in business and personal transactions. The deposits 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 his account in favor of various of his creditors who deposit them at their banks. Thus the lending bank is likely to retain or receive back as deposits only a small portion of the money it lent, while a large portion of money lent by other banks is likely to be brought to it by its customers.

From the point of view of the individual bank, therefore, the statement that the ability of a single bank to lend or invest rests largely on the volume of funds brought to it by depositors is correct. Taking the banking system as a whole, however, demand deposits originate in bank loans and investments in accordance with an authorized multiple

of bank reserves. The two inferences about the banking process are not in conflict; the first one is drawn from the perspective of one bank among many, while the second has the perspective of banks as a group.

The commercial banks as a whole can create money only if additional reserves are made available to them. The Federal Reserve System is the only instrumentality en-



dowed by law with discretionary power to create (or extinguish) the money that serves as bank reserves or as the public's pocket cash. Thus, the ultimate capability for expanding or reducing the economy's supply of money rests with the Federal Reserve.

New Federal Reserve money, when it is not wanted by the public for hand-to-hand circulation, becomes the reserves of member banks. After it leaves the hands of the

first bank acquiring it, as explained above, the new reserve money continues to expand into deposit money as it passes from bank to bank until deposits stand in some established multiple of the additional reserve funds that Federal Reserve action has supplied.

How the process of expansion in deposits and bank loans and investments has worked out over the years is depicted by the chart on page 25. The curve "deposits and currency" relates to the public's holdings of demand deposits, time deposits, and currency. Time deposits are included 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.

Additional Aspects of Bank Credit Expansion

At this stage of our discussion, three additional aspects of the functioning of the banking system are worth noting briefly. The first is that bank credit and monetary expansion on the basis of newly acquired reserves takes place only through a series of banking transactions. Each transaction takes time on the part of bank managers and, therefore, the deposit-multiplying effect of new bank reserves is spread over a period. The banking process thus affords some measure of built-in mechanical protection against unduly rapid expansion of bank credit should a large additional supply of reserve funds suddenly become available to banks.

The second point is that for expansion of bank credit to take place at all there must be a demand for it 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 for bank credit 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 will be 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 reserves, or the member banks may take the initiative through borrowing or repayment of borrowing at the Federal Reserve.

Sometimes the forces of initiative work against one another. 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 relation between reserve banking initiative and member bank initiative in changing the volume of Federal Reserve credit will be discussed further in the succeeding chapter.

Apart from these supplementary aspects of the banking mechanism, the significant feature of reserve banking operations is that the issuance of a given amount of high-powered money by the Federal Reserve will generate a volume of ordinary money that 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 will result in a reduction of several times that

amount in loans and investments and in demand deposits, that is, in ordinary money. As a result of this leverage, it is possible for relatively small Federal Reserve actions to bring about relatively large changes in the flow of credit and money through the national economy.

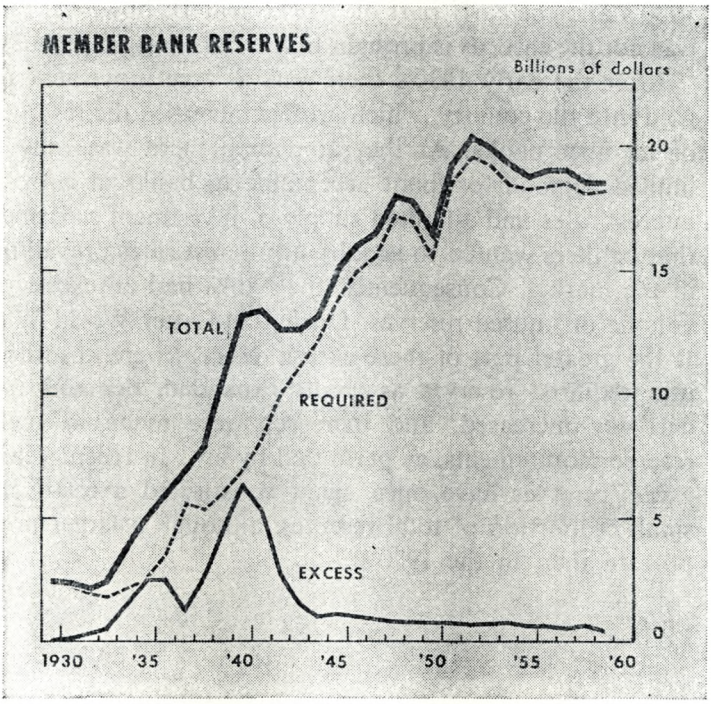
Management of Reserve Balances

In ordinary practice an individual commercial bank does not match one or more loan or investment transactions against the exact amount of reserve funds it has in excess of its required reserves. 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 constantly watches these offsetting flows and estimates their net impact on its deposits and its reserve position. Its day-to-day management problem is to make sure that, after all transactions, its reserves are sufficient to comply with legal requirements.

While a member bank must watch its reserves to make sure that they are large enough, this does not mean that reserves remain unused. Actually, a member bank uses its reserves, most of which are held with the Federal Reserve Bank, in much the same way that a depositor uses his checking account.

Under Federal Reserve rules, reserve requirements apply to reserves maintained on the average over a period (a week for central reserve and reserve city banks and two weeks for other member banks). While maintaining these reserves at or above the required minimum, a bank may

make constant use of them. Through its reserve account at its Reserve Bank the bank not only settles adverse clearing balances with other banks but also transfers funds to other cities. The bank must be careful, however, to see that over the reserve period the average amount of its



reserves equals or exceeds the amount required in relation to its deposits. The occasion for borrowing from a Federal Reserve Bank usually arises when reserves have fallen below the required level and banks must replenish them.

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 System, 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 wanted to acquire at interest rates prevailing in the market. Consequently, the banks had an excessive volume of unused reserves. During and after World War II the greater part of these excess reserves were absorbed into required reserves as credit expanded, demand for currency increased, and increases were made in their reserve requirements, as permitted by law. 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

INSTRUMENTS OF MONETARY REGULATION. *Principal reserve banking methods of regulating bank reserves are purchases and sales of U. S. Government securities in the open market, lending to member banks, and changes in reserve requirements. Regulation of stock market credit supplements these means of influence. Use of all the instruments is closely coordinated.*

IT has been shown how changes in bank reserves result in a multiple expansion or contraction of bank loans and investments and of the money supply. Thus, Federal Reserve actions to create or extinguish bank reserves exert a powerful influence on the flow of bank credit and money. This influence is exercised principally through three related and complementary instruments.

These instruments of monetary policy, as they are commonly referred to, are open market operations, discount 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. In addition, the System has authority to influence

directly stock market credit. This limited purpose instrument is specially designed to prevent the excessive use of bank and other credit in stock market speculation. The timing and degree of the use of these Federal Reserve instruments and their coordination are of major importance in making credit and monetary policy effective.

Open Market Operations

The bulk of Federal Reserve operations affecting the reserve positions of banks relate to short-term variations in the economy's needs for bank credit and are effected by the use of open market operations. These operations consist of Federal Reserve purchases or sales of securities in the open market. Regardless of who may sell the securities purchased or who may buy the securities sold by the Federal Reserve, these transactions have a direct impact on the volume of member bank reserves. The distinctive aspect of open market operations is that they are undertaken solely on the basis of Federal Reserve decision or initiative.

How Operations Are Conducted

Open market purchases or sales of securities are made by the manager of the System's open market account under instruction of the Federal Open Market Committee, a special statutory body, described in Chapter IV, that makes open market decisions for the entire System. Open market transactions are in U.S. Government securities primarily, but sometimes they include relatively small amounts of bankers' acceptances.

The System open market account buys from or sells to dealers who specialize in buying and selling Government

securities or bankers' acceptances on their own account as well as for others. These dealers carry their own inventory of securities and allow transactions for customers to affect these holdings. A score of dealers engage in making such markets. Purchases for the System open market account are made at the lowest prices, and sales at the highest prices, that are available in the market at the time of the transaction.

When the Federal open market account places an order with a dealer for a specified amount of Government securities, the dealer either buys the securities in the open market or sells them from his own portfolio. In payment the dealer receives a check on a Reserve Bank, which he deposits in his own account with a member bank. The member bank then deposits the check in its reserve account with a Reserve Bank. Federal Reserve purchases of Government securities thus add to the reserve balances of member banks. Conversely, sales of securities reduce the reserve balances of member banks. The resulting changes in reserve positions affect the ability of member banks to make loans and/or to acquire investments.

Federal Reserve open market sales are made outright, while purchases may be outright or they may be made under repurchase agreement. When such agreements are made, the selling dealer agrees to repurchase the securities within a specified period of 15 days or less. This kind of arrangement provides Federal Reserve credit on a temporary basis—puts out the funds with a string tied to them, as it were. It also provides temporary financing of dealer inventories of Government securities at a time when funds for dealer loans are not readily available in the market and the System is willing to supply bank reserves for a limited

period. Repurchase agreements may be terminated before maturity at the option of either party.

Open Market Procedures

The effectuation of credit and monetary policy has been the principal objective of open market operations since the early 1950's. For several years prior to World War II and for a number of years thereafter, however, maintenance of orderly conditions in the money and securities markets was officially declared to be a main purpose of System open market operations. During the period of war and early postwar finance, this purpose provided a rationale for regularly conducting operations in all maturities of the Government securities market, and orderliness became extended to include or mean stability of market prices and yields. Thus, the Federal Reserve bought and sold Government securities with the general purpose of stabilizing prices and yields. As a result all Government securities, whether they were short-term or long-term, could be converted into cash with equal ease. In other words, all Government securities had full market liquidity.

This experience demonstrated that System use of open market operations to stabilize market prices and yields of Government securities prevents their use to regulate bank reserves. When offerings of securities in the market exceeded the private demand for them, the Federal Reserve was obliged to buy them to keep the market stable. As a result, commercial bank reserves were expanded automatically at times when such expansion was adverse to the public interest. By stabilizing the market, the System functioned as residual buyer and created bank reserves at the initiative of the market.

This operating dilemma came into sharp focus when the Korean crisis in 1950 caused a rapid increase in credit demands and a surge of inflationary pressures. To resolve the dilemma, an accord was reached with the Treasury early in 1951 that the Federal Reserve System would discontinue stabilizing prices and yields on Government securities.

Following this accord, it became desirable for the Federal Open Market Committee to determine and make known to participants in the Government securities market the "ground rules" that it intended to follow in its open market operations. After extensive study of this complicated technical problem, the Committee agreed on a set of rules in the spring of 1953. The key ones limited open market operations to the effectuation of credit and monetary policy, including the correction of disorderly market situations should any occur; excluded from securities eligible for System purchase those involved in or related to imminent refinancings of the Treasury; and confined System open market transactions as an ordinary matter to short-term securities.

The Committee has followed a policy of reviewing and reaffirming or changing its established operating procedures each year or whenever necessary, and these rules were, of course, subject to this policy. In early 1961, in view of conditions that had developed in the domestic economy and in the U.S. balance of payments with other countries, the Open Market Committee authorized transactions in longer term securities.

Effectuation of policy. Open market operations are administered so as to affect bank reserve positions, and hence the flow of bank credit and money. As with other

policy instruments, they are used primarily to help minimize cyclical fluctuations in economic activity and to help maintain relative stability in average prices of goods and services.

The efficient conduct of open market operations requires a well performing Government securities market. In such a market, prices and yields at which willing buyers and willing sellers can arrange transfers of ownership are continuously being established. These prices and yields affect the allocation of funds within the market and between it and other markets and uses. It is important that operations of monetary policy be designed so as to minimize the extent to which the process of providing bank reserves interferes with basic market functions.

Credit markets, however, do not always function effectively and well. They sometimes reflect unusual psychological tensions growing out of overly optimistic or overly pessimistic expectations as to some prospective development, economic or political and domestic or international. Monetary policy must be responsive to and counteract such destabilizing developments when they occur.

Market disturbances are usually limited in extent, and the self-correcting tendencies characteristic of a sensitive market mechanism keep the flow of trading continuous and orderly. There is always a possibility, however, that a market disturbance will become self-feeding and the market situation disorderly. Because of this risk, the Federal Open Market Committee explicitly recognizes a responsibility to undertake open market transactions to correct disorderly conditions.

Periods of Treasury financing. During the period when the Federal Reserve System was stabilizing the market, it

purposely used its open market instrument to support Treasury borrowing operations. To this end the System engaged in open market transactions in maturing issues, in securities announced for issuance ("when issued" securities), and in outstanding issues of maturities comparable to those being offered by the Treasury in a particular refinancing. With its virtually unlimited resources, the System competed with market traders in such transactions and the latter, in consequence of the System's dominant role in the market, tended to limit the volume of their own trading.

The risk to System policy from this situation was not only the undesired release to the banks during Treasury financings of additional reserve funds but also the interference, when not necessarily warranted, with the process by which the market allocates funds among competing users. In order to avoid or limit this risk, the 1953 ground rules discontinued this kind of operation. Discontinuance of the practice of facilitating Treasury borrowings also had as a broad objective, of course, the fostering of a more self-reliant Government securities market.

This action, however, could not resolve all aspects of the market relationship between debt management and monetary administration. The marketable and convertible part of the Federal debt held by the public amounted at mid-1960 to more than $150 billion. The periodic refinancing of this debt and the need from time to time for new cash borrowing require that the Treasury engage frequently in financing operations, other than its weekly auctions of Treasury bills. While the System has believed that its powers to create money should not be used to support these financings, it has recognized that concurrent

monetary actions may affect their success. Consequently, the Federal Reserve has come to pursue whenever feasible what is known as an "even keel" monetary policy immediately before, during, and immediately after Treasury financing operations.

Maintenance of an "even keel" in monetary management during Treasury financing periods helps to keep abrupt changes in bank credit conditions from interfering with Treasury financings. It has the disadvantage of shifting to periods before or following such financings whatever monetary action may be appropriate in the prevailing economic situation, in light of the public interest viewpoint of longer run stability. Ordinarily, monetary management is flexible enough that these shifts in the timing of action can be accomplished without destabilizing effects upon the economy. There are occasions, however, when an endeavor to keep bank credit conditions on "even keel" for the benefit of markets for debt obligations may conflict with the need for adaptation in the economy's monetary position.

Operations in short-term securities. The general practice of limiting System open market transactions to short-term securities, preferably Treasury bills but also other short-term securities, was the third important ground rule adhered to. These securities are closer to cash than any other money market instrument and they are traded in most actively and continuously. Operations of the Federal Reserve System in this sector of the market affect bank reserve positions with a minimum of direct effect on the supply of and the demand for the specific securities purchased or sold, and so with a minimum direct effect on their prices and yields.

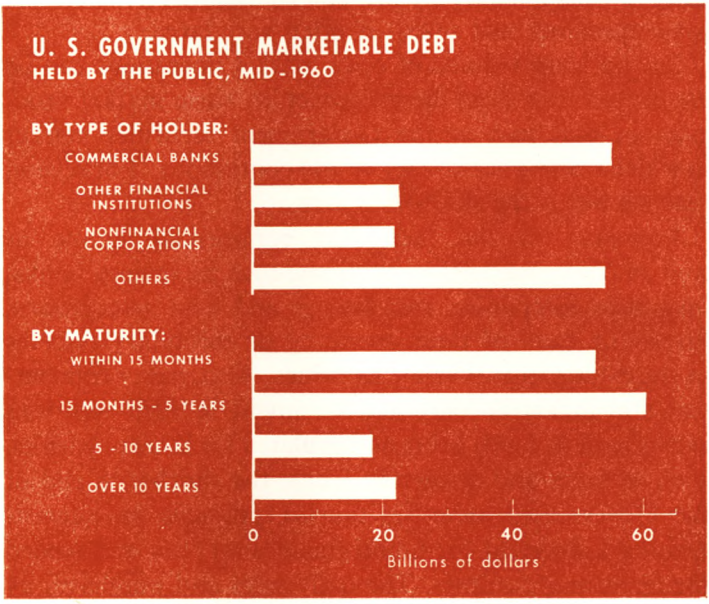
Effects of operations on security prices and yields derive primarily from whatever change in bank reserve positions is brought about. The changed availability of reserve funds will affect both the lending and investing of banks, and other participants in the credit market will be obliged to adapt themselves to the altered market situation that has developed.

Seasonal and erratic movements in the economy affect bank reserves first in one direction and then in the other. To offset these influences, the System continuously buys and sells securities in the market. Even though the System's portfolio may show little net change over time, the daily or weekly volume of System transactions—that is, its total purchases and sales—is often very large.

Such a large volume of open market operations can be conducted with least direct impact on basic market processes in that part of the Government securities market in which trading is most active and continuous. For several reasons this is the short-term area.

Foremost is the fact that commercial banks as well as other financial institutions, such as savings banks, insurance companies, and savings and loan associations, invest the bulk of their operating or secondary reserves in short-term Government securities. Also, many commercial and industrial corporations invest in such securities excess cash or funds being accumulated for large payments, such as taxes and dividends. Thus, the short-term end of the Government securities market provides an interest-earning lodgement for liquid funds until they are needed for operating purposes. The daily sales and purchases by thousands of financial institutions and businesses make for a steady stream of trading in these securities.

Experience shows that changes in commercial bank reserve positions brought about by System transactions in short-term securities affect the entire Government securities market. Many institutional investors, especially commercial banks and savings institutions, hold securities of longer term along with some of shorter term. The maturity distributions of their portfolios are adapted to their special needs. The managers of these portfolios are necessarily alert and sensitive to changes in demand and supply in the market and are continuously adjusting their portfolios as they assess and reassess prospects for the market. Thus they adapt their portfolios to changing market condi-



NOTE.—Based on data from Treasury Survey of Ownership, and also on Federal Reserve estimates.

tions, and in this process transmit the effects of Federal Reserve operations throughout the range of maturities of debt obligations outstanding in the market.

In the course of 1960 the Federal Open Market Committee adapted its procedures to take account of a worsening in the U.S. balance of payments that occurred at a time when the domestic economy was in recession. During the last half of the year and in early 1961 an outflow of short-term credit and capital from the United States, partly as a result of higher short-term interest rates abroad, led to large purchases of gold from this country. In an endeavor to check this movement, while at the same time continuing to encourage domestic monetary expansion as an aid to economic recovery, the Federal Reserve in February 1961 extended the area of its open market operations to longer term securities.

Discount Operations

An important advantage of Federal Reserve membership to a commercial bank is the ability to obtain additional reserves on occasion by borrowing from a Federal Reserve Bank. As a matter of fact, provision of facilities for such borrowing was a main objective of reserve banking as established in this country.

Mechanics of Discounting

Member banks may borrow from a Reserve Bank in two ways. First, they may rediscount short-term commercial, industrial, agricultural, or other business paper, with recourse on the borrowing bank. Second, they may give their own promissory notes secured by paper eligible for discounting, by Government securities, or by other satis-

factory collateral. Borrowings by the first method are called discounts; by the latter, advances.

The custom has developed of referring to both types of Reserve Bank lending as discounting, and the interest charge applicable to such lending is known as the discount rate.

Actually, the main form of member bank borrowing has become advances against notes having Government securities as collateral. Borrowing in this form is more convenient and time-saving for the borrowing bank, since the collateral is free of credit risk, is instantly appraisable as to value, and can be more readily supplied in large amounts conforming to the borrowing needs of individual banks. Many member banks leave Government securities at a Federal Reserve Bank for safekeeping; this arrangement makes it easy to pledge such securities as collateral when an advance is desired.

When a member bank borrows at a Reserve Bank, the proceeds of the loan are added or credited to its reserve balance on deposit at the Reserve Bank. Conversely, when a member bank repays its indebtedness, the amount of repayment is deducted from or charged against its reserve balance. Federal Reserve advances to or discounts for member banks are usually of short maturity — up to 15 days.

From the viewpoint of the individual member bank, a decision to discount is usually prompted by the need to avoid a deficiency in its legal reserve. Such a deficiency is likely to result from a loss of deposits and therefore of reserves to another bank. In adjusting to such a reserve drain, an individual bank has the alternatives of restricting its lending, of selling securities in the market, of borrowing

from another member bank, or of borrowing from a Reserve Bank. Since the member bank will seek to preserve continuity of loan services to customers, it will be likely to choose one of the last three methods. Of these, the bank will choose borrowing from a Federal Reserve Bank to obtain temporary reserve funds when this method is cheaper or when for other reasons it seems advantageous.

Described in this way, the discount facilities of the Reserve Banks appear mainly as a convenience to member banks, enabling them to adjust their reserve positions to unexpected shifts in deposits by temporary borrowing rather than by an alternative type of adjustment. From the standpoint of the amount of reserve funds available to the banking system, however, borrowing from Reserve Banks is clearly more than a convenience.

Apart from offsetting influences, any increase in Reserve Bank discounts for member banks will tend to add to the total reserves of member banks, and any reduction in the volume of such discounts will tend to reduce them. In contrast, when banks experiencing reserve drains make their adjustments by selling assets in the market or by interbank borrowing, there may be no effect on total bank reserves. The reserve funds acquired by the banks that are adjusting their reserves may then come from the excess reserve funds of other banks.

Discount Administration

Federal Reserve Banks do not discount eligible paper or make advances to member banks automatically; the discount facilities are made available to member banks as a privilege of membership in the System and not as a right.

Under Regulation A of the Board of Governors, applicable to the discount process, each Federal Reserve Bank in accommodating member bank applications for discount credit adheres to the following guiding principles:

> Federal reserve credit is generally extended on a short-term basis to a member bank in order to enable it to adjust its asset position when necessary because of developments such as a sudden withdrawal of deposits or seasonal requirements for credit beyond those which can reasonably be met by use of the bank's own resources. Federal Reserve credit is also available for longer periods when necessary in order to assist member banks in meeting unusual situations, such as may result from national, regional, or local difficulties or from exceptional circumstances involving only particular member banks. Under ordinary conditions, the continuous use of Federal Reserve credit by a member bank over a considerable period of time is not regarded as appropriate.
>
> In considering a request for credit accommodation, each Federal Reserve Bank gives due regard to the purpose of the credit and to its probable effects upon the maintenance of sound credit conditions, both as to the individual institution and the economy generally. It keeps informed of and takes into account the general character and amount of the loans and investments of the member banks. It considers whether the bank is borrowing principally for the purpose of obtaining a tax advantage or profiting from rate differentials and whether the bank is extending an undue amount of credit for the speculative carrying of or trading in securities, real estate, or commodities, or otherwise.

Member Bank Reluctance to Borrow

The Federal Reserve policy of emphasizing to member banks that the use of its discount facilities should be temporary is reinforced in practice by a well established tradition among this country's banks against operating on the basis of borrowed reserves — at least, for any extended

period. This tradition does not mean that member banks feel reluctant to rely on Federal Reserve lending facilities to meet temporary or unusual cash drains. But it does mean that under normal conditions member banks manage their affairs so that they do not need to resort to Reserve Bank borrowing except for necessary contingencies and so that, once in debt, they seek to repay such debt promptly. Continuing pressures on their reserve positions and other special developments may, at times, weaken this reluctance, but it nonetheless persists as a factor affecting member bank borrowing.

Member bank attitudes toward operating with borrowed funds vary from bank to bank. Many banks never borrow from a Reserve Bank, preferring to make reserve adjustments in other ways, including, when necessary, restriction of their lending to customers. Reluctance to borrow, as well as incentive to repay promptly, results from the disposition of depositors, especially larger business and financial depositors, to be critical of bank borrowing since, in case of insolvency, it takes precedence over the claims of depositors. Another consideration is that for an individual bank borrowed funds are generally more expensive than funds obtained through deposit inflows.

Because of the tradition against borrowing, banks indebted to a Reserve Bank tend to retire this indebtedness from the funds that become available to them before adding to their loans and investments. The act of repayment by one bank is likely to reflect net transfers of reserve funds to that bank from other banks, which may then borrow to replenish their reserve balances and so in turn need to repay their borrowing. Thus, when member bank indebtedness is relatively large, it is usually owed by a shift-

ing group of banks. In this way its effects in restricting member bank lending tend to spread through the whole banking system. Experience generally shows that tightness in the availability of credit to bank customers is related to a large volume of member bank discounts outstanding, and easy credit conditions to a small volume of borrowing from Reserve Banks.

The Discount Rate

The discount rate is the cost to member banks of reserve funds obtained by borrowing from Reserve Banks. Each Reserve Bank must establish its own discount rate, subject to review and determination by the Board of Governors in Washington, every 14 days. These rates are publicly announced.

The financial community thinks of Reserve Bank discount rates as pivotal rates in the credit market. The key role assigned to them derives largely from the fact that they have been established by the administrative action of a public body having special information and competence to judge whether expansion of bank credit and money is consistent with the economy's over-all cash needs for transactions and liquidity. In the light of this fact, it is only natural that the business and financial community should commonly interpret a change in the level of Reserve Bank discount rates as an important indication of the trend in Federal Reserve policy.

There are no simple rules for interpreting changes in discount rates, however. In some circumstances a change in discount rates may express a shift in direction of Federal Reserve policy toward restraint or ease. In other instances it may reflect a further step in the same direction. In still

other cases, when market rates of interest have moved away from close relationship with the existing discount rate, a change in the level of rates may represent merely a technical adjustment of discount rates to market rates so that the System's discount mechanism will function effectively in line with current policy.

Tendency Toward Uniform Discount Rates

The founders of the Federal Reserve System contemplated that Reserve Bank discount rates would be set in accordance with regional financial conditions. They expected that variations in regional conditions would lead to variations in discount rates among the Reserve Banks. In recent decades, however, rates have tended to be uniform, although there have been temporary periods in which different rates have obtained. Basically, this tendency toward uniformity reflects improvements in the facilities and speed of communication and transport as well as further geographical integration of industrial, commercial, and financial enterprise.

Credit is a fluid resource that tends to flow to the market of highest yield. Growth in the number and assets of regional and national enterprises that are capable of meeting their financing needs readily in the cheapest market has increased the mobility of demand for funds. Furthermore, the highly sensitive central money markets, that is, the markets for Treasury bills and other short-term instruments, have provided a mechanism through which the forces of fluid supply and mobile demand are promptly registered. Thus, the regional credit and money markets have really become only segments of a closely knit national market, and this fact has found expression in a tendency

toward uniformity of discount rates among the Reserve Banks. Increasingly, Federal Reserve discount rate policy is referred to and considered in terms of "the discount rate" rather than in terms of twelve Reserve Bank rates.

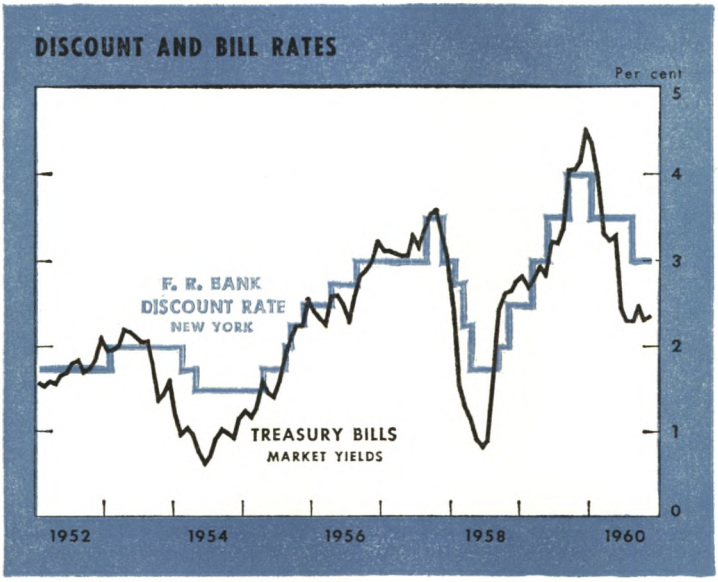
Relation of the Discount Rate to Market Rates

The position of the discount rate in relation to market interest rates will affect a member bank's decision as to the most desirable way for it to make an immediate adjustment in its reserve position. The cost of adjusting a reserve position by borrowing is, of course, the interest charge incurred. When a bank sells securities to acquire funds, it measures the cost by the interest earnings sacrificed. Thus, a bank's preference as among Federal Reserve discounting, other borrowing, or selling securities is influenced to a large extent by the relation of the discount rate to market yields on the types of securities it holds as liquid assets or as a second line of reserves. Among these are Treasury bills, other short-term Government obligations, and prime short-term private paper, such as bankers' acceptances and commercial paper.

As the chart shows, the movement of the Federal Reserve Bank discount rate is closely related to the movement of short-term market interest rates. In a period when credit demands are expanding strongly, short-term market rates will tend to rise in response to demand for funds. They will rise also as a result of sales of Treasury bills and other paper of ready marketability by banks experiencing rapid expansion of their loans and investments and therefore needing to make reserve adjustments.

If short-term market rates rise above the discount rate, member banks would have a greater tendency to borrow

at Reserve Banks than to adjust their reserve positions by shifting the ownership of their liquid paper through the market. Under these circumstances, the Reserve Banks would be likely to raise the discount rate in order to keep the discount mechanism functioning as a deterrent to unduly rapid bank credit expansion. Failure to raise the discount rate, in other words, would encourage and enlarge member bank use of the discount window.



On the other hand, if the discount rate is raised above market rates, member banks would be likely to prefer, as a means of reserve adjustment, the lower cost involved in sales of Government securities. But such sales, by increasing the market supply of short-term securities relative to the demand, would tend to drive short-term interest

rates up toward or moderately above the discount rate. Thus, in a period of strong credit demands, short-term market rates and the discount rate are likely to rise in fairly close sequence until the demand pressures have spent their force.

Federal Funds Rate

In a banking system with as many independent units and with as widely varying banking conditions as prevail in this country, individual banks will at times be deficient in reserves while other banks have excess reserves. Since total reserve funds are limited in supply, a practice has developed whereby banks with reserve balances in excess of needs offer to lend them on a day-to-day basis to banks deficient in reserves. Thus, in addition to borrowing at Federal Reserve Banks or selling securities in the market, commercial banks can adjust their reserve positions by borrowing from other banks in a fairly well organized market known as the Federal funds market. The interest rate on Federal funds is generally below the discount rate; the discount rate, in fact, acts as a kind of ceiling for the Federal funds rate since, at a cost above the discount rate, member banks would naturally prefer discounting.

Conditions of supply and demand in the Federal funds market, and also the proximity of the Federal funds rate to the discount rate, necessarily vary directly with general credit conditions and influence member bank borrowing from the Reserve Banks. When general credit conditions are easy, Federal funds are usually available in greater volume than when conditions are tight, and the margin of the Federal funds rate below the discount rate widens. In these circumstances, use of the discount facility by mem-

ber banks is reduced, partly because fewer banks are then experiencing reserve deficiencies and partly because of the greater availability and lowered cost of Federal funds as a source of temporary reserves.

Changes in Reserve Requirements

Federal Reserve authority to vary the required reserve percentages for commercial banks is a relatively new tool of reserve banking. It was first made available on a temporary basis in the emergency banking legislation of 1933 and was made a permanent instrument of reserve banking by the Banking Act of 1935. Under present amended law, the Board of Governors may set within specified limits the required reserve percentages for each of the three classes of banks — central reserve city banks, reserve city banks, and other banks, which are usually referred to as country banks. Changes in requirements may be applied to one or more classes of banks at the same time, but they must be kept within the limits set for each class and must be uniform for all banks within a class.

The range of Federal Reserve discretion over reserve percentages and the percentage requirements in effect in December 1960 are shown in the table, together with data on the distribution of member banks by reserve classes. According to legislation enacted in 1959, the central reserve city classification is to be abolished in 1962, and thereafter member banks will be divided into only two classes, reserve city banks and other banks.

Operation of the Instrument

Action to change the level of reserve requirements does not itself affect the amount of total member bank reserve

MEMBER BANK RESERVE REQUIREMENTS, DECEMBER 1, 1960

Item	Class of bank		
	Central reserve city	Reserve city	Other
	Net demand deposits		
Reserve requirements (per cent of deposits):			
Statutory range	10 to 22	10 to 22	7 to 14
In effect	16½	16½	12
Deposits (percentage distribution)[1]	25	38	37
	Time deposits		
Reserve requirements (per cent of deposits):			
Statutory range	3 to 6	3 to 6	3 to 6
In effect	5	5	5
Deposits (percentage distribution)[1]	11	39	50
Number of member banks	26	217	5,957

[1] As of Sept. 30, 1960.

balances, but it does affect the amount of deposits and of loans and investments that member banks can legally maintain on the basis of a given amount of reserves. As explained in Chapter II, a given amount of member bank reserves can support more or less bank credit and money depending on the level of required reserve percentages.

Two things happen when required reserve percentages are changed. First, there is an immediate change in the liquid asset or secondary reserve position of member banks.

If reserve percentages are raised, banks that do not have enough excess reserves to cover the increase in requirements must find additional reserve funds by selling liquid assets in the market or by borrowing from other banks or from the Reserve Banks; the banking system as a whole, however, can find the additional reserve funds required only if they are provided by Federal Reserve open market operations or by member bank borrowing at Reserve Banks.

If reserve percentages are lowered, individual banks find themselves with a margin of excess reserves available for investment in earning assets and for debt repayment. Since banks sustain their earnings at the highest levels consistent with solvency by keeping their own resources as fully invested as possible and by avoiding debt, their usual response to a lowering of reserve requirements, after retiring any indebtedness, is to acquire earning assets. Initially, they are likely to purchase short-term market paper of high liquidity as assets for temporary holding.

A second effect of a change in the required reserve percentages is an immediate change in the deposit-expansion-multiplier for the entire banking system. If the required reserve percentage is 20 per cent, $1 of reserves will support $5 of deposits. If the percentage requirement is reduced to 15 per cent, $1 of reserves will support $6.67 of deposits. The 15 per cent requirement, thus, will support one-third more deposits than the 20 per cent requirement. In practice, how much effect a change in required reserve percentages will have on the deposit-expansion-multiplier will depend in part on the distribution of deposits by type (demand, time, and savings) and on the distribution of these deposits by class of bank.

Role of Reserve Requirement Changes

As an instrument of monetary management, changes in required reserve percentages are less flexible and continuously adaptable than the open market and discount instruments. For one thing, changes in reserve requirements affect at the same time and to the same extent all member banks subject to the action, regardless of their individual reserve needs on the occasion. For another, a change of even one-half of one percentage point in reserve requirements would result in relatively large changes in the total available reserves and in the liquidity positions of member banks as a group. If, to avoid a large reserve effect, a change is limited to a particular class of bank, a perplexing problem of equity as between classes of banks is presented.

Moreover, a change to a new level of reserve requirements cannot be made gradually over a period of time, but must become effective on a selected preannounced date. The credit market is forewarned that on this date either demand or supply pressures will be accentuated, with the risk of disturbance and instability in the prices of and yields on securities at the time.

For the individual member bank the required reserve percentage is the basis for current and forward decisions by management concerning composition and maturity of loans and investments. Accordingly, frequent or abrupt changes in the required percentage may unduly complicate the task of bank management. This is especially true for a large number of "country banks" that are inadequately equipped to make adjustments to frequent, even though small, changes in the reserve requirement percentages.

In the System's experience, changes in reserve require-

ments have been applied most advantageously in meeting bank reserve situations that had more than temporary significance. In the 1930's reserve requirements were increased in order to absorb an unnecessarily large volume of excess bank reserves. In early postwar years increases were applied in an attempt to absorb reserves supplied by Federal Reserve support of Government security prices, but their market effect was in fact such as to necessitate additional purchases to maintain the support.

Since reestablishment of flexible monetary operations in the early 1950's, reserve requirement percentages have been reduced in recession periods in order to supply bank reserves simultaneously to all parts of the economy. These counter-recession decreases in requirements were facilitated by the fact that existing levels of reserve requirements were high in relation to past periods and also in relation to the standards for nonmember banks adhered to by many States.

In accordance with legislation enacted in 1959, there were reserve requirement changes in 1960 having mainly a structural objective. These adjustments, which at the time released reserves on balance, were for the purpose of unifying reserve requirements for central reserve and reserve city banks and of offsetting in part the effects on reserves of making vault cash eligible for meeting reserve requirements. Prior to this legislation, member banks could not count vault cash in meeting their reserve requirements.

Regulation of Stock Market Credit

Since 1933 the Federal Reserve has been directed by law to restrain the undue use of bank credit for speculation in securities, real estate, or commodities. Since 1934 the

System has been specifically authorized to curb the excessive use of credit for purchasing or carrying securities by setting limitations on the amount that brokers and dealers in securities, banks, and others may lend on securities for that purpose. At brokers and dealers the regulatory limitation applies to any type of corporate security; at banks it applies only to corporate stocks registered on national securities exchanges. The regulatory limitation does not apply to any loan for other purposes, even though stocks may be pledged as collateral for the loan.

The mechanism of stock market credit regulation is readily illustrated. The amount that lenders will advance against securities will always be less than the current market value of the securities to be pledged as collateral. The lender calls the difference between the two the customer's margin. For example, if a loan of $6,000 is secured by stock having a market worth of $10,000, the customer's margin is $4,000 or 40 per cent and the loan value of the stock is 60 per cent of its market value. Thus, by prescribing the loan value of the securities, the customer's margin may be controlled; the less the amount that can be lent, the greater the margin required. In recent years the margin required by Federal Reserve regulation has varied from 90 per cent to 50 per cent.

Federal Reserve regulation requires the lender to obtain the specified margin in connection with the purchase of the security. If the collateral that is security for the indebtedness subsequently declines in market value, regulation does not make it necessary for the borrower either to put up additional collateral or to reduce the indebtedness. However, the banker or broker making the loan may require additional collateral if he deems it necessary. If

the margin requirement is increased by the Federal Reserve, borrowers need not reduce existing loans (or increase the amount of collateral deposited with the broker or the bank), but borrowers who have under-margined accounts have to apply half of the proceeds from any sales of the securities they have pledged as collateral to reduction of their indebtedness.

Regulation of stock market credit by the margin requirement, though applied through the facilities of the lender, puts restraint on the borrower and thus dampens demand for credit. An important aspect of this restraint is that it limits the amount of pyramiding of borrowing that can take place in a rising market as higher prices create higher collateral values and permit more borrowing on the same collateral.

The purposes of regulation through margin requirements are to minimize the danger of excessive use of credit in financing stock market speculation and to prevent the recurrence of speculative stock market booms based on credit financing, such as culminated in the price collapse of 1929 and the subsequent severe credit liquidation. A stock market boom followed by collapse is always possible, but without excessive feeding by credit-financed speculation it is not likely to assume the proportions or to have the effects that it had in earlier periods.

How Monetary Instruments Are Coordinated

The bulk of Federal Reserve operations to affect bank reserve positions are for the purpose of adjusting the availability of reserve funds to short-run variations in the needs that banks have for them. As already discussed, the System,

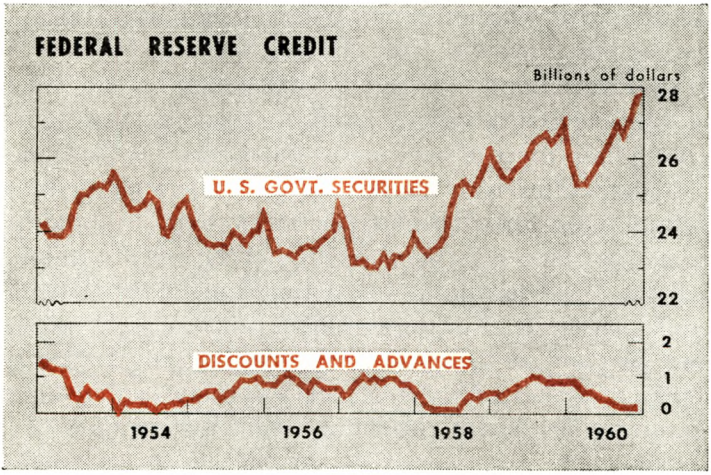
on its own initiative, brings about such changes in bank reserves largely by open market operations. Also, through the discount mechanism, individual member banks, especially in communities subject to unusually wide seasonal fluctuations in business payments, may cushion or spread out somewhat the reserve adjustments they find it necessary to make. In coping with short-term instabilities in bank reserve positions, open market operations and discount operations are complementary tools of monetary policy.

When dealing with the bank credit and monetary aspects of cyclical instability in economic activity, Federal Reserve policy is also effectuated largely through interaction of these two instruments. How balance is attained in use of the two instruments is a complex process. An important characteristic of the process is that member bank demands for borrowing from Reserve Banks in general tend to vary inversely with the volume of reserves being supplied through open market operations.

When the Federal Reserve curtails provision of reserve funds by open market sales of securities in a period of high and rising economic activity, for example, banks can accommodate expanding demands for credit only by increased use of the discount window. Typically, some banks respond to the rising demand pressures from customers in this way. But such borrowing must be repaid after a short period, and these banks must curtail their lending or sell investments to effect such repayment. Obtaining funds to repay discount debt draws reserve funds from other banks, some of whom will meet their reserve deficiencies by borrowing and then curtail their loans and investments to repay their discount debts. An increasing number of member banks thus get involved in temporary borrowing from the

Reserve Banks and in banking adjustments to repay such borrowing.

To limit incentives for member bank discounting in periods of economic upswing, the discount rate may need to be raised in accordance with changes in the general credit situation and with the increases that are likely to be



occurring in market interest rates. The active use of the open market and discount instruments jointly to slow down the flow of bank credit and money will not be extended indefinitely, but only long enough to contain unduly expansive tendencies in these flows. Experience since reestablishment of flexible monetary operations in 1951 suggests that when the indebtedness of member banks as a group has reached about 5 per cent of their total required reserves, the pace of bank credit and monetary expansion has tended to slacken.

Interaction of the open market and discount instruments is also involved when countercyclical monetary policy is directed toward accelerating the expansion of bank credit and money. Reserve funds made available by increased open market operations of the Federal Reserve tend first to lead to the reduction of outstanding discounts of the member banks. As conditions in credit markets show increasing ease, reflected in part by declining interest rates—particularly short-term—the discount rate may be lowered in successive steps. In these circumstances strengthening of bank reserve positions tends to result in observable pickup in the pace of bank credit and monetary expansion.

In connection with the problem of moderating cyclical swings in the flow of bank credit and money, it should be noted that, in a growing economy, developments seldom call for a full halt in or an all-out stimulation of bank credit expansion. Adaptations in the joint use of the monetary instruments, therefore, are generally gradual, that is, made in greater or lesser degree according to the needs shown by the flow of current economic information. Although in this process day-by-day changes in the availability of reserve funds may vary considerably, monetary policy typically is geared to restraint or stimulus over a period of many months.

Provision of bank reserves for meeting the economy's need for long-term growth in the supply of money is accomplished in part by open market operations and in part by changes in reserve requirements. Reserve requirement levels may also be changed in special situations where large changes in the volume of bank reserves, such as may result from large and persistent international movements of gold, need to be offset or cushioned.

Regulation of stock market credit supplements the instruments affecting the bank reserve base. It deals directly and selectively with the possibility of unstable and undue absorption of bank and other credit in stock market speculation. Since fluctuations in stock market activity correlate generally with those in over-all economic activity, changes in margin requirements tend to be similarly correlated. The availability of the margin requirement instrument means that the more general bank reserve instruments do not have to be specially directed to the avoidance of excessive stock speculation financed on credit. Such use of the general instruments, to be effective, would necessarily run the risk of undesirable, broader effects.

CHAPTER IV

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. This has emphasized the responsibility of the System as a whole for regulating the flow of bank credit and money. It has also underscored the role of all of its parts in performing their allotted functions in accordance with policies directed toward a common objective. In this respect the System is, so to speak, a trusteeship created by the Congress to safeguard the integrity of the nation's money.

Consideration of the System's organizational 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 member-

ship. Then the responsibilities of the several parts of the System for the formation and execution of reserve banking or monetary policy will be described.

Membership

At mid-1960 the Federal Reserve System had 6,217 member banks. Of these, 4,542 were national banks and 1,675 were State-chartered banks. In all 50 States and the District of Columbia, banks with national charters are required to belong to the System. Banks with State charters may 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-1960, this group held nearly three-fourths of the country's total bank deposits. The different kinds of banks in this country at that time and the amounts of their demand and time deposits are shown in the table on the opposite page.

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 constitute 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. In return, these banks 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, 1960 [1]

Kind of bank	Number	Deposits [2] (in millions of dollars)	
		Demand	Time
Member bank	6,217	111,311	53,536
Nonmember bank	7,789	20,018	48,931
Total	14,006	131,329	102,467
Classes of member banks:			
National [1]	4,542	70,864	36,905
State	1,675	40,447	16,631
Classes of nonmember banks:			
Commercial	7,276	19,987	13,648
Mutual savings [3]	513	31	35,283

[1] Includes one national (member) bank in the Virgin Islands.
[2] Excludes interbank deposits.
[3] Excludes two 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.

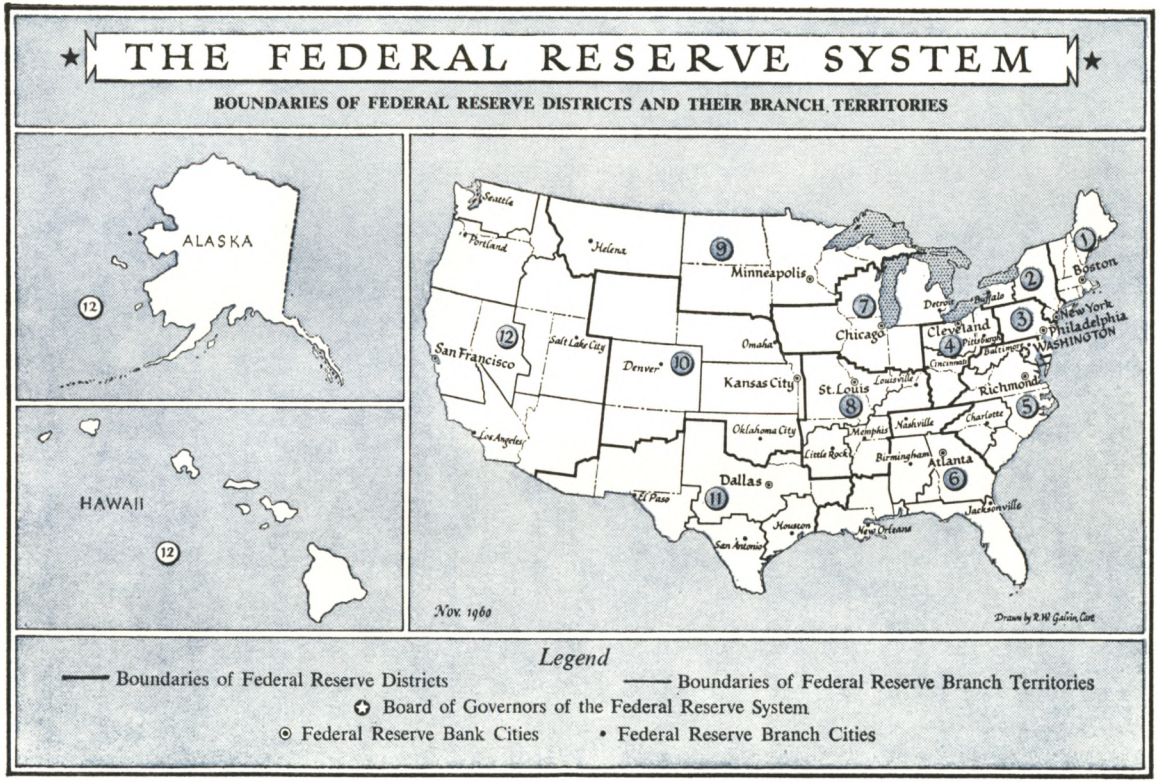
Every member bank is required to subscribe to the capital of its Reserve Bank. Its paid-in subscription is an amount equal to 3 per cent of its capital and surplus, and another 3 per cent is subject to call. At the end of June 1960, all member banks together owned about $400 million of paid-in capital stock of the twelve Federal Reserve Banks.

Banks that become members of the Federal Reserve System must assume several important obligations. They must maintain legal reserves on deposit without interest at the Reserve Bank (except for reserves held as vault cash by the member bank); remit at par for checks drawn against them when presented by a Reserve Bank for payment; and comply with various Federal laws, regulations, and conditions of membership regarding the adequacy of capital, mergers with other banking institutions, establishment of branches, relations with holding company affiliates and bank holding companies, interlocking directorates, loan and investment limitations, and other matters. If the member bank is chartered by a State, it must 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 criteria for discounting 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 the Federal Reserve Bank for their district; and (6) to receive a cumulative statutory dividend of 6 per cent on the paid-in capital stock of the Federal Reserve Bank.

Federal Reserve Banks

For purposes of administering the Federal Reserve System the country is divided into the twelve districts. These are shown in the map on the opposite page.



The boundaries of the Federal Reserve districts do not always follow State lines and in many instances parts of a State are in different districts. There is a Federal Reserve Bank in each district and most 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	District Number 10
Branches: Denver, Colorado	
Oklahoma City, Oklahoma	
Omaha, Nebraska	
Federal Reserve Bank of Dallas	District Number 11
Branches: El Paso, Texas	
Houston, Texas	
San Antonio, Texas	
Federal Reserve Bank of San Francisco [1]	District Number 12
Branches: Los Angeles, California	
Portland, Oregon	
Salt Lake City, Utah	
Seattle, Washington [1]	

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 in that their shareholders, the member banks of the Federal Reserve System, do not have the proprietorship rights, 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.

[1] Alaska and Hawaii were added to District Number 12 as of January 3 and August 21, 1959, respectively. Alaska became part of the Seattle Branch territory and Hawaii part of the Head Office territory of the District.

The three Class A directors may be bankers. The three Class B directors must be actively engaged in the district in commerce, agriculture, or some other industrial pursuit, and must not be officers, directors, or employees of any bank. The three Class C directors are designated by the Board of Governors of the Federal Reserve System. They must not be officers, directors, employees, or stockholders of any bank. One of them is designated by the Board of Governors as Chairman of the Reserve Bank's board of directors and one as Deputy Chairman. The Chairman, by statute, also serves as Federal Reserve Agent.[2]

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 appoint 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 also has its own board of directors. A majority are selected by the Reserve Bank; 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 these Banks.

Decentralization is an important characteristic of the Federal Reserve System. Each Reserve Bank and each

[2] 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, which are noted in Chapter IX.

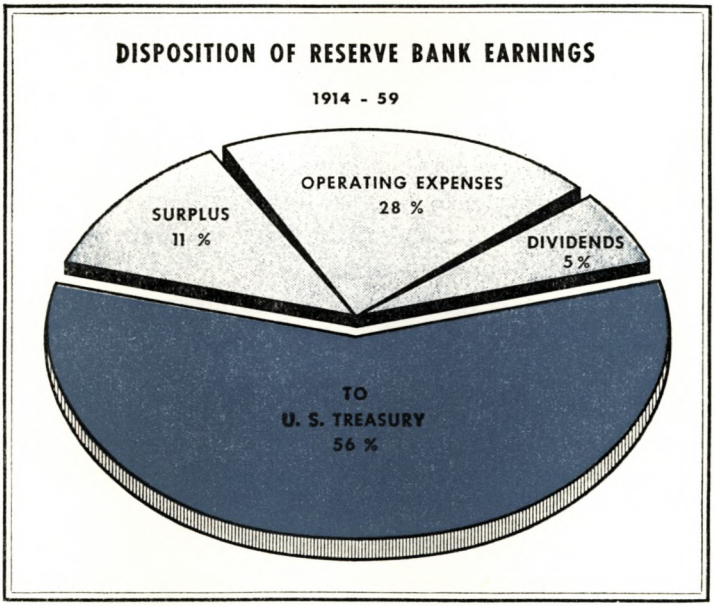
branch office is a regional and local institution as well as part of a nationwide system. Its officers and employees are residents of the Federal Reserve district, and its transactions are with regional and local banks and businesses. It gives effective representation to the views and interests of its particular region and at the same time helps to administer nationwide banking and credit policies.

While the Federal Reserve Banks earn an income, their operations are not carried on for this purpose but are determined by Federal Reserve credit and monetary policies, which are discussed in other chapters. 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 any needed additions to surplus.

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

By 1947, earnings were large once more, and the Federal Reserve adopted a procedure by which it turned the bulk of its earnings over to the Government and added any remainder to surplus. In the years 1947-58 the Federal Reserve paid to the Treasury nine-tenths of its earnings above expenses and dividends. In 1959, the Board of Governors, after consultation with the Reserve Banks, reached a conclusion that the maintenance of each Bank's surplus at a level of twice the paid-in capital would be appropriate under current conditions. Inasmuch as the aggregate sur-

plus and contingency reserves of the twelve Reserve Banks exceeded the surplus to be retained under the new formula, the excess was paid to the Treasury. Since then, all earnings above expenses and dividends have been paid to the Treasury, except for retentions to accord with changes in paid-in capital. In case of liquidation of the Reserve Banks,



the law provides that the surplus would go to the U.S. Government.

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 and regulations of the Federal Reserve System. The Reserve Banks establish their own

discount rates, subject to review and determination by the Board of Governors. In connection with open market operations the Reserve Banks, in groups prescribed by law, elect five of the twelve members of the Federal Open Market Committee, whose function will 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 each year by qualified public accountants.

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 and apply the provisions of law relating to Reserve Bank operations. It directs Reserve Bank activities in bank examination and supervision, a subject discussed in Chapter VIII. As a further responsibility, the Board coordinates the System's 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. The scope of examination includes a comprehensive review of the Bank's expenditures to determine if such expenditures are properly controlled and are of a nature appropriate for a Reserve Bank. It is also the practice to have representatives of a public accounting firm observe the examination of one Reserve Bank each year, to provide an outside evaluation of the adequacy and effectiveness of examination procedures.

In addition to the annual examination by the Board's examiners, the operations of each Reserve Bank are audited by the Bank's internal auditing staff on a year-round basis under the direction of a resident General Auditor. He is responsible to the Bank's board of directors through its chairman and its audit committee. Each year the Board's examiners review thoroughly the internal audit

programs at all of the Banks to see that the coverage is adequate and the procedures effective.

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, which coordinates the financial activities and policies of Government in the foreign field. The Board submits an annual report to Congress and publishes a weekly statement, as 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 constitute a majority of the Federal Open Market Committee, which sets policy for open market operations. As already described, the Board has responsibility for the determination of selective regulation of stock market credit. It also 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 monetary policy and for supervising its execution. A record of the policy actions taken by the Board of Governors and by the Federal Open Market Committee, together with a brief summary of the circumstances surrounding each action, is included in the annual report of the Board of Governors.

Federal Open Market Committee

The Federal Open Market Committee comprises the seven members of the Board of Governors and five representatives elected by the Federal Reserve Banks. It is assisted by a staff of economists drawn from the staffs of the Board and the Banks. The Committee 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 at three-week intervals, or oftener if necessary, and it may in exceptional circumstances hold a meeting using a national telephone hook-up. At each meeting the Committee reviews the national business and credit situation with the help of its staff.

Presidents of all twelve Reserve Banks participate in the Committee's discussions and thus make available the knowledge and information of the directors and officers of the twelve Reserve Banks and the twenty-four branches. Decisions about open market policy and the coordination of this instrument with other instruments of monetary policy are made in the light of a full discussion of national and regional conditions. In this sense the Federal Open Market Committee is the principal policy-shaping body of the System.

Purchases and sales of securities for the Federal Open Market Committee are effected through the facilities of the Federal Reserve Bank of New York in the name of the

System Open Market Account. Each Federal Reserve Bank participates in the Account in accordance with the ratio of its total assets to the total assets for all of the Reserve Banks combined. All transactions on behalf of the Committee are supervised by the Manager of the Account, who is an officer of the Federal Reserve Bank of New York. Transactions in the Committee's name are required to be in accordance with instructions issued by it. At the request of the Federal Open Market Committee, the Board's examining staff audits the Account annually.

Federal Advisory Council

The Federal Reserve Act provides for a Federal Advisory Council consisting of one member from each Federal Reserve district. Each Federal Reserve Bank by its board of directors annually selects one Council member, usually a representative banker in its 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 are the Conference of Presidents and the Conference of Chairmen of the Federal Reserve Banks. The former Conference meets by itself and with the Board at least three times a year, while the latter usually meets with the Board once 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 80-81 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. The four squares at the bottom of the second chart represent these instruments; each 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 Credit Agencies

Since the Federal Reserve System is not the only official agency in the banking and monetary field, its operations

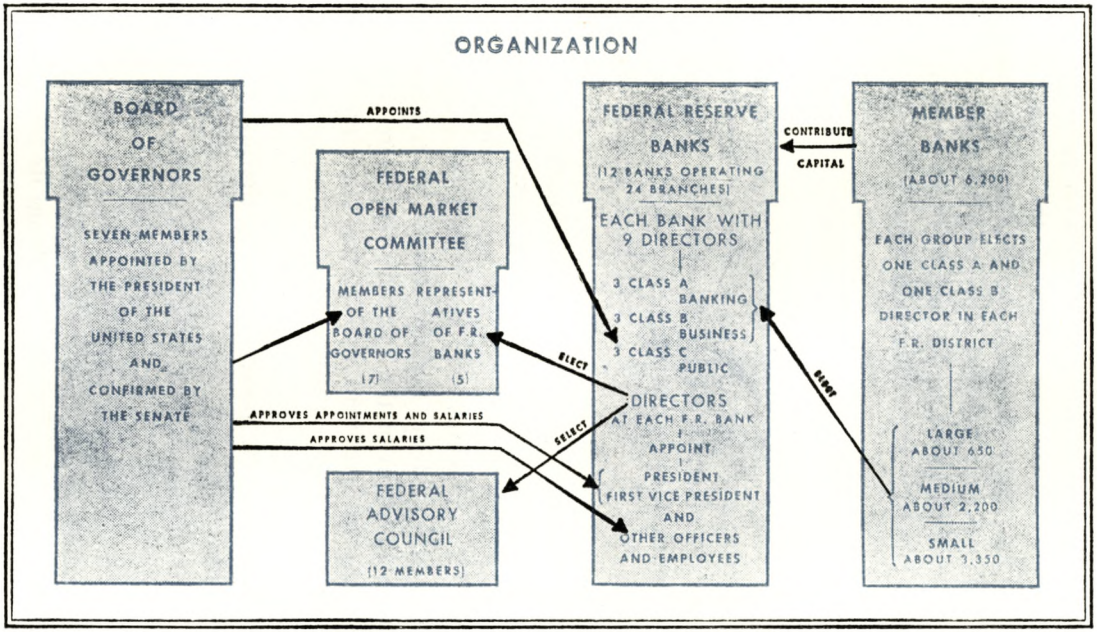
cannot be fully understood without reference to certain other agencies. The Office of the Comptroller of the Currency, the Federal Deposit Insurance Corporation, and the State bank supervisors are referred to in a later chapter on bank supervision. There remain for consideration here the Treasury Department,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

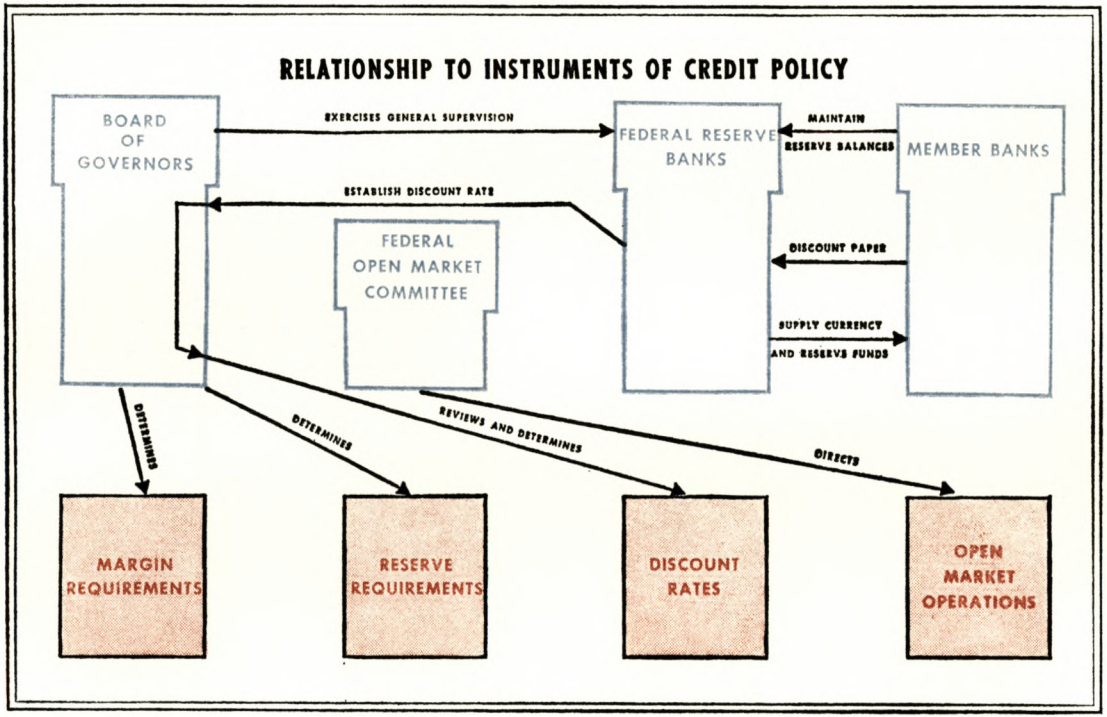
Treasury Department. The Government department with which the Federal Reserve System comes into closest operating contact is the U.S. Treasury. The reason for this is manifest. Debt management policy, which is the responsibility of the Treasury, and bank credit and monetary policy, which is the responsibility of the Federal Reserve, present specific problems of coordination.

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 the Treasury's financing operations interfere as little as possible with Federal Reserve policy regarding the flow of credit and money.

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 exerts an influence on the credit situation. If the Treasury builds up its balances with the Federal Reserve Banks and draws down its accounts in

THE FEDERAL RESERVE SYSTEM





commercial banks, its operations tend to tighten bank reserves and the credit market.

Conversely, if the Treasury increases its commercial bank balances and draws down balances with the Federal Reserve, these operations tend to make bank reserves more plentiful and to ease the credit market. In administering its deposit balances, the Treasury endeavors to avoid undesirable effects on the reserves of the banking system or on Federal Reserve operations.

These points of contact between Treasury and Federal Reserve responsibilities give rise to the frequent interchange of intelligence between the two organizations regarding economic, credit, and fiscal developments. The Federal Reserve, on its part, endeavors to keep the Treasury informed as to underlying forces influencing action in the credit and monetary area and counsels with the Treasury on the implications for Federal Reserve policy of alternative debt management courses. The Treasury, in turn, strives to keep the Federal Reserve fully informed about the Government's fiscal trends and about plans for meeting prospective financing problems.

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.

The lending or insuring functions of some agencies are related primarily to specific purposes, such as aid to agriculture, home owners, and veterans, while those of other agencies 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 under the supervision of the Farm Credit Administration that make short- and long-term loans to agriculture; the Rural Electrification Administration, which makes loans to extend the use of electricity and of telephone service in rural areas; a group under the Housing and Home Finance Agency that make loans to finance housing and home ownership; the Export-Import Bank, which makes loans, mostly to foreign borrowers, to aid the financing of U.S. exports and imports; and the Small Business Administration, which makes loans to small business concerns, small business investment companies, and State and local development companies.

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 Korean conflict, 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., are not part of the American banking and monetary system, but affect the domestic money market whenever their operations draw upon or add to the supply of 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. The members of this Council are, ex officio, the Secretary of the Treasury, who is Chairman, the Secretary of State, the Secretary of Commerce, the Chairman of the Board of Governors of the Federal Reserve System, and the President and Chairman of the Export-Import Bank of Washington.

Concluding Comment

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 14,000, of which more than 6,000 are System member banks. Through its twelve Reserve Banks and their coordination through the Board of Governors in Washington, the System is designed to combine private and public interests in an organization that serves the public welfare efficiently.

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 19,500 officers and others who work for them, as well as the Board of Governors and its staff in Washington, are all serving as trustees of the nation's money.

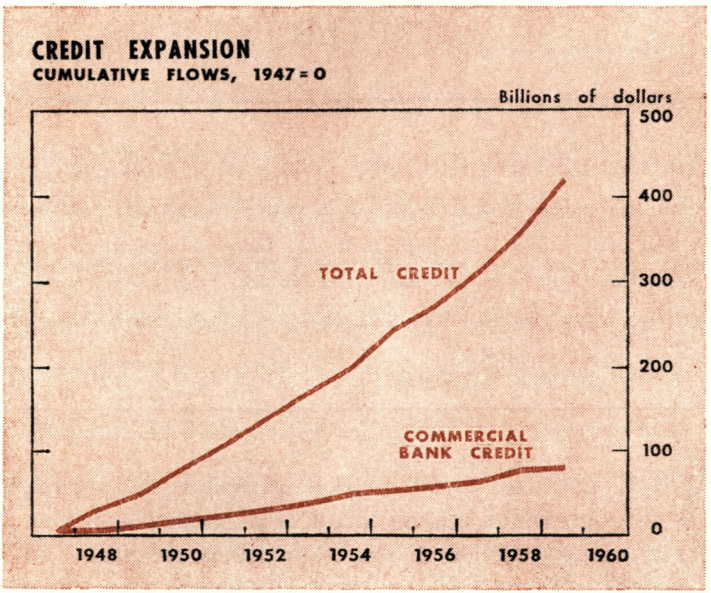
CHAPTER V

THE CREDIT MARKET. *The national credit market is made up of many interrelated markets, of which the market for commercial bank credit is an important one. Developments in all parts of the market interact on and influence other parts. Neither the banking sector nor the nonbanking sectors of the market can be understood by themselves.*

THE national credit market provides the medium through which the current flow of money saving and other available funds in the economy is mobilized and invested in loans and securities ultimately representing real wealth. The commercial banking system is a part of this market, but in terms of dollar volume it is by no means the dominant part, as the chart on page 86 shows.

The credit market is made up of a wide variety of market segments, distinguished one from another by such characteristics as kind of credit transaction or geographic coverage. To a great extent, however, all segments of the market are interdependent. The national credit market is composed of these interconnected market sectors.

Developments within the commercial banking system are usually transmitted soon to other market institutions and participants. Similarly, market developments appearing initially in other sectors are likely to react soon on banks. The banking system is thus sometimes responding



in part to a spill-over of demand or supply forces from other market sectors, while at other times developments within the banking system are giving rise to pressures on other sectors.

Nonbank participants in the market react to monetary policy in different ways and in varying degree, depending on the sources of their funds and the ways in which they customarily invest these funds. To clarify some of the pos-

sibilities, this chapter discusses the elements of the credit market and identifies in a general way the factors that influence the volume and composition of funds flowing through it.

Market Structure

A financial market brings together borrowers and lenders or investors, and it establishes and communicates the prices at which they can make transactions. Some financial markets, such as the stock market, are highly organized and have a specific place of business, but credit markets generally have no formal organization or designated place of business. Nevertheless they bring together a large number of transactors willing to borrow or to lend funds at a range of prices. The prices of credit are interest rates. These rates represent the cost to the borrower and the return to the lender or investor.

Credit markets differ in several ways. For one, they deal in different kinds of instruments. There are markets for U.S. Government obligations, State and local government obligations, corporate bonds, stocks, bank loans, mortgages on real estate, and so on. Also, the instruments in which they deal vary in maturity, risk, and liquidity; and there are submarkets specializing in securities delineated by these features.

For example, short-term U. S. Government securities and prime short-term business paper are low in risk, highly liquid, and typically offer the lowest interest yields. They are close substitutes for cash and for each other and are a principal medium for temporary investment by banks, other financial institutions, and business corporations. The money market specializes in such paper.

Credit markets, though differing in the ways descrit are nevertheless closely linked through the activities borrowers, lenders, and investors. As these groups s the most favorable opportunities for borrowing or for vestment of available funds, they may find it advantage to move from one market to another.

From a geographical standpoint, the national cr market is made up of a large number of regional and l credit markets. The rates of interest charged and o conditions in these regional or local markets may v but these rates and markets are nonetheless related thro conditions affecting both the supply of and demand credit.

Geographically separated markets maintain contact v one another in a variety of ways: through the correspo ent relations of local banks with banks in other mark through local contacts with large savings and financ institutions, whose operations may be either regional national; through arrangements between local dealers investment securities and either the underwriting hou or stock exchange members of the financial centers; through the facilities of the Federal Reserve System.

While local markets handle most of the relatively sm loans originating from local needs and based on local c ditions, regionally or nationally known concerns, wh borrowings involve large sums, obtain most of their cr in a broader, even nationwide, market. The changing a cation of their borrowing demand, region by region, response to changing financial conditions helps keep in est rates in fairly close alignment.

In such ways geographically separated markets linked in a broad national market. If lendable funds

scarce and costly in one center, the local supply will tend to be augmented by an inflow from centers where funds are more abundant and less costly. As a result, well established borrowers with a high credit rating can obtain loans from banks or others, on much the same conditions in one city as in another. There are many regional credit centers —such as Chicago, Boston, San Francisco—but the largest share of the nation's credit and money market business is transacted in or through New York City.

Sources of Funds

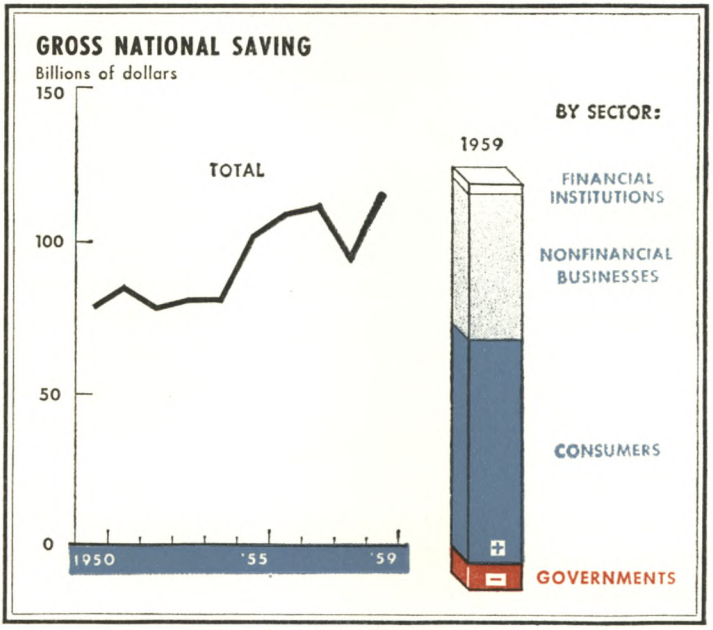
The funds available in credit markets find their sources primarily in four supplier groups—consumers, nonfinancial businesses, governments, and financial institutions. Some members of each group also borrow in credit markets. No one group plays a single market role—that is, as lender only, or as borrower only—but an individual group may tend to be more one than the other as will be brought out in more detail later.

At this point, however, it should be recognized that savers, who make funds available to markets, are often also borrowers; that borrowers become savers as they return funds to market institutions through debt repayment; and that financial institutions obtain funds in credit markets as well as from the flow of savings into savings deposits and shares, life insurance premiums, and the like. Foreign transactors, too, lend and borrow in our credit market, but their impact is generally small.

Consumers. Consumers save more than any other sector of the economy, as shown in the chart, and their saving is the largest source of funds to credit markets. The amount that consumers save and the portion flowing to credit

markets are affected by many factors, such as incomes, interest rates, capital values, and forward expectations.

During the past decade consumers have provided about three-fifths of the economy's gross saving. This share has fluctuated little from year to year. Gross saving of con-



sumers is the amount of current income not spent for current consumption on such items as food and clothing. Part of saving goes directly for purchases of consumer capital goods—automobiles, other durable goods, and homes; part flows into the acquisition of financial assets; and part is used to repay debts incurred earlier. Consumers, as well as other groups in the economy, also finance purchases of capital goods and acquisitions of financial

assets by incurring new debt and by drawing upon existing holdings of assets.

When consumers acquire financial assets, they make funds available to credit markets. They lend directly when they purchase bonds, stocks, and other credit instruments in the market. These purchases may be either from the ultimate borrower or from another individual or institution that wishes to sell the particular security from its holdings; purchases are generally made through facilities of security brokers or dealers. Also, individuals or institutions that wish to reduce their holdings of securities may do so by selling through brokers and dealers.

When consumers invest their saving in time deposits, saving and loan shares, premiums on insurance policies, and contributions toward pensions, their saving still flows into credit markets—not directly but through savings institutions as intermediaries. Since the end of the Second World War there has been a comparatively rapid expansion of financial institutions engaging in this intermediary function. Consumer saving that flows into these institutions reaches ultimate borrowers when the financial institutions advance funds through market instruments such as corporate or government bonds, real estate mortages, and short- or intermediate-term paper of varying negotiability. Consumers may also use some of their saving to increase their checking account balances at commercial banks.

During the second half of the 1950's the amount of consumer saving reaching the credit market indirectly through financial institutions averaged $19 billion a year. In contrast, the amount flowing directly from consumers into credit market instruments averaged about $9 billion, or less than half as much, as shown in the table on page 94.

Business. Another important source of funds to credit markets is the gross saving of nonfinancial businesses—that is, the amount of funds generated by retained earnings and through allowances for the consumption or using up of capital. While businesses use much of their saving directly to finance replacement of capital goods or to expand working and fixed capital, some business funds do become available to credit markets. In relation to credit markets though, businesses in the aggregate are primarily borrowers rather than lenders.

Business investment in financial assets is often temporary. An increase in funds supplied by business may precede or foreshadow a rise in capital outlays or accompany a rise in liabilities of business. As outlays increase or as liabilities coming due are paid, this source of credit market funds tends to contract. Thus, since businesses expect to use a large proportion of their funds in the near future, or at least want the funds readily available in case of need, they tend to invest in highly marketable short-term paper.

As an alternative businesses sometimes place temporarily idle funds in time deposit accounts. Ordinarily businesses keep the amounts in their demand deposit accounts close to the minimum needed for working purposes, but when market rates of interest on prime short-term paper are low, they may add to these accounts.

Businesses also use funds to provide credit directly to their customers as, for example, through charge accounts for retail customers or book credit among businesses. Such credits are made feasible, in turn, by the availability of bank and other short-term credits to businesses.

Governments. Governmental units both borrow in and supply funds to credit markets, but like businesses they

are usually net borrowers as a group. Some of the funds advanced by governments, particularly those out of retirement funds, represent the reinvestment of a net inflow of saving from consumers; such funds are usually invested in long-term obligations.

Special governmental programs not only supply funds directly but also affect the volume of funds in specific markets. This is illustrated by home mortgage programs of the Federal Government. The Government provides funds directly when a Federal agency purchases mortgages from lenders in the secondary market. Such operations enable lenders to make additional mortgage credit available. The main aspect of Government participation in the mortgage market, however, has been the guaranteeing or insuring of home mortgages. These programs affect the willingness of private lenders to supply funds to the market, but they do not result in direct Government loans.

Net repayment of debt by governments, reflecting mainly budgetary surpluses, supplies funds to credit markets at times. As governments repay obligations held by market institutions, funds become available to those institutions for relending. Funds repaid to individuals and nonfinancial business may also enter the credit market, or they may result in reduced individual demands on credit markets if they are used to finance expenditures that would otherwise have been financed by borrowing.

Savings institutions. As already noted, savings institutions advance funds to credit markets mainly by relending or investing the current saving of others that flows into savings accounts, life insurance equity, pension funds, and investment companies. They also make funds available from their retained earnings, from capital stock issues, and

SUPPLY OF AND DEMAND FOR FUNDS, 1955-59

(Annual averages. In billions of dollars)

Instrument and sector	Amount
Supply quantities	
Flows into financial assets, total[1]	**73.0**
Credit market instruments[2]	*43.8*
Consumers	8.8
Nonfinancial businesses	1.9
Financial institutions	27.6
Governments	4.4
Fixed-value claims on financial institutions[3]	*20.7*
Consumers	18.8
Others	1.9
Other assets[4]	8.5
Demand quantities	
Incurrence of debt and other liabilities total[1]	**71.7**
Credit market instruments[2]	*43.9*
Consumers	16.0
Nonfinancial businesses	15.9
Financial institutions	3.3
Governments	7.6
Fixed-value obligations of financial institutions[3]	20.5
Other liabilities[4]	7.3

[1] The flows in these categories are on a net basis. For example, purchases of credit market instruments are net of sales, and increases in debt represent extensions net of repayments.

[2] Consists of marketable Federal, State, and local government securities, corporate bonds and stocks, mortgages, consumer credit, security credit, and bank and other loans. Rest-of-world included in total but not shown separately.

[3] Consists of currency and demand deposits, savings deposits and shares, and saving through private life insurance and pension funds. Excludes funds raised in credit markets by financial institutions.

[4] Consists of consumer-held U.S. savings bonds, trade credit, proprietors' net investment in noncorporate business, saving through government life insurance and pension funds, and miscellaneous items.

NOTE.—Based on Federal Reserve flow-of-funds data. Differences between supply and demand quantities (including paired subtotals) reflect statistical discrepancies. Details may not add to totals because of rounding.

from such borrowings in the credit market as may be appropriate for them to make.

The availability of new saving to particular types of financial institutions reflects the aggregate flow of income, the level of interest rates, and other factors that affect the amount of saving in financial form in the economy and the preferences of individuals, businesses, and governments for different types of financial assets. Some funds flow into financial institutions under contractual arrangements such as insurance contracts and retirement funds. The flow of such funds is little affected by economic fluctuations or interest rate variations.

Commercial banks. The amount of lending that commercial banks may do depends on the availability of reserve funds to them. As earlier chapters have shown, the amount of reserves in turn is influenced by the credit and monetary policy of the Federal Reserve System. The owners of bank deposits, however, determine their form and location, as well as their rate of use. If banks, by extending credit, are able to make more funds available than the public wishes to hold as cash balances at existing price levels, the flow of spending will tend to accelerate. If, on the other hand, the public wants to hold more in the form of cash balances than banks can make available, total spending in the economy may be curtailed.

Market Institutions and Use of Funds

Financial institutions, including commercial banks, advance directly through credit markets more funds than any other sector in the economy. These advances take the form of net acquisitions of bonds, stocks, and other securities, of real estate mortgages, and of bank and other loans. The

different types of market institutions, however, participate in differing degrees in the various long- and short-term credit markets. To an important extent, the kinds of loans and investments made by financial institutions are influenced by the nature and source of their funds—that is to say, by the character of their liabilities. Legal restrictions and administrative regulations may also affect the kind of lending and investing activity.

Commercial banks have the shortest term liabilities of all financial institutions. Demand deposits make up about two-thirds of their liabilities to depositors, and time and savings deposits the remainder. Bank capital generally amounts to less than 10 per cent of their total resources. Because demand deposits at banks show wide seasonal or other temporary variations, banks must be prepared to meet large drains on their deposits and consequently on their reserves.

For this reason banks in general tend to lend on short- or intermediate-term maturities. The two exceptions are instalment loans to business, which may be of comparatively long maturity, and real estate mortgage loans. The security portfolio of commercial banks is also weighted in the direction of shorter term instruments, which are relatively liquid. These are for the most part issues of the Federal Government.

Liabilities of mutual savings banks and savings and loan associations are savings deposits and savings shares, held mainly by individuals. These have much lower withdrawal rates than the checking accounts of commercial banks. Consequently these institutions hold longer term assets to a greater extent than commercial banks. They invest principally in mortgages and hold a large proportion of their

liquid funds in U. S. Government obligations. Mutual savings banks also invest moderate amounts in other marketable securities.

The obligations of life insurance companies to their policy holders and of pension plans to their participants are largely long-term and relatively predictable in character. These institutions, accordingly, invest most of the funds they receive in long-term capital market instruments. Non-life-insurance companies invest heavily in both stocks and bonds.

Among more specialized market institutions, sales finance and consumer finance companies not only make funds available in credit markets, but also obtain most of their funds in these markets by borrowing from commercial banks or by selling their own negotiable obligations directly. Mortgage companies also finance themselves in credit markets, for the most part by borrowing from banks. They function primarily as middlemen in the mortgage market; that is, they buy mortgages to resell rather than to hold for current income. Investment companies acquire their funds from consumers and channel these funds into equity markets.

Dealers in securities borrow at banks to carry inventories and their borrowings may vary widely over short periods of time. Security brokers also borrow at banks to finance customers' accounts. Such borrowings have been relatively large at times in the past and have played a key role in the behavior of the money market. Since 1934, when regulation of margin requirements on such credits became effective, borrowing for this purpose has been restricted, as described in Chapter III.

All of these intermediary financial institutions add

breadth and flexibility to credit markets. As a result of their development, individuals can hold relatively liquid assets such as savings and loan shares or can safeguard the future through life insurance policies and pension plans, while at the same time ultimate borrowers can have access to a wide range of sources for short- and long-term credit.

Shifts of funds among these various uses and sources, as well as changes in the total amount available, may have important effects upon the course of economic developments. The total amount of credit available, though influenced by Federal Reserve actions, is determined largely by the amount that the public saves. How much of its saving the public allocates among different markets reflects its own preferences.

Composition of Demand in the Credit Market

The same broad groups that supply funds to the market —that is, consumers, businesses, governments, and financial institutions—also borrow funds in the market. These groups differ in both the amount and type of credit sought, with consumers and businesses borrowing the largest amounts. In the second half of the 1950's these two groups raised an average of about $16 billion a year through the medium of credit market instruments. Governments borrowed an average of $8 billion a year, and financial institutions $3 billion.

Consumers obtain funds chiefly through long-term home mortgages and short- and intermediate-term consumer credit instruments. They use short- and intermediate-term credit to finance outlays not only for such durable goods as autos, household equipment, and household repair but

also for education and travel and for meeting personal emergencies of various kinds. Such credit is obtained from banks, sales and other finance companies, and credit unions, and also from retail stores.

Mortgage debt of consumers originates primarily in connection with their purchases of homes. Like all forms of debt, however, it may also finance other expenditures. Or it may enable the borrower to retain financial assets that he might otherwise have had to dispose of, or even to add to such assets.

Nonfinancial businesses raise funds in capital markets through the issue of bonds and of preferred and common stocks and also through mortgages. Those that need funds to carry inventories or to meet other short-term requirements rely heavily on bank loans with short- and intermediate-term maturities. Borrowing for these purposes is often under a line of credit. Such an arrangement enables a regular business borrower to obtain funds up to a certain amount for short periods of time without further negotiation. Some businesses also raise short-term funds through sales in the open market of their own commercial paper or of bankers' acceptances, which bear the endorsement of a bank. Businesses sometimes borrow at banks for longer term capital expenditure programs as well as for short-term needs.

Governments raise funds mainly by issuing securities. The Federal Government issues marketable debt with varying terms and conditions. Such debt includes Treasury bills, which are sold on a discount basis and have maturities up to a year (mostly three or six months), certificates (having maturities of around one year), notes (maturing in one to five years), and bonds (maturing in more than

five years). The Federal Government also issues nonmarketable securities, of which the principal types are U.S. savings bonds sold to the public and special issues to Government trust funds.

State and local governments issue mainly long-term bonds, but they also borrow on short-term securities or loans and tax-anticipation notes. State and local government obligations are distinguished by the fact that interest received from them is exempt from Federal income taxes.

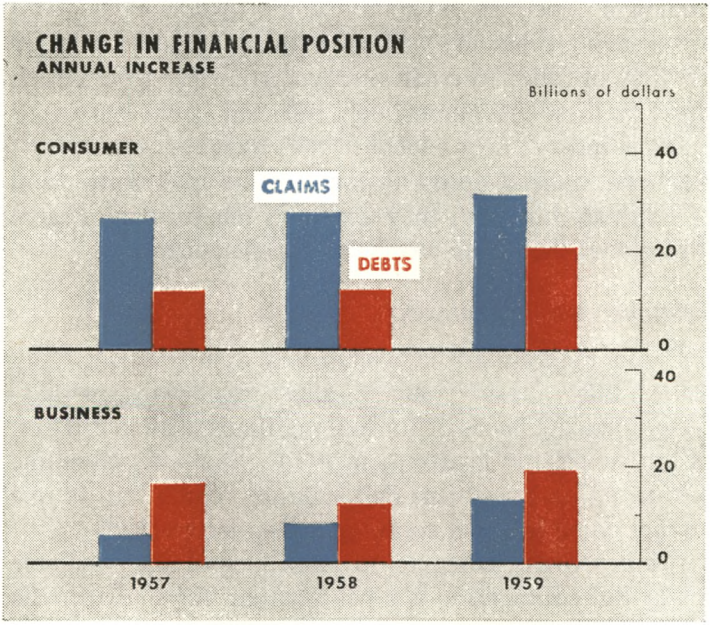
Financial institutions also raise funds in credit markets in a variety of ways. As mentioned earlier, finance companies and mortgage companies are active users of bank funds, as are also securities dealers and brokers. Long-term capital markets are a source of funds to other financial institutions, including banks, mainly for equity issues. Savings and loan associations, at times of heavy mortgage demands, supplement their receipts from saving inflows by borrowing from the Federal home loan banks; these Government sponsored banks obtain their funds by selling their own obligations in the market.

Market Roles of Economic Groups

Participants in credit markets are often both borrowers and lenders. For example, groups that are primarily savers, such as consumers, are also ultimate borrowers. Similarly, groups that are primarily borrowers, such as businesses, also advance funds to markets. The net position of each group in relation to credit markets reflects both supplier and user roles. While the net position of any one group varies with the course and pattern of economic activity, some groups have consistent and typical roles.

Consumers as a group generally advance more funds to

credit markets than they borrow in such markets; most of this investment is through financial institutions as intermediaries. Businesses, on the other hand, generally raise more than they advance. Thus, funds flow in large part from consumers through financial institutions to busi-



nesses. Like businesses, State and local governments in the aggregate generally borrow more funds than they advance. The Federal Government's role fluctuates with its budgetary position; it is a net source of funds, mainly through repayment of debt, when tax and other receipts exceed expenditures and a net borrower when expenditures are running ahead of receipts.

Changes in the net supply of and demand for funds are usually accompanied by changes in national income, in levels of interest rates, and in the volume or pattern of capital outlays. Increased capital outlays by businesses, for example, give rise to greater net borrowing when internal saving is not rising fast enough to finance the larger outlays. Reductions in capital outlays by consumers, with gross saving relatively well maintained, result in a larger net flow of funds to credit markets from this group. Such shifts as these are immediately reflected in the particular markets most closely related to the changing consumer or business financial needs. Because of the interrelationship of markets, however, they are soon felt to some degree throughout the whole credit market structure.

Relations Among Markets

Credit markets are interrelated in that borrowers and lenders may take advantage of alternative means for satisfying financing needs or for making funds available. Thus, as borrowers and lenders compete for the most favorable borrowing or investment opportunities, conditions in one market come to affect conditions in other markets.

All borrowers compete to some degree for available funds, but competition is most apparent for similar kinds of credit. For example, Federal Government demands for both short- and long-term funds in money and credit markets compete directly with demands from private business for credit with similar maturities.

Competition also arises from the fact that a borrower can raise funds for a particular purpose in a variety of ways. For example, within limits a corporation has the option of raising funds through a bank loan or a bond issue. A bank

loan to business competes directly with bank funds available for financing short- and intermediate-term consumer borrowing. Similarly, a corporate bond issue competes with the financing needs of governments and with those of consumers for mortgage funds.

More broadly, any one group of borrowers competes to some degree with all other groups of borrowers, regardless of whether such groups actually are, or have the option of, engaging in similar types of financing. This stems from the fact that the composition of funds flowing into credit markets is noticeably responsive to the changing composition of demand.

Funds supplied to markets shift among alternative uses in response to differential movements in interest rates or to changes in other conditions, such as the economic outlook, which in turn may affect interest rate movements. Nevertheless, flexibility of supply is neither immediate nor complete, in part because supplies respond to changing conditions only after a lag and in part because of legal, institutional, and other restrictions.

Markets are also linked through the ability of lenders to obtain funds in one market and make them available in another. This can be illustrated by the behavior of banks. As demand for credit expands, commercial banks may sell securities out of their investment portfolio to obtain funds to lend to, say, nonfinancial businesses. This increased supply of securities competes with other securities coming onto the market and tends to drive up interest rates in the market.

Interest rates in the securities market thus are affected by the demand for bank loans and, in turn, have an effect on the terms and conditions on which such loans are made.

As the effect of rising demand for bank loans spreads through credit markets in this way, the terms on which the Government can obtain new funds in the securities market are also influenced.

Because market sectors are related in these and other ways, the effect of reserve banking policy on bank reserve positions, whether for tightness or ease, is transmitted throughout the national credit market and has an influence generally on the willingness to borrow in markets and on the willingness and ability of nonbank financial institutions to lend. Monetary policy, therefore, influences overall borrowing and lending in the economy. At the same time the broadening of the credit market and the growth of financial intermediaries enlarge the sources of credit available to borrowers, intensify competition on the side of supply, and increase the potentiality for accelerated credit expansion.

Thus, the emerging patterns of supplies of and demands for funds in the credit market are important influences on the direction and intensity of credit and monetary actions. To increase understanding of these patterns and to provide a comprehensive framework for analyzing current and past developments, the Board of Governors publishes a flow-of-funds system of national accounts. These accounts show transactions in particular financial assets by major sectors of the economy. In addition, financial transactions are dovetailed with nonfinancial transactions so that events in financial markets can be directly related to income, spending, and saving flows. Flow-of-funds data, including saving and investment figures both for individual sectors and for the entire economy, are available in the Federal Reserve BULLETIN.

CHAPTER VI

INTEREST RATES. *Interest rates are prices paid for borrowed money. They are established in credit markets as supplies of and demands for loanable funds seek balance. Movements of interest rates are influenced by the nation's saving and investment, by market expectations, and by the flow of bank credit and money.*

INTEREST rates are prices paid for the use of credit. In a market economy they are established by the interplay of supply and demand forces in credit markets. The pricing function of interest rates is to bring the supply of and demand for funds into balance. In this process interest rates influence the volume and composition of available loan funds and their allocation among competing economic activities.

Variations in the average level of market interest rates and in the relationship of particular rates to one another have an impact on both the demand for and supply of credit. This results from the incentive and disincentive effects they exert on individual seekers and suppliers of funds. These effects derive directly from the pricing role

of interest rates and indirectly from their role as capitalization rates by means of which future streams of income may be translated into present-day capital values.

This chapter describes briefly the relationship of contract (coupon) rates to market interest rates, considers cyclical fluctuations in the interest yields on different types of loans and investments, discusses the underlying economic processes that affect interest rate formation, and describes how actions of the banking system influence movements in interest rates.

Contract Interest Rates and Market Yields

Most obligations traded in the market bear a specified contractual rate of interest to maturity. This rate is stated ordinarily in interest coupons attached to a bond and hence is known as the coupon rate. The coupon rate is to be distinguished, however, from the market rate of interest or yield to maturity, which is the rate as of today that the market is prepared to pay or accept in exchanging present for future purchasing power.

The extent to which the market rate departs from the coupon rate depends on the changing demand for an obligation in relation to its supply. As demand rises relative to supply, the market price of an obligation rises and the market yield declines. The interest yield declines because market participants pay a higher price to obtain the same fixed interest return. The opposite occurs when demand falls relative to supply; market interest rates then rise as a lower price is established in the market for the same interest income.

The amount of variation in market price that is associated with a divergence between market yield and coupon

rate is affected by the length of time an obligation has to run until it matures. As an example, assume that an obligation with a coupon rate of 2½ per cent per annum and a current market rate of 3½ per cent per annum will mature in only six months. A market price of about 99½ for the obligation would make the coupon rate, the market rate, and the maturity consistent with each other.

If, as a contrast, we assume a 10-year maturity on an obligation of similar coupon rate and similar market rate, then the market price would be 91½. The current market price for the longer term security has to be lower than that of the short-term obligation in order to provide the investor with an equal percentage return, that is, for the two maturities to be equally attractive from the standpoint of yield. That is to say, for the long-term issue to yield an average of 3½ per cent over the 10-year period, the current market price must be low enough so that the gain in capital value over the period, together with annual payments, will make the market yield one per cent higher than coupon rate.

Some short-term negotiable securities, notably Treasury bills and bankers' acceptances, do not have a contractual rate of interest specified for the investor. The yield on a new issue, given its maturity, is determined entirely by the discount from par at which the obligation is sold. Its subsequent market price depends, as with coupon bonds, on the yield at which market participants engage in transactions and on the effect on this yield of changes in the length of time until maturity.

When we speak of fluctuations in market rates of interest, we usually refer to changes in the yields at which existing obligations are traded in the market. We assume that new borrowers in the market will have to pay at least

this rate. In general, coupon rates and actual market yields on new securities will be a little higher than this as a special inducement to investors to make purchases.

In considering the effects of changes in the rate of interest, it is important to bear in mind that these changes will affect the cost of borrowing only in the case of new loans. They will affect existing loans through changes in the prices at which outstanding obligations are traded.

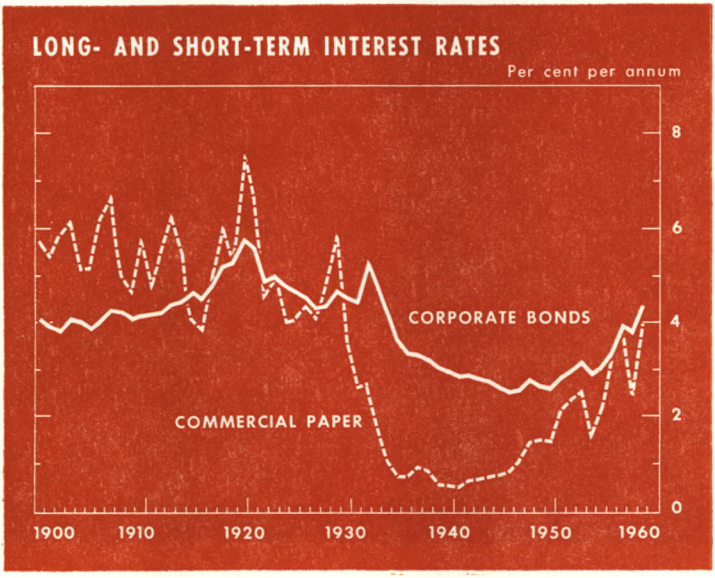
Differences Among Interest Rates

Reflecting the many purposes and situations that give rise to borrowing and lending, there is a wide variety of loans and investments in credit markets, each bearing an interest rate. Some interest rates are relatively high, and some relatively low. The particular level for each security will reflect distinctive characteristics of the obligation, the particular class of borrowers using it, and the preferences that lenders and investors may show for it.

Observable differences in market interest rates are affected by a wide variety of factors. Among the most important are the term structure of market instruments, that is, whether short- or long-term; the market's evaluation of differences in factors related to risk, including the business experience of borrowers and the kinds of assets or guarantees that back up their obligations; whether the loan is large and readily negotiable in form or is relatively small and less negotiable; tax exemption features; and the varying supplies that lenders make available in given circumstances for different uses.

In general, securities with shorter maturity and greater negotiability bear lower interest rates than other obligations. This is related in part to the fact that market pros-

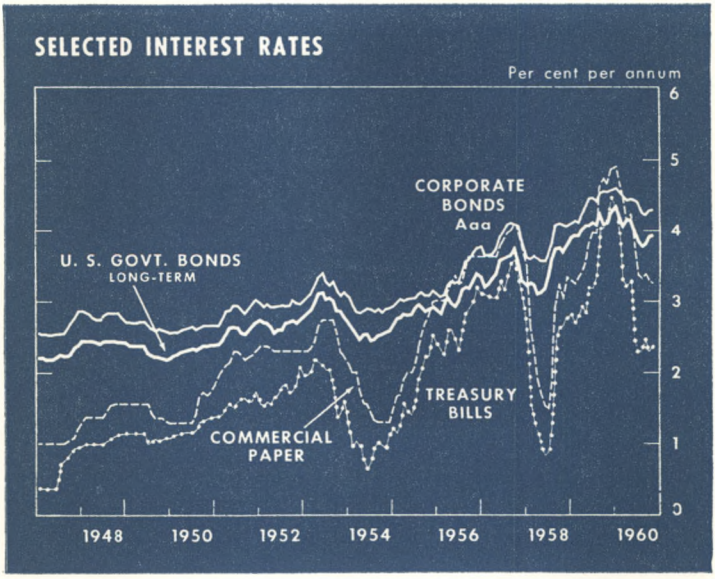
pects are always uncertain and that many types of investors prefer to commit their funds in prime paper of shorter term rather than in longer term, less readily marketable securities. The extent to which market rates reflect these features of term, risk, and negotiability changes over time. Shifting needs of borrowers and evaluations of investors naturally exert an important influence in altering the structure of rates.



During the postwar period short-term interest rates have generally been below long-term rates, but in earlier periods this was not always the case. There have been prolonged periods when short-term rates were above long-term rates. In addition, the relationship between the two has varied with short-term economic cycles.

How Interest Rates Move Over Time

Both borrowers and lenders have considerable flexibility in substituting one type of instrument for another. As a result, interest rates on various kinds of market instruments tend to fluctuate together. Movements in these rates differ, however, in both degree and timing. This has been true in both recent and earlier times.



Market experience shows that whether the interest rate of a particular instrument responds continuously to a changing market situation—that is, rises or falls by small increments from day to day, or even from hour to hour—depends on the character of the instrument as well as on the nature of market demand and supply. Interest rates on obligations designed for and traded in central credit

and security markets respond quite sensitively to changes in either demand or supply.

Some interest rates, however, respond only slowly to shifting market conditions. Examples include rates on smaller business loans, on consumer loans, and on mortgage loans.

For still another group, rates are adjusted in steps by administrative decision of lenders as conditions warrant. Examples of such rates are those charged by commercial banks to prime customers, the rate charged member banks by the Federal Reserve Banks, and rates paid bank customers on their time deposits. The effects of institutional, administrative, or legal factors on the extent and timing of interest rate movements will depend on the characteristics of the particular market sector.

Changes in credit conditions accompanying changes in business activity are felt in both short- and long-term markets as a rule. Rates in these markets generally rise and fall together, but fluctuations are normally greater in short-term rates than in long-term rates. There are a number of reasons for this.

From a supply standpoint, movements in short-term interest rates reflect to a considerable extent the shifting ease or tightness of bank reserve positions. As described earlier, banks often make their initial asset adjustments to changing reserve availability by buying or selling short-term securities of prime quality.

From a demand standpoint, fluctuations in short-term rates reflect the highly variable expectations of investors about their cash position and needs for liquidity and about the near-term economic and credit situation. These movements in rates are especially influenced by the shifting

liquidity attitudes of institutional investors, such as large business corporations and financial institutions. These investors, in managing their changing requirements for funds, tend to look upon short-term paper as an interest-earning store of value that is a close substitute for non-interest-earning cash. Hence, they sell or buy short-term paper when their cash funds temporarily fall below or exceed levels desired for transactions needs.

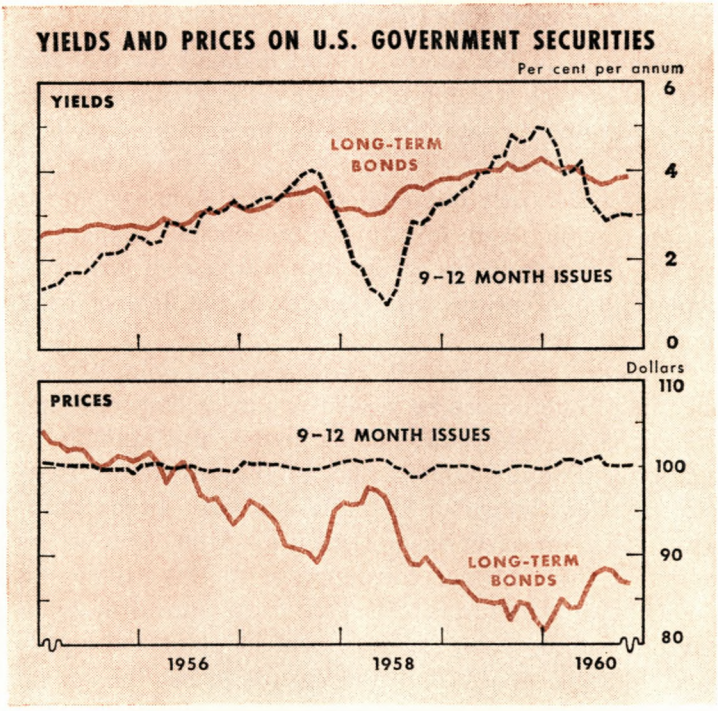
Fluctuations in long-term interest rates are less extreme than those in short-term rates. This is in part because the owners of such obligations regard them primarily as investments and also because a small change in interest rates affects earnings over a longer period.

Owners of long-term securities generally expect to retain them for extended periods. Any decisions they make to buy, sell, or hold such securities are based for the most part on longer run economic prospects. Thus near-term and temporary factors influence the market demand for and supply of long-term securities much less than they do shorter term obligations.

Market yields on longer term securities reflect evaluations of market conditions that may prevail in the more distant future as well as current and near-term market conditions. Estimates of yields for the near term will necessarily be more variable than for more distant years, in part because possible instabilities in the more distant future cannot be projected with any confidence, and in part because cyclical movements in credit conditions tend to even out over a span of years. The greater stability of yield estimates for the more distant future will counteract the greater variability of yield projections for the near future. Accordingly, long-term interest yields, which are in some

sense weighted averages of yields expected over both the short and longer run future, will usually show smaller upswings and downswings than will short-term rates.

Over the past decade, as in most periods before the two decades covered by the 1930's and by the war and



early postwar years, interest rate movements have been correlated with cyclical movements of the economy, and short-term rates have moved above long-term rates during phases of cyclical expansion.

While short-term interest rates fluctuate more than long-

term rates, prices of long-term securities fluctuate more than prices of short-term securities for reasons indicated earlier in this chapter. This is illustrated in the chart on page 113, which shows yields and prices of short- and long-term Government securities in recent years.

Factors in Interest Rate Changes

Variations in the supply of and demand for loanable funds of enough strength to change the level and structure of market interest rates are usually the joint product of a number of underlying economic forces. Of these, three are primary and closely interrelated. They are changes in the nation's saving and investment tendencies, changes in market expectations as to the future course of economic activity and of prices, and changes in the flow of bank credit and money.

Saving-investment process. From a saver's point of view the rate of interest can be viewed as a price that translates present saving into future buying power. For example, at a 5 per cent annual interest rate, $100 saved from present income will exchange for $105 after one year. In the meanwhile, since the saver has not spent his $100—that is, has refrained from current consumption to this extent—his saving permits resources to be used to an equivalent dollar amount for the nation's investment in plant and equipment, durable goods, and housing (or in net foreign investment).

A nation's saving represents the restraint that its members in the aggregate have exercised in using income to buy goods and services to be consumed currently. The investment of this saving, which represents expenditures for tangible wealth (plus or minus the net change in claims

on foreigners), increases the economy's capacity to produce goods and services in the future. This increase, when realized, takes the form of added output of goods and services from which borrowers are able to pay the interest earned by the nation's saving.

Interest is both an earning on saving and a cost of investment in buildings, equipment, or other capital goods. Movements of interest rates, therefore, can be said to reflect the balancing of saving and investment tendencies at given levels of output and prices. But the demand for investment in relation to the economy's willingness to save also affects a nation's real output as well as the market prices of the goods and services that have been produced. The extent of influence depends on the economic and financial organization of a country, the phase of its economic cycle, and on specific economic conditions at the time.

In recession periods the plant facilities of a country turn out a volume of goods and services below their capacity. In these circumstances an increase in investment demand relative to the supply of saving is likely to lead to the financing of a larger volume of real investment, and thus to increased output and rising real income. The rise in real income from the expanded investment demand will be accompanied by an increase in saving. Hence any tendency for interest rates to rise may be checked, and saving and investment may be brought into balance at little net advance in either interest rates or in the level of prices for goods and services.

In times of economic boom, however, when plant capacity is fully or almost fully utilized, investment demand in excess of available saving works progressively to intensify upward pressures on interest rates and price

levels. Under these conditions the extent to which saving might be increased out of a rise in output and real income will necessarily be limited.

Role of expectations. Shifts in expectations of businesses and consumers as to the future course of prices, production, and income affect saving, investment, and interest rates. Two kinds of effects can be distinguished. First, there are very short-run effects, felt mainly in short-term markets and not closely related to basic tendencies in saving and investment. Second, there are longer term effects on saving and investment having a more pervasive and sustained impact on interest rates.

How shifts in business expectations may affect interest rates in the short run is illustrated by what typically happens in credit markets in the early stages of a cyclical recovery. Under these conditions interest rates — particularly short-term rates — usually rise faster than basic demand-supply developments warrant. This rise is influenced by prospects of rapid expansion in economic activity, high and rising demands for credit, and a possible shift in Federal Reserve operations from being appreciably stimulative to being less stimulative or even restraining. Conversely, market expectations that the near-term economic outlook is unfavorable may precipitate a sharp decline in short-term rates. At such times prospects will loom large for a significant reduction in borrowing demands and for an increase in the supply of funds as a result of more active bank credit expansion under the stimulus of monetary policy. Interest rate movements of this short-term type may slow down markedly, or even be reversed, if it becomes evident that the market's expectations are not to be realized.

Longer run effects of expectations may include dislocations in the saving-investment process, and may thereby have more enduring effects on credit market conditions. For example, upward pressures on interest rates and commodity prices become and remain intensified during periods when high capacity utilization is accompanied by widely prevalent expectations of inflation. In such periods potential borrowers are stimulated to obtain immediate financing in order to beat the expected higher costs of business plant and equipment in the future. Investors also take steps to protect themselves against the expected inflation. For instance, they purchase inflation hedges such as equities and land rather than debt obligations, and they also borrow to finance these purchases.

When inflationary expectations are modified, the process will be reversed. Investors' preferences for debt obligations relative to equities will become stronger; yields on equities will tend to rise; and upward pressures on interest rates will be displaced by declining tendencies.

Money and bank credit. Fluctuations in market interest rates are affected not only by changes in the saving-investment process and in the economy's expectations but also by changes in the supply of money and bank credit. Increases in the supply of money not matched by increases in the public's desire to hold cash have one of two effects or some combination of them. As one alternative, the net supply of funds in credit markets may rise as the public attempts to substitute other financial assets for cash, and thus interest rate movements may be affected. As another, they may be directly reflected in spending on goods and services as consumers and businesses endeavor to reduce the amount of cash they hold.

Expansion of the money supply can be accomplished only by expansion of bank credit. When bank credit expands, it adds directly to the supply of funds available for purchasing existing financial assets and for financing economic activity. Thus, interest rates come under supply pressure and may fall.

Interactions. The factors influencing the supply of and demand for loanable funds and the levels of interest rates—that is, the money supply, saving and investment, and expectations—are not independent of each other. The behavior of one is influenced by and impinges on the movements of the others. Changes in interest rates, output, and prices are a product of their joint effects.

When economic activity declines, saving tends to outrun investment demand and interest rates tend to fall. At such times reserve banking actions to increase the availability of credit and the supply of money will make for easier credit market conditions, declining interest rates, and a financial environment and expectations favorable to a revival in economic activity.

When the economy is at a high level of capacity utilization, when demands for goods and services tend to exceed the capacity to produce them at current prices, and when investment demand exceeds the propensity to save, prices and interest rates tend to rise. Under these circumstances reserve banking actions will generally be designed to keep credit and monetary expansion in line with the economy's growing capacity to produce and thereby to contain inflationary pressures.

Unlimited expansion of bank credit and money in these conditions, in order to satisfy all demands for credit at preexisting interest rates, would enlarge the dollar amount of

both saving and spending without relieving the shortage of real resources. It would thus result mainly in rising prices and expectations of further rises. It would not check, except perhaps temporarily, a pronounced tendency for interest rates to rise. Thus for monetary policy to be an effective influence toward stable prices and sustained economic growth, interest rates need to fluctuate in response to variations in economic activity, the supply of saving, and investment demands.

Interest Rate Inflexibilities

Some market rates of interest, as was mentioned earlier, do not reflect immediately changes in the supply of credit relative to demand but respond to such changes after a lag. In some instances a stated interest rate may not change, but the effective rate may be varied through other changes such as the amount that banks require borrowers to leave on deposit or the extent to which investors require compensation for purchasing securities having a maximum interest rate, such as Government-insured mortgages.

As credit demands press actively against the supply of funds in market sectors where interest rates tend to be less flexible, lenders allocate funds among borrowers on a basis other than price. Lenders, who always tend to be selective to some degree in satisfying borrowers, adhere to stricter lending standards and screen creditworthiness of borrowers more carefully when credit conditions are tight. Borrowers then become obliged to shop more intensively to find lenders whose loan standards and terms they can meet, and some borrowers fail to find accommodation.

Thus, an increase in demand for funds relative to supply not only causes interest rates to rise but also has a direct

effect on the ease with which borrowers can obtain funds and the amount they can obtain. Similarly, developments that limit the supply of funds relative to demand, including those that restrict bank credit expansion, tend to be accompanied by both rising interest rates and increased nonprice allocation of funds as lending standards become more strict.

Monetary Policy and Interest Rates

Monetary policy in the short run focuses on the volume and availability of bank reserves in relation to credit demands being generated by current economic forces. In influencing bank reserves, monetary actions also affect market interest rates in several ways. The main influence of monetary policy on interest rates is exerted by the increase or decrease in the supply of funds in the market that results from multiple expansion or contraction of bank credit based on fractional reserve requirements. On the average, however, only a small share of aggregate credit demand is satisfied through the bank credit expansion that is associated with growth in money supply. Available estimates indicate that the share so satisfied averaged less than a tenth annually during the 1950's.

The Federal Reserve can initiate a change in bank reserves through its open market operations or, when appropriate and feasible, it can vary the reserve requirement percentages, as explained in Chapter III. These changes can be modified by member bank initiative in borrowing from a Reserve Bank at the established discount rate.

Federal Reserve purchases and sales of Government securities in the open market, of course, have some immediate impact on market interest rates. In order to minimize this

impact, the System follows a practice of conducting open market operations in short-term securities, the market for which is much broader than markets for longer issues. As these operations bring about larger changes in the supply of funds through multiple expansion or contraction of bank credit, interest rates in all sectors of the market will come to be affected.

Flexible adjustment between short- and longer term interest rates is an essential aspect of a responsive credit market. Such a market continuously reflects evolving borrower and lender preferences in the commitment of financial resources into the future. Continuous market adjustments enable the nation's financial institutions to function effectively in the public interest. Their principal task is to mobilize the saving of numerous individuals and other sources and to channel these savings into investments consonant with their own liabilities to savers and with the diverse wants of the people. Federal Reserve operations are designed to interfere as little as possible with investor and borrower decisions as to the specific commitment of resources through time.

The Federal Reserve discount rate is related to and interacts with interest rates in the market. As was explained earlier, the Federal Reserve discount rate is kept in close alignment with short-term interest rates in order to avoid giving member banks either too much or too little incentive for using a facility that is intended to meet banking contingencies and temporary needs for reserve funds. While the discount rate is administered in relation to the level and structure of market interest rates, market rates themselves are primarily the product of the forces of demand for and supply of credit.

Because of psychological factors in the market, bank credit and monetary policy may have some effect on interest rates in addition to, and even prior to, those resulting from changes in bank reserve positions. However, interest rate movements prompted by expectations of prospective reserve banking action are not likely to be long sustained, unless accompanied by changes in basic supply and demand conditions.

While the course of interest rates is necessarily influenced by reserve banking action, monetary policy decisions are themselves based primarily on judgment as to the flow of bank credit and money that is appropriate for the economy, and not on judgment as to some level and pattern of interest rates that is deemed to be appropriate. To the greatest extent possible, the setting of interest rates is left to the interplay of supply and demand forces expressed in the credit and security markets.

CHAPTER VII

INFLUENCE OF RESERVE BANKING ON ECONOMIC STABILITY. *Federal Reserve influence on the flow of bank credit and money affects decisions to lend, spend, and save throughout the economy. Reserve banking policy thus contributes to stable economic progress.*

EARLIER chapters have described the mechanism of Federal Reserve influence on the flow of bank credit and money, explained the structure of credit markets, and discussed important factors affecting movements in interest rates. This chapter clarifies the relation of reserve banking measures to economic stability and growth.

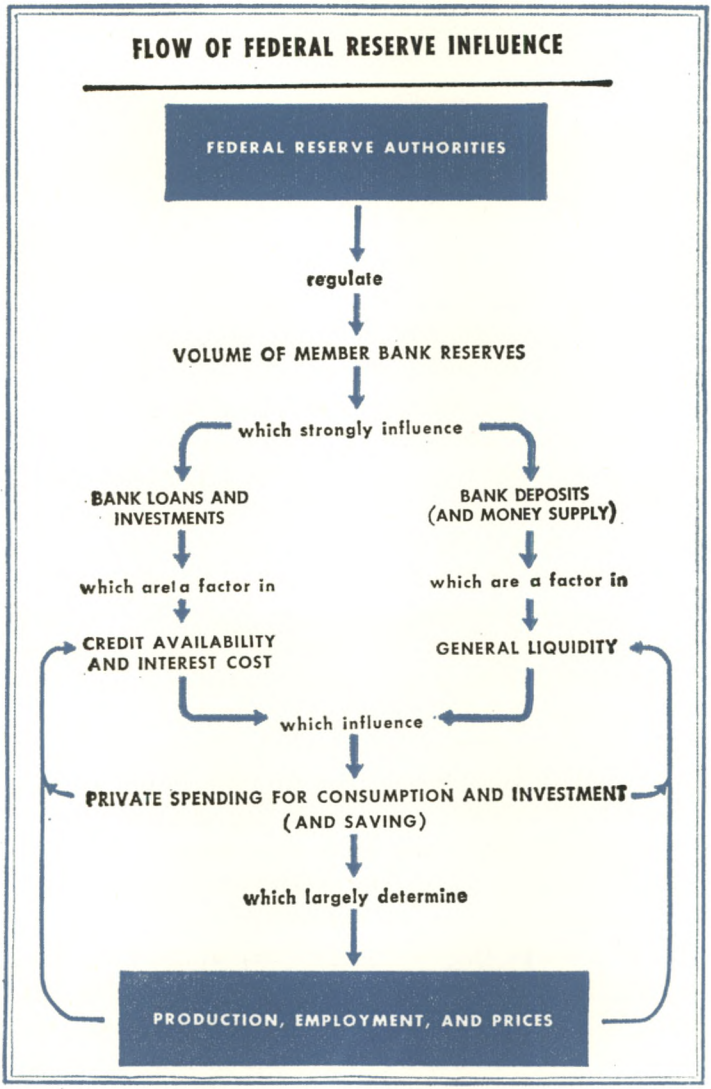
Reserve banking or monetary policy attempts to provide a financial climate conducive to sustainable growth in output, employment, and consumption under conditions of relative price stability. However, financial stability and sustainable economic growth cannot be attained through reliance on monetary policy alone. Their accomplishment also depends on fiscal and other policies of Government and on policies of private institutions and organizations.

The posture of monetary policy at any moment—whether restrictive or expansive—is a reaction to prevailing economic conditions. Monetary policy functions restrictively only when inflationary tendencies are present. In other circumstances, it functions expansively or assumes a posture somewhere between stimulation and restraint. To help avoid the dangers of economic downturn, reserve banking works to prevent speculative or otherwise unsustainable expansion of bank credit.

The accompanying diagram shows in a simplified way how Federal Reserve actions influence total spending and thereby contribute to the ultimate objectives of high employment, maximum production, and stable prices. The following discussion considers both the expansive and restrictive effects of reserve banking but, to avoid repetition, it goes into detail only on responses to restrictive operations.

The Federal Reserve carries out its public interest responsibility by influencing the reserve position of the commercial banking system. Thus, as the diagram shows, the initial impact of reserve banking policy is on the reserve position of commercial banks. As commercial banks respond to changes in the availability of reserve funds by altering their lending and investment policies, reserve banking comes to influence the supply of money, the availability of credit, and the cost of money in various credit markets.

Some observers stress the influence of reserve banking in terms of its effects on the money supply, others stress effects on over-all liquidity, and still others emphasize the impact of changes in the availability and cost of credit. In the functioning of the economy, each of these modes of



influence has a role and, in the discussion that follows, each is taken into account.

Reactions of Commercial Banks

What is the reaction of commercial banks to changes in the supply of reserves? For example, what is their reaction to limitations on reserves in a period of strongly expanding loan demand? When they are in this situation and therefore under reserve pressure, banks are more reluctant to make new loans and interest rates on the loans they do make tend to rise, as compared with periods when their reserves are rising rapidly as the result of reserve banking policy.

In a period of restrictive monetary policy, a bank that seeks to make additional loans may have to obtain funds by selling Government or other securities (mainly short-term) in the market, by permitting maturing issues to run off, or by drawing down balances with, or borrowing from, other banks. Discounting at Reserve Banks, as has been emphasized before, is a facility primarily for meeting passing contingencies and is not a source of funds available to individual banks for financing a permanent loan expansion.

If a bank sells securities, lets maturing issues run off, or draws down its balance with another bank, its action will necessarily affect other banks. In the case of security sales, for example, the buyer will likely draw down his account at another bank to make payment. Consequently, banks as a group cannot expand their total loans and investments in this way except when additional reserves are being provided by expansion in Federal Reserve credit. For the banking system as a whole, such credit may take the form of an increase in Reserve Bank holdings of securities or in Reserve Bank discounts.

If many banks try to obtain additional reserves by selling securities, the amount of short-term paper or securities in the market will be significantly increased. This increased supply tends to lower prices and to raise yields on all such paper. Similar market pressures may result if banks, in order to build up their reserves, allow maturing issues to run off or draw upon balances with correspondents.

At the lower prices and higher yields, Government and other short-term securities will be more attractive. In order to buy them, nonbank investors may use temporarily idle deposits or they may even be induced to economize on cash balances held for current payments. When banks sell short-term paper to other investors and use the proceeds to make loans, ownership of deposits may shift from holders of idle balances to borrowers who are spenders and will shortly disburse the proceeds. To the extent that this occurs, the velocity of existing deposits will increase. Total bank reserves and total bank credit and deposits do not increase in this process, but the volume of money transactions increases as the existing supply of money is used more actively.

As banks see their short-term securities or secondary reserves declining, however, they become increasingly reluctant to reduce these securities or reserves further in order to make additional loans. This leads banks to adopt more restrictive loan standards.

In addition, as market interest rates rise—a development that is reinforced by bank sales of securities—security prices decline and sales of securities may involve book losses. Banks are influenced to some extent by potential capital losses on the securities in their portfolios and they hesitate to sell securities at a loss. Income tax considera-

tions and strict earnings calculations, however, may moderate or even negate the deterrent effect of such losses on continued sales of securities.

At other times when monetary policy aims at counteracting recessionary tendencies, banks will find reserve funds increasing and will undertake to employ these funds profitably. They are likely to devote reserve accretions first to the repayment of borrowings at the Reserve Banks, particularly if loan demands are weak or declining as might be expected under the conditions assumed. After they have reduced their borrowings, banks will begin to purchase short-term securities, thereby rebuilding their secondary reserve positions and reinforcing any tendency already existing in the market toward declining interest rates. They will also begin to relax their restrictive loan policies and this, together with reduced interest rates, may actively encourage the extension of bank loans that were postponed or that were not encouraged by lenders under the earlier conditions of credit tightness.

Effects of Changes in Money Supply

Expansion or contraction in the rate at which bank credit is rising will be accompanied by expansion or contraction in the rate at which the money supply is growing. What is the response of the economy to changes in the rate at which the supply of money is growing, under the influence of monetary policy? At each level of income and interest rates, there will be an amount of money that the public wishes to hold for transactions, or for precautionary or speculative purposes. Suppose that Federal Reserve actions fail to provide the desired amount of money. In

that event some reaction is likely to be registered both in spending and in interest rates.

In an attempt to reestablish its desired level of balances, the public may spend less, or it may sell off financial assets, (or purchase fewer financial assets), with a consequent rise of interest rates. As interest rates rise in this situation they too influence spending and saving decisions. Also, the rise in interest rates affects the demand for money balances, as it leads people to accommodate themselves to smaller cash balances.

On the other hand, a volume of money in excess of what the public wishes to hold leads to increased spending and lending and to reductions in interest rates.

Demand for Cash

In assessing the effect on economic activity of changes in the money supply, it is important to recognize that there is no simple automatic measure of the appropriate relationship between the amount of money outstanding and the level of economic activity. A given volume of money, for example, can be associated with either higher or lower levels of total spending—that is, can finance more or fewer transactions—depending on how often it is used. The rate of turnover, or velocity, of money indicates how much work each unit of money does in financing transactions.

The quantity of active money is represented by the holdings of currency and demand deposits by consumers, businesses, nonbank financial institutions, State and local governments, and foreigners. Each holder endeavors to maintain his cash balance at a level appropriate to his needs for payments.

Cash balances are held for a variety of reasons. A large

part of their total represents working balances, that is, amounts of demand deposits and currency held for financing regular transactions. The size of such balances varies in part with the time lag between receipts and expenditures. For example, the time elapsing between pay dates is one factor affecting the size of cash balances. People who are paid each week have smaller cash balances on the average than those paid monthly. The size of the balance also varies with income. The higher a person's income and expenditures, the larger his cash balance for transactions is likely to be.

Cash balances are held for other reasons too. They may represent saving out of income, as a store of value for precautionary reasons—to gain flexibility in choice and timing of purchases, to provide against a rainy day, or to anticipate future expenditures or investments. In other instances, they may be held as a store of value for speculative reasons, with the expectation of buying in case of a sharp decline in security or commodity prices.

The size of the cash balances that businesses and individuals find it desirable to hold depends in part on the level of interest rates. When interest rates are low, the holder sacrifices relatively little in holding cash rather than an asset that earns interest. The higher the level of interest rates, the greater the sacrifice in holding idle cash instead of an interest-bearing financial asset. The form in which contingency or speculative balances are held—whether as demand deposits that bear no interest or as interest-earning assets—is highly sensitive to the interest return.

Several types of assets are close substitutes for cash in its store-of-value function. These include savings and time deposits at commercial banks, deposits at mutual savings

banks, shares in savings and loan associations, and U. S. Government savings bonds. Short-term market instruments, especially obligations of the U. S. Government, such as Treasury bills, are also close substitutes for cash because they are generally convertible into cash with relatively small risk of capital loss. Such assets possess high, though varying, degrees of liquidity; and a backlog of these "near money" assets, together with some holding of cash, gives the individual consumer or enterprise greater discretion in spending decisions. For the economy as a whole, a smaller or larger amount of such assets can be said to influence spending and the resulting level of economic activity.

Use of Cash in Relation to Monetary Policy

Changing attitudes of people toward the amount of their cash balances and liquid asset holdings are an important factor affecting the use or velocity of money. Changes in the amounts of cash and other liquid assets that individuals wish to hold are influenced by many factors. Among important influences are changes in the amount of transactions to be financed; expectations as to future levels of economic activity, interest rates, and prices; and other motives and circumstances that determine spending and saving decisions. In addition, changes in bank credit and money themselves may set in motion forces, such as interest rate changes, that lead to changes in the turnover of money for a period of time. Changes in the public's willingness to hold cash assets, it is evident, are related broadly to movements in economic activity and, hence, are one indicator of underlying conditions making for expansion or contraction of the economy.

Efforts of monetary policy to curb inflationary spending by limiting expansion of the money supply are generally accompanied by more active use of cash balances by the public. As incomes rise in such a period, however, people will feel a growing need for transactions cash and it will become increasingly inconvenient for them to economize on existing holdings. For this reason mainly, many economists believe that a rise in velocity in this situation will approach a definable limit.

Similarly, efforts to stimulate spending by encouraging expansion of the money supply may be accompanied by a less active use of cash balances. If economic activity is declining, expansionary effects of additions to bank reserves and the supply of money may be weakened by a rise in the public's desire to hold cash and by an accompanying decline in the velocity of money. As a result, countercyclical monetary action may not be accompanied by a commensurate rise in spending.

With the changing use of cash balances a potential countervailing force to restrictive or expansive monetary policy, it is necessarily incumbent on the monetary authorities to pay close attention to money velocity and to weigh its strength carefully in determining possible actions.

Interest Rate Changes

Changes in interest rates associated with variations in the money supply influence economic developments. Increases or decreases in interest rates, correlated with limitations or expansion of money, affect decisions to spend, to save, and to lend.

A rise in interest rates makes saving more attractive than it would otherwise be and capital outlays less attractive,

while a decline in interest rates makes capital outlays more attractive and saving less so. When the economy is operating at near-capacity levels and demand pressures are growing, rising interest rates, to the extent that they encourage a larger flow of consumer or business saving, set in motion forces to contain further inflationary expansion of aggregate money demand. In this way the increased flow of credit available out of current saving weakens the forces that would otherwise sustain the rise in interest rates.

Restriction on expansion in the supply of money reduces the extent to which inflationary credit demands can be satisfied. Insofar as rising interest rates in this situation lead to a greater preference for interest-earning assets, however, some additional flow of credit may become available out of what would otherwise be idle balances. Such an addition to the flow of available credit tends to offset somewhat the credit-restraining effects of anti-inflationary monetary policy.

When economic activity is at a comparatively low level, declining interest rates may encourage additional outlays for goods and services, stimulate demands for credit, and contribute to rising economic activity.

How Borrowing Responds to Credit Conditions

The extent to which borrowing is discouraged or encouraged by reserve banking policy depends on how changes in the availability and cost of credit affect business and consumer demands for funds and their ability to obtain them. Tightening credit has a restraining effect on borrowing. This results in part from the greater difficulty of obtaining loans as lenders find it necessary to make more selective use of their relatively limited funds and in

part from the influence on borrower demand of higher interest rates and the stiffening of other loan terms.

In periods when monetary policy is designed to encourage rather than restrain credit expansion and spending, the effects are just the reverse. Interest rates decline and banks and other lenders seek opportunities to make loans, and thus encourage spending projects that might have been discouraged in times of credit restraint.

These effects of changes in the availability and cost of credit will not be uniform among borrowers and sectors of the economy. Some borrowers will be affected more than others because they rely to a greater extent on credit.

Business

In periods of monetary restraint, banks find themselves under pressure to restrict their new loans. At the same time, with market interest rates rising and demand for loans strong, they have an incentive to raise the interest rates they charge on new loans.

The pressure on banks to restrict the growth of their loan portfolios will lead them to discourage potential business borrowers in various ways. Banks will ask some borrowers to accept smaller loans and some to accept shorter maturities. In other instances, banks may ask customers to postpone their borrowing altogether. The net effect is likely to be a curtailment of spending by business. Insofar as businesses finance inventories with bank credit, new inventory commitments will be curbed. There may also be cutbacks in planned spending for plant and equipment.

These curtailments in spending may not affect the majority of businesses or the full amount of many loans, but they will affect some borrowers and the amounts involved

in some loans. In other words, they will affect marginal borrowers and marginal amounts of loans desired. The result usually is a smaller increase in spending than transactors desired rather than an actual contraction in spending. For this reason, the curtailment in spending is difficult to observe.

Similar developments will occur at lending institutions other than commercial banks. In periods of prosperity when restrictive monetary policy is in force, financial institutions in general will find that borrowers' demands for loans tend to run ahead of the available supply of loan funds. In part this is a result of basic forces making for expansion, but in part it represents response to the tightening situation in bank credit. As banks limit their lending, borrowers seek other sources of funds and this causes tighter conditions at other institutions.

The brake on borrowing and spending represented by the lessened availability of loan funds at banks and other financial institutions will be reinforced by rising rates of interest on bank loans and on credit generally. The sensitivity of business borrowers to changes in interest rates varies widely. Businesses borrow in the expectation that the return from the use of borrowed funds will exceed interest costs by a significant margin. When the margin is large and when it is fairly well assured, moderate increases in interest rates may have little effect on the willingness of a business to borrow. When the margin is smaller or when the return is less certain, a rise in interest rates discourages borrowers.

Interest costs are particularly significant in certain fields of long-term investment, such as industrial and commercial construction, public utilities, and railroads. In such fields

comparatively small increases in interest rates can result in postponement of borrowing to finance capital outlays. Even in fields where interest costs are less important, fringe borrowers may be deterred from borrowing when interest rates rise, and other borrowers may decide to get along with less credit. The more long-term rates rise under conditions that seem temporary, the more long-term borrowers will tend to postpone investment outlays because they expect to borrow later at lower interest costs.

A rise in interest rates not only increases the cost of long-term borrowing but also influences the utilization of productive resources through changes in the relationship between prices of existing capital assets and the cost of producing new assets. These changes direct some activity away from production of long-lived, slowly depreciating capital goods and thereby free resources for an immediate increase in output of consumer goods or of producers' equipment to make consumer goods. 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 such assets to new uses, as compared with producing new ones.

The relationship between capitalized values of existing assets and costs of producing new ones 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 current interest rate, with allowance for risk, is 6 per cent	1,666,667
If 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 would build a new structure instead of buying an existing building, 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. The economic resources that would have gone into constructing the new building would then be available for other uses.

Consumer

Consumers make use of both short- and long-term credit. They use short- and intermediate-term credit mainly to finance purchases of durable goods, home improvements, and other services. Most of their long-term borrowing takes the form of residential mortgages.

Short- and intermediate-term credit. Various types of institutions extend short- and intermediate-term credits to consumers on fairly standardized terms and at relatively high and inflexible charges. The bulk of such credit is repayable on an instalment schedule. The interest rate that a consumer financing institution pays for the funds it bor-

rows is only one of the cost elements in the finance charge to consumers. Thus, changes in market interest rates in themselves have less effect on the cost of this type of credit than they have in other sectors of the credit market.

Interest expense on borrowed funds is nevertheless an important element in lenders' total cost and it influences their willingness to lend. General credit tightness or ease will be transmitted to consumer credit through changes in the strictness or leniency of credit standards applied by institutions granting such credits. The variation of credit standards affects the volume of new credit extended and this in turn affects the volume of consumer credit that is outstanding.

Mortgage credit. Even though the mortgage market is less highly organized than are markets for government and corporate obligations, and interest rates on mortgages are less sensitive to shifts in supply or demand pressures than are rates on other securities, the financing available for home purchases is considerably affected by credit conditions and interest rates.

Some lending institutions increase or decrease sharply the proportion of lendable funds they are willing to place in mortgages when interest rates on competing investment media fall or rise significantly. This tendency may be especially pronounced for Government-underwritten mortgages — FHA-insured or VA-guaranteed — because administrative ceilings on their contract rates make their actual market rates less flexible than market rates on other media.

As the availability of residential mortgage funds fluctuates, potential borrowers may encounter more or less difficulty in qualifying for mortgage loans. Borrowing to buy houses is typically long-term and repayable in monthly

instalments. The ability of a potential borrower to qualify for a mortgage usually depends on the relationship of the monthly payment to his income. The standards that lenders apply in this respect depend on the availability of mortgage funds, and standards become more stringent as the amount of funds available for lending declines.

In addition, any increase in interest rates on mortgages adds to the monthly payment. Thus marginal borrowers are no longer able to qualify on the basis of existing loan standards regarding the relation of the monthly mortgage payment to monthly income. In periods of monetary restraint, when the over-all demand for goods and services is tending to be excessive, decreases in the amount of funds available and increases in interest costs tend to discourage house building, or to encourage preferences for lower priced houses. In periods of monetary ease, increases in loanable funds and lower interest rates encourage residential construction.

How Nonbank Lenders Are Affected

Changes in credit conditions brought about by monetary policy affect the various types of lenders in credit markets in diverse ways. Some of these lenders, such as finance companies and mortgage companies, obtain part of their funds by borrowing from commercial banks. Funds from this source will be less readily available and more expensive in times of credit restraint than in times of credit ease. As the volume of their borrowing is restricted and its cost rises, nonbank lenders may find it necessary to curtail their lending. They will also tend to charge their customers higher rates of interest on loans or to seek investments with higher yields.

In periods of rising interest rates, financial institutions will find that the value of their existing portfolio of assets declines, sometimes sharply. In these circumstances, particularly when the potential capital loss (after tax) is large relative to the increment to income from new loans, financial institutions will be reluctant to sell assets in order to make loans.

The flow of new funds to nonbank lenders in credit markets depends largely on the saving of consumers. Whenever the supply of saving falls short of the prevailing demand for it, interest rates will rise. The rise in interest rates tends to be limited, however, by the extent to which it brings forth saving that would not otherwise have been made. Motives to save are complex, and the rate of interest return is only one of a number of incentives. Whether total consumer saving will respond in given circumstances to changes in interest rates is a matter of some uncertainty. Nevertheless, changes in interest rates do have discernible effects on the distribution of the flow of consumer saving among various financial investments and also, to a degree, on the distribution of total consumer saving between financial investments and investments in capital goods.

In a period when interest rates are rising and monetary policy is restrictive, an enlarged flow of financial saving out of current income and its investment in financial institutions helps correct forces making for inflationary tendencies. This enables a larger proportion of borrowing demands to be met out of increased financial saving, through the facilities of these institutions. This process reduces pressures leading to bank credit and monetary expansion.

Secondary Effects on Spending

These initial effects of changes in the flow of bank credit and money are succeeded by secondary effects. At a time when productive resources are intensively utilized, for example, tightening credit conditions will mean in the first instance that income payments to individuals do not increase as they might have. As a result, consumers do not gain additional money to spend for goods and services, and the pressure of demand against the supply of goods will abate.

Curtailed spending for consumer goods and other finished products in turn will have a dampening effect on producers' demands for machinery and other equipment required to make such goods. 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 a period of inflationary pressures such developments work 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 that arises from easier credit conditions will likewise be multiplied. Increased activity arising from credit ease will add to the volume of money income available for subsequent spending, thereby expanding the demands of consumers for goods and services and strengthening business incentives to improve and add to production facilities.

Monetary Policy and Growth

This chapter has described how the economy responds to reserve banking efforts to maintain economic stability.

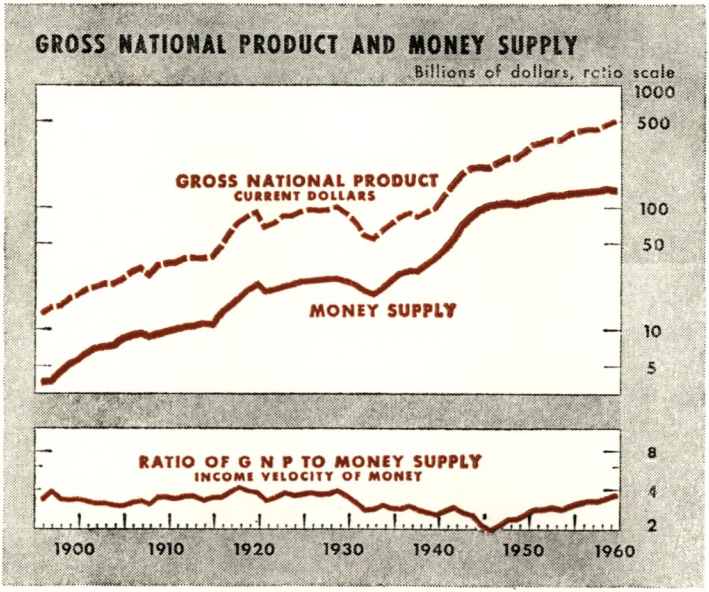
It has dealt primarily with responses to countercyclical monetary policies — that is, with responses to a restrained expansion in bank credit and money during inflationary periods and to an encouraged expansion in periods of economic recession.

In contributing to economic stability at high levels of employment, monetary policy helps to create a favorable environment for sustainable long-term growth. The rate of growth of the economy over time depends in large part on the extent to which resources are devoted to production of goods and services that will increase both productivity and total output in the future. Thus, it hinges on the saving-investment process, described in Chapter VI. That is, the volume of available resources dedicated to raising future output and income depends on the nation's willingness to save and invest.

In our free society, choice in the use of resources is made in part through public decisions as to taxation and governmental spending, but it depends for the most part on decisions of a multitude of individuals and businesses expressed in competitive bidding in the market for goods, services, and financial assets. Efforts by the reserve banking authorities to minimize cyclical fluctuations and to encourage relative stability in average prices help to create an environment in which the economy will be able to grow at a pace consistent with the aspirations and energies of the people.

Over the longer run, bank credit and money need to expand sufficiently to facilitate whatever rate of economic growth is consistent with the public's investment and saving tendencies at high levels of employment. The appropriate rate of expansion in bank credit and money will be

influenced by the share of bank credit in total credit and by changing habits of the public with respect to the kinds of assets in which they hold liquidity. Thus, while mone-



tary authorities adapt their policies to continuing short-run changes in economic conditions, they must also keep in mind the public's long-run needs for cash balances.

CHAPTER VIII

SUPERVISORY FUNCTIONS OF 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 banks is essential to the orderly functioning of the banking system. The current financial needs of commerce, industry, and agriculture are met in part through loans and investments made by individual banks, and the bulk of the nation's payments are made through the checking accounts generated by these lending and investing activities, as explained in earlier chapters. As a factor of instability, 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 large number of commercial banks differing greatly in size and in the type of banking service offered; and second, the wide variety of detailed State and national banking laws, and regulations issued under these laws.

Fundamentally, bank supervision is directed to safeguarding and serving the community's interest. In relation to individual banks, the objective is to foster the maintenance of each in sound and solvent condition and under good management, in order to protect depositors and to assure uninterrupted provision of essential banking services. With respect to all banks, a further objective is to help maintain a competitive banking system that will adapt continuously and responsively to the financial needs of a growing economy.

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.

Compass of Bank Supervision

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; and the rendering of counsel and advice on bank operating problems when requested, particularly in the case of smaller banks.

In addition, bank supervision deals with approval of proposed changes in the scope of corporate functions exercised by individual banks and of proposed changes in their capital structures; authorization of branches and of the exercise of trust powers; approval of bank mergers and consolidations; regulation of bank holding companies; and liquidation of banks, including the appointment of a conservator under certain conditions or a receiver in other circumstances.

While bank supervision encompasses a wide variety of technical functions that relate to the full life cycle of a banking institution, its chief preoccupation is with banks as going concerns. The main objective is to protect the banking structure against weakness of the component banks and whenever possible to assist them in becoming stronger units. A complementary aim is to prevent undue concentration of banking ownership and power.

Given these aims, the major responsibility of supervisory authorities is to keep informed of the condition, operations, and management of the banks subject to their review and to contribute to the prevention or correction of unsound situations.

Role of Bank Examination

Bank examination is the best known form of supervisory activity. Its purpose is to develop information that will disclose the current financial condition of the individual bank, ascertain whether the bank is complying with

applicable laws and regulations, and indicate the bank's future operating prospects.

The bank examiner in the field, therefore, is primarily a fact finder and an appraiser. His duty is to report the facts as he finds them and, if conclusions are to be drawn as to asset quality, capital adequacy, and management performance, to base these conclusions on established facts.

Examination steps include verification of a bank's assets and proof of its liabilities; analysis and appraisal of its assets; analysis of its liabilities; review and appraisal of its management; review of the administration of its trust department activities; determination of its capital and liquidity position and operating trends; study of the bank's position in relation to community as well as general business conditions; and consideration of the bank's performance in the light of various statutory and regulatory limitations affecting the conduct of its business.

In the light of examiners' findings, the supervisory authority formulates and expresses the appropriate supervisory policy and prescribes such steps as may need to be taken to correct criticized phases of a bank's affairs. The supervisory policy expressed and the corrective measures prescribed for a particular bank necessarily reflect the composite experience of the supervisory authority in examining and supervising many banks over many years.

Uses of the examination information are threefold. In the first place, the banking authorities make it the basis of supervisory policy and action with respect to particular institutions, including decisions whether to approve branches, mergers, or competing bank charters. Second, the directors and officers of examined banks use it as the basis of action to strengthen their banks as well as to

prevent future difficulties. Third, information accumulated from many examinations guides the authorities 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 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 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 50 States. National banks in all States and the District of Columbia operate under Federal banking law, with membership in the Federal Reserve System mandatory. 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 desire and qualify for insurance

In such a structure of bank supervision there are necessarily cases of overlapping responsibilities and functions. All of the supervisory authorities have similar basic objectives, however, and by cooperating with each other in developing effective working arrangements they have been able to avoid much of the seeming duplication in activities.

Federal Government legislation to deal with 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 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 its members and also with respect to all bank holding companies. In practice, the System confines its field examinations to State member banks and, whenever practicable, such examinations are made jointly with State supervisory authorities.

The Federal Deposit Insurance Corporation, established in 1933, has supervisory authority in connection with its responsibility to insure deposits of Federal Reserve member banks and of other banks that voluntarily become members of the Corporation. The Corporation in practice examines only those insured banks that are not subject to examination by another Federal supervisory agency.

Scope of System Supervisory Functions

The supervisory functions of the Federal Reserve are varied. Its responsibilities in this area are concerned particularly with admission of State banks to membership in the System; the field examination of State member banks and review of operations of all member banks; the correction of unsatisfactory conditions in or violation of banking law by State member banks, including, if necessary, disciplinary action to remove officers and directors for unsafe or unsound banking practices or for continued violation of banking law; and the issuance and enforcement of regulations pertaining to member banks.

Other Federal Reserve supervisory functions include authorization of national banks to exercise trust powers;

approval of the establishment of branches or absorption of other banks by State member banks; permission to holding companies to acquire stock of banks and to vote stock in member banks; chartering of foreign banking and financing corporations; granting permission to member banks to engage in banking in foreign countries; and supervision related to regulation of loans by banks, brokers, and dealers in securities for the purpose of purchasing or carrying of stocks registered on national securities exchanges.

In carrying out these functions the Federal Reserve authorities deal with complex and highly technical banking questions. For example, in passing upon an application for approval of a proposed acquisition of bank shares under the Bank Holding Company Act, the Board is required to consider the financial history, condition, and prospects of the institutions concerned; the character of their respective managements; the convenience, needs, and welfare of the communities and area served; and whether or not the effect of the acquisition would be to expand the size or extent of the particular bank holding company system beyond limits that are consistent with adequate and sound banking, the public interest, and the preservation of competition in the field of banking.

Under a policy of decentralization, the Board of Governors has delegated to the Federal Reserve Banks some phases of the field work involved in Federal Reserve supervisory activities, notably the bank examination function. The Board of Governors, however, 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 Comptroller's District Chief Examiners furnish the Reserve Banks with copies of reports of examinations of all national banks in their respective districts, and in this way the two agencies avoid duplicating examinations. Inasmuch as State member banks are subject to examination by 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.

Bank Supervision and Monetary Policy

It is sometimes suggested that bank supervisory standards be adjusted flexibly to help in counteracting cyclical instabilities in the economy. This suggestion would call for a firming of examination and other supervisory standards in periods of inflationary or speculative boom and a relaxation in periods of recession.

In considering this suggestion one should bear in mind that bank supervision involves recurrent, and not continuous, inspection of individual banks and by its nature entails a complex set of procedures evolved over many years. Such a process scarcely accommodates itself to a raising or a lowering of examination standards in response to changing economic conditions.

At the same time bank supervisory authorities are fully aware that banking difficulties have at times in the past intensified economic instability and that the risk of a recurrence should be reduced. Accordingly, modern supervisory appraisal of bank assets emphasizes sustainable banking values rather than current market values. In this

way, bank supervisory authorities and examiners try to exclude from bank asset valuation the transitory influences associated with economic fluctuations. All of the governmental agencies concerned now use this approach to bank supervision and examination.

As a result of this common approach, the interested agencies have a greater uniformity of supervisory policy than they could achieve if examination standards were varied countercyclically. Furthermore, by assuring equitable treatment of different banks in different areas and over time, the approach fosters public respect for bank supervision as a nondiscriminatory process. It also permits supervisory regulations and requirements to be coordinated so that individual banks are not handicapped or deterred in making adjustments to changes in the banking environment.

While the general instruments of reserve banking are the appropriate means for influencing economic stability through credit policy, bank supervision contributes to maintenance of stability through its effect on the internal strength of banks. To the extent that bank supervision helps individual banks under competent management to remain strong, it makes for an effective and responsive system of banks and enables banks to weather adverse conditions and serve their communities constructively in bad times as well as good.

CHAPTER IX

RELATION OF RESERVE BANKING TO CURRENCY. *The Federal Reserve is responsible for providing an elastic supply of currency. In this function it pays out currency in response to the public's demand and absorbs redundant currency.*

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 U. S. Government obligations. These 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, a representative of the Government, who is located at the Federal Reserve Bank and has custody of its unissued notes.

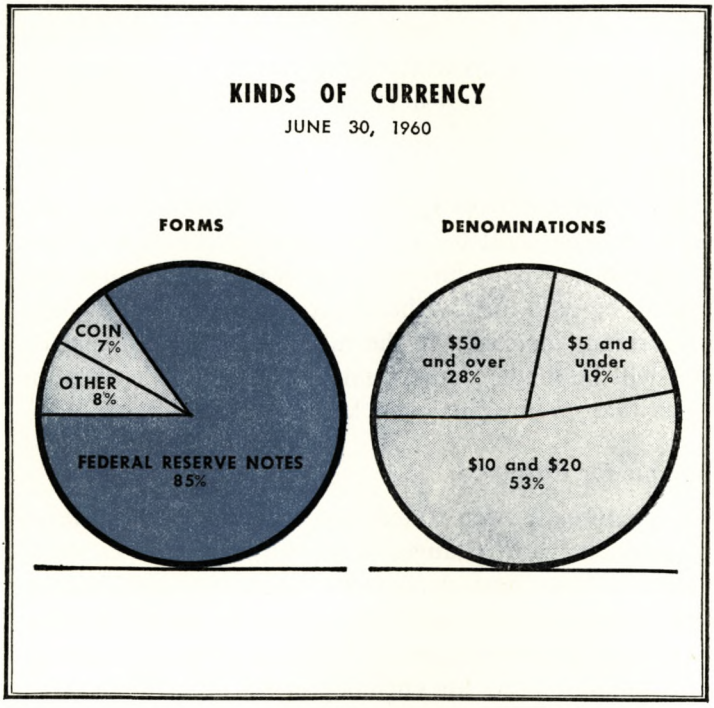
The Reserve Bank obtaining notes must pledge with the Federal Reserve Agent an amount of collateral at least equal to the amount of notes issued. This collateral may consist of gold certificates, U. S. Government securities, and eligible short-term paper discounted or purchased by the Reserve Bank.[1] The amount of notes that 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 the total of its Federal Reserve notes in circulation and its deposit liabilities. 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.

As our monetary system works, 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

[1] Gold certificates include those on hand or due from the Treasury of the United States and recorded in the gold certificate fund.

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.

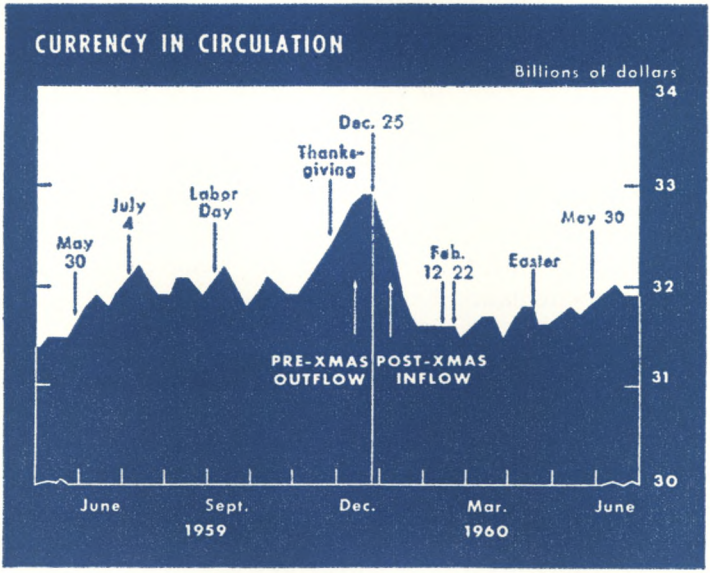
Since Federal Reserve notes are not issued in denominations smaller than $5, all of the $1 and $2 bills, as well as some bills of larger denominations, are in other forms of paper money, chiefly silver certificates and United States notes. At mid-1960 the total amount of currency in circulation was $32.1 billion, of which $27.1 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. In agricultural regions, need for currency is heavy at times when crops are being harvested. Throughout the country the need 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 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 on bank operations 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 need for currency to make payments increases, and when business activity declines, the need also declines. While most payments in this country are made by check, some types of payments are made principally in currency. The most im-

portant of these are payments in retail trade and payrolls. Statistical studies show that the amount of currency in circulation fluctuates in response to changes in the volume of these two kinds of payments.

In 1941-45, 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 in the early 1950's, demand for currency again strengthened. Over the ensuing years, the amount in circulation has continued to expand gradually.

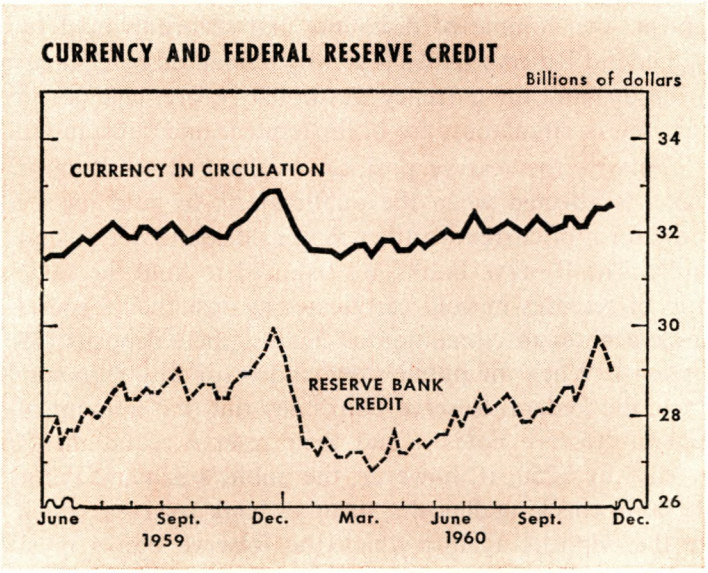
Effect of Note Circulation on Federal Reserve Position

From the point of view of the Federal Reserve and member banks, changes in currency in circulation have a special significance that arises out of the system of reserve requirements. As has been explained, reserve requirements are expressed as percentages of bank deposits. If someone borrows, say, $1,000 from a 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 by only a fraction of this amount—for example, $200 if required reserves are assumed to be 20 per cent.

If, on the other hand, 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 cur-

rency from the Reserve Bank. The Reserve Bank will charge the full amount withdrawn to the member bank's reserve account, and the reserves of the bank—as well as those of the banking system as a whole—will decline by the full $1,000.

If the banking system had no excess reserves, it would have to obtain additional reserves whether the loan were



accompanied by an increased demand for checking deposits or for currency. The additional amount of reserves needed, however, would differ. The increase 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. The Federal Reserve could supply the reserves by buying an equivalent amount

of Government securities in the open market, if this were considered desirable, or it could lend the needed funds to member banks. Whichever procedure was followed, Federal Reserve credit — that is, Reserve Bank holdings of discounts and securities — would increase.

Because the increase in demand for Federal Reserve credit is so much larger 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, changes in currency in circulation 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). When the public's 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, are required to increase by only $200 and the reserves needed by the Reserve Banks increase by only $50 (25 per cent of $200). Under the circumstances assumed an increase in currency would tie up five times as much of the Reserve Banks' reserves as would 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 was 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 the 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 any currency the public does not need, it should not be concluded that the volume of currency in circulation is free of influence by the Federal Reserve. The policies pursued by the Federal Reserve affect the total volume of money in the economy — that is, the amount of currency in circulation plus the amount of checking deposits. Thus, in providing the economy with an elastic currency, the Federal Reserve must endeavor to see that the two forms of money together are appropriately related to the volume of production and trade. This means that their combined total should neither be so large as to foster an excessive demand for goods nor so small as to cause a deficiency in aggregate demand.

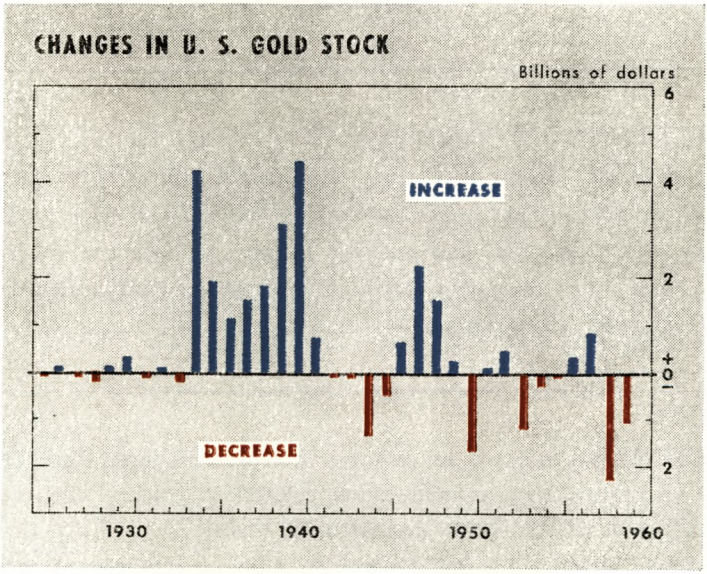
CHAPTER X

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 are two main ways in which Federal Reserve operations and policies are related to gold. First, reserves in gold, a generally accepted means of payment between nations, constitute a statutory base for Reserve Bank power to create Federal Reserve credit. Second, the flow of gold between the United States and other nations affects the volume of member bank reserves and the use of Federal Reserve credit as well as the reserves of the Federal Reserve Banks. Changes in the nation's gold reserve position, along with the underlying causes of the changes, are thus matters to be taken into account in determination of reserve banking policy.

In the monetary system of the United States, the Treas-

ury is custodian of all monetary reserves held in the form of gold. Reserves of the Federal Reserve Banks take the form of certificates representing the gold. As a technical matter, therefore, Federal Reserve holdings of gold certificates are a statutory base for its power to expand or extinguish Federal Reserve credit.



Under existing law the Reserve Banks must hold a stipulated proportion of gold certificates as reserve against their liabilities for notes and deposits, respectively. The legal gold ratio is 25 per cent for each category of liabilities. In all but two years of the System's history, its actual gold ratio has run well above the ratio required at the time by law. Thus, the Reserve Banks have generally possessed a substantial margin of what may be called "free" gold, that

is, gold in excess of the prescribed percentage of liabilities. Also, the Board of Governors has always had authority to suspend temporarily the reserve requirements of the Reserve Banks, subject to a tax on the deficiency.

Most changes in our country's gold stock are the result of transactions with foreign countries. When gold flows out of the monetary system, the member banks have a need for Federal Reserve credit if they are not to suffer a corresponding contraction in their reserve funds. This credit is usually provided either by System open market operations or by member bank discounting at the Reserve Banks. When gold flows into the monetary system, additional reserves become available to member banks. This reduces the need for Federal Reserve credit. In fact, Reserve Bank credit may decline by the amount of the gold inflow. This chapter explains in more detail the relationship between gold, member bank reserves, and reserve banking policy.

Gold as Reserve Money

In the U.S. monetary structure the standard unit of value — the dollar — is defined by statute 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 enter into circulation with the public or into member bank reserves. Under the Gold Reserve Act of 1934, private persons subject to U.S. jurisdiction are not permitted to hold any gold in monetary form. Gold nevertheless functions without restriction as reserve money of the Federal Reserve Banks. It also functions as a means of settling international balances. These relationships make up our modified gold standard.

All of the gold entering the monetary mechanism becomes reserve money of the Reserve Banks, not directly as gold but in the form of gold certificates or of credits in a gold certificate liability account maintained on the books of the U.S. Treasury. The Treasury buys monetary gold at a price of $35 an ounce, minus a handling charge of ¼ of 1 per cent. It pays for this gold by drawing on its deposit account at the Reserve Banks. Against the gold acquired, the Treasury credits an equivalent amount to the gold certificate account, thus providing the basis for restoring its deposit account at the Reserve Banks.

The Treasury must hold gold at the rate of $35 an ounce for all the gold certificates that it issues or credits to the gold certificate account.[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 issued to the Reserve Banks or credited to their account constitute their reserves and may not be used for any other purpose. Only the Reserve Banks are permitted by law to own gold certificates, and these certificates may not circulate outside the Reserve Banks.[2]

In addition to its responsibility as a buyer and holder of monetary gold, the Treasury stands ready to sell gold to foreign monetary authorities for the settlement of international balances at a price of $35 an ounce, plus a handling charge of ¼ of 1 per cent. Indeed, from the

[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 $30 million of gold certificates issued before the Gold Reserve Act of 1934, and not turned in to the Treasury when gold and gold certificates were withdrawn from circulation, are still regarded as outstanding in the official statistics 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.

point of view of the United States, purchases and sales of gold by the Treasury are an important part of the mechanism by which fluctuations of exchange rates for the dollar in terms of other currencies are limited to a narrow range.

Through these transactions, foreign monetary authorities may convert dollars into gold, to increase their own gold reserves or to use in international payments. Similarly, foreign monetary authorities can always acquire dollars when desired by selling gold to the Treasury. The Treasury conducts most of its gold transactions through the Exchange Stabilization Fund.

At the end of June 1960, the Treasury held $19.4 billion of gold. Of this amount $19.0 billion was cover for gold certificates held by or for the Reserve Banks. Another $156 million was held as the statutory reserve against United States notes and Treasury notes of 1890. Of the remainder, $107 million was in the general fund of the Treasury and so at its free disposal, while $30 million was cover for gold certificates still in circulation. Another small amount, $40 million, was in the working balance of the Treasury's Exchange Stabilization Fund.

How Gold is Monetized

The process by which gold produced in the United States or sold by foreign holders 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 U.S. assay office or to a U.S. mint. If the seller is a domestic producer, the Treasury pays for the gold by check. The seller will deposit this check with his bank, usually a member bank, which in turn de-

posits it with a Reserve Bank, where it is added to the member bank's reserve balance and charged to the account of the Treasury. The Treasury will replenish its account by crediting an equivalent amount to the System's gold certificate account and this is credited to the appropriate Reserve Bank. Assume that the gold is worth $10 million. Then the gold stock of the Treasury, the gold certificate account 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.

For many years movements of gold into and out of this country's monetary reserves have reflected almost exclusively transactions with foreign reserve banks and governments. When a foreign official authority sells gold, the payment is made on the books of the Federal Reserve Bank of New York by transfer from the account of the Treasury to the account of the foreign authority, and there is no immediate increase in member bank reserve balances and deposits. Such increases will occur, however, when the foreign official authority draws on its deposit account at the New York Bank to provide funds for goods and services bought in American markets, to invest in money market assets, or to transfer funds to commercial banks for other reasons.[3] The ownership of the newly gained gold certificate reserves becomes distributed among the Reserve Banks as a result of these various transactions.

On the other hand, when a foreign monetary authority

[3] Foreign deposits with Federal Reserve Banks are relatively small and generally kept at a minimum needed for working purposes. Most of these deposits are at commercial banks. In considering the effect of foreign factors on member bank reserves, changes in foreign deposits at the Federal Reserve must be considered along with gold flows. A rise in such deposits is a factor absorbing reserves, while a decline is a factor increasing reserves.

wants to acquire, say, $10 million in gold, it instructs the Federal Reserve Bank of New York to transfer that amount from its account with the Bank to the Treasury's account. At the same time the Reserve Bank, as fiscal agent for the Treasury, debits the gold certificate account by $10 million and transfers that amount of gold to the foreign authority. As a result of these transactions, the gold certificate account of the Reserve Bank and the gold holdings of the Treasury each decline by $10 million.

Prior to actual purchase of the gold, the foreign authority will usually increase its account with the Reserve Bank by transferring the needed amount from the market, either from already existing deposits with member banks or from funds acquired through the sale of Treasury bills or other investments it had been holding. In either case both the deposits of member banks and their reserve balances will be reduced by an equal amount.

For use in balancing their international accounts, foreign reserve banks and governments hold large amounts of dollar assets in various forms, mainly short-term U.S. Government securities. As already indicated, they hold relatively small demand deposits with the Federal Reserve Bank of New York.

Gold transactions with foreign countries are effected regularly 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. Under such an arrangement the gold is physically held in that Reserve Bank. Conversely, a foreign authority may sell some of its earmarked gold to the U.S. Treasury.

Earmarked gold belongs to foreign authorities. It 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 newly imported gold. Transactions involving earmarked accounts are spoken of as gold movements.

The processes of monetizing gold described above are essentially the same as they were when the Reserve Banks actually held gold. 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 on the books of the Treasury. The altered procedure has not changed in any significant respect the ultimate effects of gold flows on the reserves of Reserve Banks and member banks and on bank credit and the total money supply.

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 receipts from sales to foreigners of commodities, services, and financial assets; and on the other side are payments for commodities, services, and financial assets bought from foreigners, as well as payments resulting from U.S. Government grants and loans.

If, after all of these items have been taken into account, there is a balance due to the United States from abroad, foreign countries may settle it in three ways: by drawing down dollar deposits in U.S. banks, by selling additional

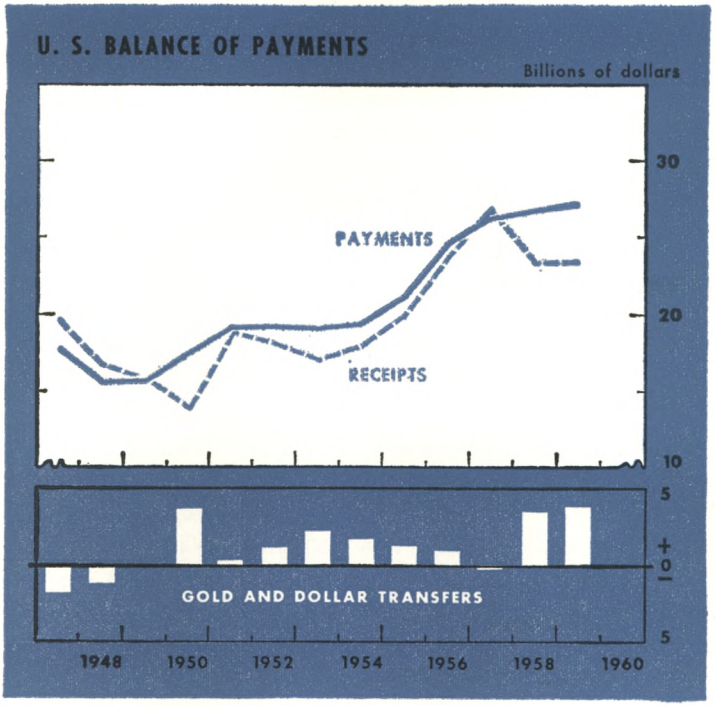
financial assets or borrowing in U.S. markets, or, as an ultimate resort, by selling gold to the U.S. Treasury. A balance due to foreigners, on the other hand, leads to an increase in foreign dollar holdings (including deposits and other financial assets), unless the foreign country converts all or part of the increase into gold.

Whether a foreign monetary authority will decide to let its balance of international payments affect its dollar holdings or its gold holdings will depend largely on its established practices with regard to the form of its reserves. Some countries, such as the United Kingdom, Belgium, the Netherlands, and Switzerland, have made a practice of holding all of their reserves in excess of working balances in the form of gold. Any substantial short-run change in their official dollar account, therefore, has been promptly reflected in purchases or sales of gold. Some other countries have held part of their reserves in gold and part in dollars; still others have found it advantageous to hold most of their reserves in dollars.

In postwar years the balance of international transactions has sometimes been in favor of foreign countries, and sometimes — though less frequently — in favor of the United States, as the chart on the following page shows. Movements of gold into and out of the United States and changes in the U.S. gold stock have generally reflected this balance: when favorable, gold has flowed in; when unfavorable, gold has flowed out.

Since early 1958 large amounts of gold have moved abroad. The amounts have varied both with the total net balance due to foreign countries and with the reserve practices, just mentioned, of the individual countries to which net balances were due. An additional cause of varia-

tion in gold movements has been the desires of private foreign persons to decrease (or increase) their dollar holdings, causing an increase (or decrease) in foreign official dollar accounts and therefore sometimes in purchases of gold from (or sales to) the United States.



The emergence in recent years of large net balances due to foreigners can be traced to both structural and cyclical elements. The improved competitive position of foreign industrial countries has changed the structure of world trade. Large investment outlays and rapid technological

advances have enabled many foreign countries to offset the advantages the United States enjoyed immediately after World War II. Moreover, most countries of the free world have restored stable monetary conditions.

The net balance of international transactions also tends to reflect differences in cyclical fluctuations as between the United States and foreign countries. For example, when economic activity expands more rapidly in the United States than it does abroad, payments to foreign countries for imports are likely to increase faster than receipts from foreign buyers for exports. On the other hand, when economic activity expands more rapidly abroad, U.S. receipts from exports are likely to rise relative to payments for imports.

Gold and Federal Reserve Operations

It has been shown that gold purchases or sales by the United States increase or decrease the reserves of Reserve Banks. It has also been shown that, disregarding transitory lead-and-lag effects associated with the use by foreign official authorities of deposit accounts at Reserve Banks, gold purchases or sales by the Treasury affect the reserve position of member banks and hence their ability to make loans and investments and expand their deposits.

The ultimate effect on member bank reserves of gold movements is thus the same as that of Federal Reserve open market or discount operations. When gold flows in, it increases member bank reserves in the same way as would an equivalent amount of open market purchases or discounts by the Reserve Banks; when gold flows out, it diminishes member bank reserves in the same way as would the repayment of a discount by a member bank or

the sale of a security by a Reserve Bank. This is why demand for Reserve Bank credit tends to diminish when gold comes in and to increase when gold goes out. Sometimes the Federal Reserve makes loans on gold to foreign reserve banks. When the proceeds of such loans are disbursed, this has the same effect on credit conditions in this country as any other advance by a Reserve Bank.

The Federal Reserve's holdings of "free" gold reserves enable it to offset, when desirable, the credit and monetary effects of any outward movement of gold. Offsetting operations can be accomplished through open market transactions in combination with discount operations, or through changes in reserve requirements. Thus, a cushion of Federal Reserve "free" gold reserves minimizes the extent to which gold outflows might interfere with reserve banking policies to influence the flow of credit and money in the interest of economic stability.

Changes in the nation's gold reserve position have a bearing on longer run monetary stability and, hence, need to be taken into account in policy determination. Reserve banking policies over a period of years, by helping to avoid inflation in this country, can contribute to balancing our international receipts and payments and thus to avoiding excessive gold movements.

CHAPTER XI

BALANCE SHEET OF THE FEDERAL RESERVE BANKS. *Federal Reserve functions are reflected in the consolidated balance sheet of the Reserve Banks, known as the weekly condition statement. This statement shows how much Federal Reserve credit is being used and the key items that account for its use.*

MAJOR reserve banking functions are reflected in the combined balance sheet of the twelve Federal Reserve Banks. The balance sheet, one of the most complete statements of its kind, is released every Thursday and shows the condition of the Reserve Banks at the end of the preceding day. 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 Federal Reserve condition statement is necessarily complex because its purpose is to provide an accounting summary of all phases of Federal Reserve operations and to show, in some detail, the use of Federal Reserve credit. The nation's demand for money converges on commercial

banks, especially the member banks, and through them on the Reserve Banks. Accordingly, much can be learned about current banking and financial trends by following changes in the principal items of the statement from week to week.

The combined balance sheet of the Federal Reserve Banks for June 29, 1960, in condensed form, is presented on the following page, with major items identified by capital letters. Explanation of its items provides both a review of many important points made in earlier chapters and an opportunity to mention 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 the circulation of gold certificates is forbidden, the law does authorize the Treasury to issue gold certificates to the Reserve Banks. The major portion of the gold certificate reserves consist of credits on the books of the Treasury payable in gold certificates. These credits include the gold certificate fund in the name of the Board of Governors and the redemption funds for Federal Reserve notes, which the Reserve Banks are required by law to maintain on deposit in the Treasury.

2. Federal Reserve notes of other Reserve Banks. When one Reserve Bank receives notes of another Reserve Bank, it may pay them into circulation if fit. If they are not fit for further circulation, it forwards them to the U.S. Treasury for retirement. This item represents notes held temporarily or in transit to Washington for retirement.

3. 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
June 29, 1960

	Millions of dollars
ASSETS	
1. GOLD CERTIFICATE RESERVES	19,029
2. Federal Reserve notes of other Reserve Banks	350
3. Other cash	366
4. DISCOUNTS FOR MEMBER BANKS	267
5. Other discounts and advances	..
6. Acceptances	28
7. U.S. GOVERNMENT SECURITIES	26,219
8. Cash items in process of collection	5,499
9. Other assets	350
TOTAL ASSETS	52,109
LIABILITIES	
10. FEDERAL RESERVE NOTES	27,421
11. DEPOSITS:	
(a) Member bank reserves	17,528
(b) U.S. Treasurer — general account	495
(c) Foreign	289
(d) Other	423
12. Deferred availability cash items	4,631
13. Other liabilities	49
TOTAL LIABILITIES	50,836
CAPITAL ACCOUNTS	
14. Capital paid in	400
15. Surplus	775
16. Other capital accounts	98
TOTAL LIABILITIES AND CAPITAL ACCOUNTS	52,109
17. THE RESERVE RATIO (per cent)	41.2

4. DISCOUNTS FOR MEMBER BANKS, an item of great interest to the money and financial markets, represent the amount of Federal Reserve credit that member banks bor-

row and for which they have a direct repayment responsibility. Member banks may borrow from the Reserve Banks in either of two ways: first, by pure discounting (that is, selling to the Reserve Banks with endorsement or recourse) of commercial, industrial, or agricultural paper of appropriate quality and short maturity; or second, by offering their promissory notes secured by such eligible paper, by Government securities, or by other satisfactory collateral. Most member bank borrowings from Federal Reserve Banks represent short-term advances secured by Government securities. This reflects in part the key role of U.S. Government securities among bank assets and in part the greater convenience of using them as collateral. Borrowing against Government securities or other eligible paper is done at the established discount rate; borrowing secured by other collateral satisfactory to Reserve Banks is charged a rate not less than one-half percentage point higher.

5. 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. It is under the authority for this second type of advance that the Reserve Banks may lend to nonmember banks as well as other institutions against Government securities as collateral, subject to such regulations as the Board of Governors may prescribe. Rates on such loans are higher than the rates charged member banks. Gold loans to foreign monetary authorities are made at the prevailing discount rate. As of June 29, 1960, no credits of either type were outstanding.

6. Acceptances are prime bankers' acceptances purchased by the Federal Reserve Banks in the open market

from acceptance dealers at prevailing interest rates. Sometimes such purchases are made under repurchase agreement whereby the seller agrees to buy them back within 15 days or less. In June 1960 the Federal Reserve Banks held no acceptances under repurchase agreement.

7. U.S. GOVERNMENT SECURITIES comprise Treasury bills, certificates of indebtedness, Treasury notes, and Treasury bonds. Since Reserve Bank purchases of Government securities are the principal means by which the Federal Reserve can create Reserve Bank credit on its own initiative, changes in Reserve Bank holdings of these securities are watched closely by observers in the credit market. 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 nonbank dealers under dealer agreements to repurchase them within a specified period of 15 days or less; the amounts held on this basis are shown separately in the complete weekly statement. The System makes repurchase arrangements available in periods of temporary credit stringency to help meet market needs for reserve funds and for credit when dealer inventories of Government securities are unusually large. Use of the facilities, when made available by the System, is at the initiative of the dealers. On June 29, 1960, the Reserve Banks held no Government securities under repurchase agreements with dealers.

The law authorizes the Reserve Banks to hold at any one time as much as $5 billion of Government obligations acquired directly from the Treasury. These direct borrowings by the Treasury are infrequent and of very short duration. They grow out of temporary imbalances between the

inflow and outflow of Treasury funds. The Treasury draws checks for current payments on deposit accounts held with the Reserve Banks. Just before tax collection dates, these accounts sometimes fall below desirable working levels. Because Treasury accounts at commercial banks through which tax payments are received may also be low at these times, the Treasury may be without adequate funds for a few days to replenish its Reserve Bank balances.

When the Treasury's balances fall below working levels, the Treasury may sell special short-term certificates of indebtedness to Federal Reserve Banks to forestall a temporary overdraft in the Treasury's checking accounts. When these special obligations are outstanding on the Wednesday statement date, they are reported separately in the condition statement.

8. Cash items in process of collection are checks and other cash items deposited with the Federal Reserve Banks and in process of collection at the date of the statement. The item has a counterpart in a technical account on the liability side of the statement, described as deferred availability cash items. The relationship of these two accounts yields a measure of so-called Federal Reserve "float," which is explained on page 185 under liabilities.

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

Explanation of Liability Accounts

10. FEDERAL RESERVE NOTES, which account for more than five-sixths of the total currency and coin in circulation, are liabilities of the Federal Reserve Banks and also

obligations of the U.S. Government. They are a first lien on all the assets of the issuing Reserve Bank and when held as vault cash by member banks may be counted in meeting their reserve requirements. Changes in the amount of Federal Reserve notes in circulation occur in accordance with changing demands of the public for currency and with member bank holdings of vault cash.

11. DEPOSITS consist for the most part of the reserve accounts of member banks. The aggregate of the member banks' balances in these accounts, along with their vault cash, constitutes the operating base of the banking system. The Federal Reserve influences the total flow of bank loans and investments by conducting its own operations in such a way as to regulate the volume of its deposit liabilities to member banks, while at the same time supplying to banks the amount of Federal Reserve notes needed for their own vault cash and for the public's hand-to-hand circulation.

A second category of deposit liabilities is the checking accounts of the U.S. Treasury, which it uses to make payments for Government purchases of goods and services. Weekly changes in the Treasury's deposit account are often fairly sizable. Although directly related on occasion to accompanying changes in other balance sheet accounts, these week-to-week changes are most often reflected in opposite changes in the reserve accounts of the member banks.

The Treasury also maintains deposit accounts with approved commercial banks for receiving taxes and the proceeds of securities sold to the public. These accounts are commonly known as tax and loan accounts. The Treasury's established practice is to maintain large enough balances in its checking accounts at the Reserve Banks to

meet its current payments. It transfers funds from its commercial bank accounts into its checking accounts in accordance with its schedule of payments. Whenever the Treasury account at the Reserve Banks exceeds desired working levels, the excess may be redeposited with commercial banks. By carrying the bulk of its deposits in tax and loan accounts, the Treasury moderates the effect on bank reserves of fluctuations in its receipts and payments.

A third category of deposit liabilities is the deposits of foreign central banks and governments, which are maintained with the Reserve Banks for international settlement and foreign monetary reserve purposes. Changes in the total of these deposits likewise affect member bank reserves. Such changes may also be immediately associated with changes in other accounts, particularly in gold certificate reserves, when the Treasury buys or sells gold.

Nonmember banks that pay at par checks submitted to them by Reserve Banks may keep check clearing accounts with the Reserve Bank of their district as a matter of convenience. These accounts are part of the fourth main category, "other" deposit liabilities. Other depositors whose balances are reflected here include certain Government agencies and international organizations.

12. The "deferred availability cash items" account was mentioned on page 182 as the counterpart of "cash items in process of collection," an asset account. The former arises from the fact that 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 or by other transfer media to the banks on which

they are drawn. The maximum period for credit to be deferred is now two business days. After the scheduled deferment period, the member bank's reserve account is automatically credited.

Since the time actually taken to collect checks is often longer than that allowed in the schedules, this crediting frequently occurs before the account of the bank on which the check is drawn is debited. The difference between the asset account (cash items in process of collection) and the liability account (deferred availability cash items) represents checks that, although not yet collected by the Reserve Banks, have already been credited, in accordance with a specified time schedule, to the reserve accounts of the banks that deposited them. This difference, which is sometimes sizable, measures the amount of Federal Reserve credit or float generated by the national check collection process.

13. Other liabilities consist principally of unearned discount on notes and securities, miscellaneous accounts payable, and dividends accrued between the semiannual dividend payment dates.

Explanation of Capital Accounts

14. Capital paid in. Upon admission to membership in the Federal Reserve System, each member bank is required to pay for capital stock of the Reserve Bank of its district equal to 3 per cent of its own capital stock and surplus. The shares do not carry the power through voting to control the management of the Reserve Bank as does ordinary stock in private banks or corporations. The member banks are entitled by statute to a cumulative dividend of 6 per cent per annum on the paid-in value of their stock.

Ownership of any share of Reserve Bank stock may not be transferred, nor may the owning bank hypothecate its shares.

15. Surplus represents retained net earnings of the Reserve Banks. The Reserve Banks may draw on their surplus to meet deficits and to pay dividends in years when operations result in loss, but they may not distribute it otherwise to the stockholding member banks. Since the surplus account has come to be approximately double the capital stock account, no further additions are being made to it, except when necessary to maintain this relationship with paid-in capital. In 1959 the Federal Reserve adopted a policy of paying to the Treasury as interest on Federal Reserve notes all Reserve Bank net earnings in excess of amounts needed to pay the statutory 6 per cent dividend and to maintain the surplus at twice the capital stock account. The law provides that, if the Reserve Banks are dissolved, any surplus is to be paid to the U.S. Government.

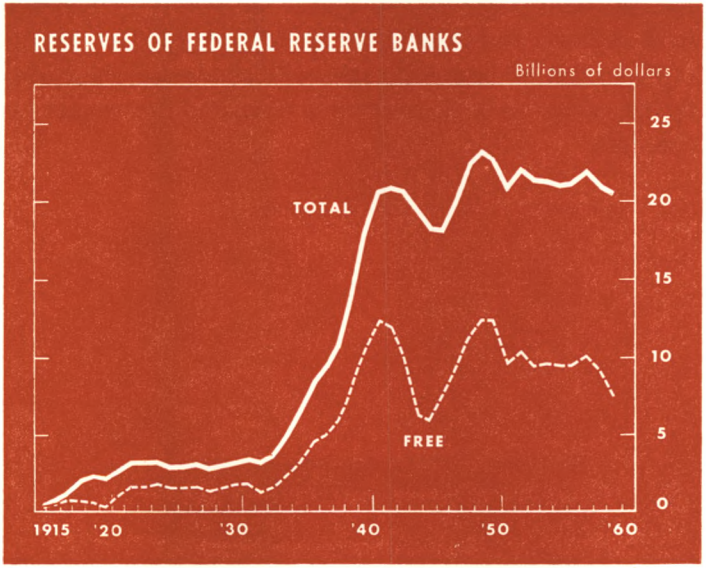
16. Other capital accounts comprise unallocated net earnings for the year to the date of the statement.

The Reserve Ratio

As explained earlier, Reserve Bank holdings of gold certificates constitute their legal reserves and provide the statutory limit to the expansion of Federal Reserve credit. In recognition of the reserve function of gold, the reserve ratio of the Reserve Banks is published regularly as a memorandum item on their financial statement (item 17 in the statement on page 179).

The law prescribes that the Reserve Banks must maintain gold certificate reserves equal to at least 25 per cent against their deposits and against their note liabilities. It

also provides that the Board of Governors may, if necessary, suspend the requirement temporarily. During most of its existence, the Federal Reserve System has possessed a sizable margin of free reserves so that the reserve ratio



has been far in excess of the 25 per cent requirement. Thus, needed Federal Reserve credit expansion has seldom been hampered by a gold reserve limitation.

Use of Federal Reserve Credit

The Federal Reserve Banks are not operated to make a profit and do not extend additional credit simply because they have enough reserves to do so. The use of Federal Reserve credit is determined, on the one hand, by the demand of the public for currency and bank deposits and, on the other, by the policy pursued in the public interest

by the Federal Reserve to encourage or discourage the expansion of bank credit and money.

The extent to which Federal Reserve credit is used depends on movements of other factors that affect commercial bank reserves and hence the ability of banks to lend or invest and expand the money supply. How the use of Federal Reserve credit varies with changes in these other factors affecting bank reserves is discussed in the next two chapters.

CHAPTER XII

THE BANK RESERVE EQUATION. *Gold, currency in circulation, and Federal Reserve credit are the principal factors that influence the volume of member bank reserves—the basis of bank credit and the money supply. The relationship among these factors, together with other more technical ones, is sometimes called the bank reserve equation.*

MEMBER bank reserves and all of the factors that affect their volume can be combined into a bank reserve equation. In this equation, simplified in presentation on page 190, factors supplying member bank reserve funds are set opposite factors absorbing such funds. These various factors come partly from the combined balance sheet of the Federal Reserve Banks and partly from the Treasury's accounts. Together they reflect the numerous forces in the country's economic life that affect the activities of the banking system.

Over the longer run, the major factors affecting the volume of member bank reserves are the monetary gold stock, Federal Reserve credit, and currency in circulation.

Other factors, which are less important in the long run, include Treasury currency; Treasury cash accounts; and nonmember bank, foreign, and other accounts at the Federal Reserve.

Any of the factors in the bank reserve equation can increase or decrease member bank reserves. On the one hand,

FACTORS IN THE BANK RESERVE EQUATION, JUNE 1960
(Averages of daily figures. In billions of dollars)

Factors accounting for supply of reserve funds:	
Monetary gold stock	19.3
Federal Reserve credit	27.8
Treasury currency	5.3
Total	52.4
Factors accounting for use of reserve funds:	
Currency in circulation	[1] 31.9
Treasury cash accounts	0.9
Nonmember bank, foreign, and other accounts at the Federal Reserve	1.6
Total	34.4
Member bank reserve balances	[2] 18.0
Total	52.4

[1] Includes all currency held in banks as vault cash.
[2] Excludes member bank vault cash, allowable as reserves.

inflows of gold, decreases in currency in circulation, and increases in Federal Reserve credit add to these reserves; on the other hand, outflows of gold, increases in currency in circulation, and contraction of Federal Reserve credit diminish them. Each of these factors, and indeed other more technical ones, may be highly variable over short

periods. The interaction of short-run variations is considered in the chapter that follows. This chapter discusses the longer run interplay of the major factors in order to put the role and function of Federal Reserve credit in clear perspective.

At mid-1960, gold and Federal Reserve credit accounted for most of the supply of reserve funds, as the table shows. In addition to member bank reserve balances, currency in circulation accounted for most of the use of reserve funds.

The relative importance of these major factors changed from time to time over the 1934-59 period, as shown in the chart on page 193. Through 1941 the dominant factor was growth in the gold stock, whereas during the war the predominant influences were increases in currency in circulation and in Federal Reserve credit. Since 1945, changes in these factors have been smaller and more varied than in earlier periods.

Interplay of Bank Reserve Factors

Gold flows are greatly affected by forces outside Federal Reserve regulation. They necessarily depend on international economic, financial, and political forces as well as on forces of domestic origin. Currency movements are influenced primarily by the level of business activity and by 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. The extent to which the Federal Reserve System uses its credit powers depends on current Federal Reserve policy and on changes in bank reserves caused by gold or currency movements.

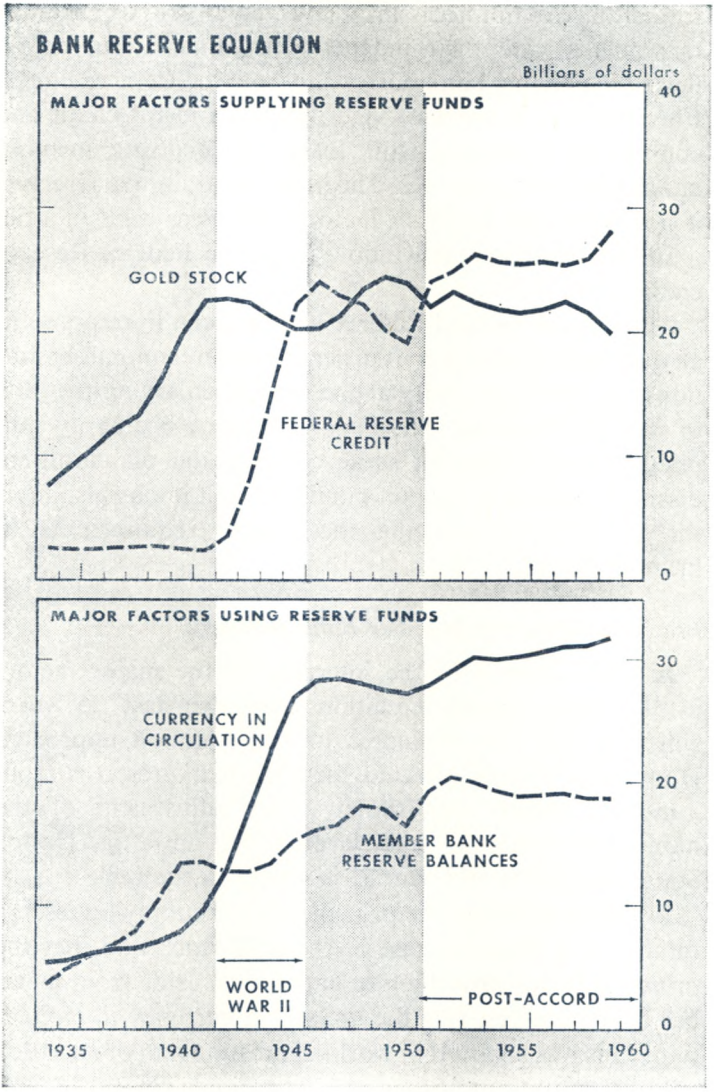
If the effect of gold and currency movements on bank

reserves is in harmony with current credit and monetary policy, Federal Reserve offsetting action will not be necessary. If the effect of the two independent factors is not in harmony with current policy, offsetting action will be undertaken. Thus, the kind of policy being pursued by the Federal Reserve — whether one of ease, one of tightness, or somewhere in between — may be associated with either increases or decreases in Federal Reserve credit, depending on the movements in other factors in the reserve equation. An example may make this clearer.

Suppose the Federal Reserve is attempting to ease market conditions and to increase the reserves of commercial banks. If other factors are not adding to bank reserves, the Federal Reserve can buy Government securities, thus increasing reserve funds by the amount of the purchase. A policy of ease will then be associated with a rise in Federal Reserve credit.

Suppose, on the other hand, that large foreign sales of gold to this country and large inflows of currency to banks occur at a time of ease in current reserve banking policy. This reduces the need for Federal Reserve credit. These gold and currency movements may even be so large as to create reserve conditions that are too easy in view of domestic economic developments. In this case the Federal Reserve can temper the excessive easing of credit conditions by selling securities. A policy of ease will then be associated with some decline in Federal Reserve credit, because other factors will have contributed more than enough to an appropriate easing of bank reserve positions.

Member bank reserves, although affected by the three other principal factors in the bank reserve equation, are not an entirely passive element. They respond to economic



forces that are not necessarily reflected in gold or currency movements, and their independent impulses can be reflected in member bank borrowing from the Reserve Banks. For instance, at times of vigorous demand for credit and consequent growth in bank loans and deposits, member banks need more reserves. The need for additional reserves, if not being met by other factors, expresses itself in a demand at the discount window for more Federal Reserve credit.

The type of Federal Reserve action taken in response to all these influences depends in general upon 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 reducing 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 25 years will 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.

It will be seen that the principal factor supplying reserve funds was a huge increase in the gold stock and that the principal factor absorbing reserve funds, aside from member bank reserves, was the growth in currency in circulation. This was a period of world depression and of unsettled political conditions abroad. As the nation's manpower and

other resources were continuously underemployed, the Federal Reserve pursued a policy of monetary ease to encourage their fuller utilization. With reserve funds accumulating from the inflow of gold, this policy was effectuated with little net change in Federal Reserve credit.

The effect of the gold movement on member bank reserves was substantial, and excess reserves became large. As

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

(Monthly averages of daily figures. In billions of dollars)

Factors supplying reserve funds:	
Increase in gold stock	14.9
Factors absorbing reserve funds:	
Increase in currency in circulation	5.6
Reduction in Federal Reserve credit	0.1
Other factors (net)	0.2
Total	5.9
Increase in member bank reserves	9.0
Total	14.9

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 adjustments were made in reserve requirements as business activity receded during 1938, and requirements remained at the reduced levels until November 1941. At that time the Federal Reserve again raised

reserve requirements to their statutory maximums, in view of the threat of excessive bank credit and monetary expansion that resulted from the national defense emergency of the early 1940's. Over this entire period Federal Reserve credit remained fairly stable, and banks made almost no use of Reserve Bank discount facilities.

War and Postwar Adjustment Periods

After the United States entered the war and began to provide exports under lend-lease, foreign gold sales to this country stopped. During the war period the gold stock was reduced, chiefly to pay for large-scale purchases of goods from South American countries. The rise in gold reserves resumed for a period after the war, but beginning in the fall of 1949 there was some reduction. This outward movement accelerated in mid-1950 at the time of the outbreak of hostilities in Korea. Taking the war period and the postwar adjustment period as a whole, gold movements were a factor operating on balance to absorb member bank reserves as the table on the following page shows.

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 the war. During that period the Federal Reserve System, in support of war finance, undertook to supply enough Federal Reserve credit to enable the banking system to purchase Government security offerings not taken up by nonbank investors, to counteract the drain on member bank reserves from the increase in currency in circulation, and to support the more than doubling of commercial bank deposits. Another objective of Federal Reserve operations during the war period was to maintain

a stable credit market so that Government and essential industry could obtain credit promptly and cheaply.

To accomplish these purposes the Federal Reserve supplied credit freely through open market operations. In 1942 the authorities reduced reserve requirements of central reserve city banks to make them the same as those of

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

(Monthly averages of daily figures. In billions of dollars)

Factors supplying reserve funds:	
Increase in Federal Reserve credit	21.5
Other factors (net)	2.6
Total	24.1
Factors absorbing reserve funds:	
Increase in currency in circulation	16.6
Decrease in gold stock	1.0
Total	17.6
Increase in member bank reserves	6.5
Total	24.1

reserve city banks. With adequate reserve funds available in these sources, member banks made little use of the discount privilege even though Federal Reserve discount rates were maintained at low levels throughout the war period.

The Federal Reserve authorities carried over into the postwar period a policy of supporting 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 Federal Reserve credit was freely available at the call of the market, and banks, indeed all holders of Government securities, were able readily to adjust their operating positions through transactions in Government securities. Because of their easy reserve positions, member banks continued during the early postwar period to have little need for borrowing at Reserve Banks.

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 on discontinuance of the policy. The major objective of the accord was to minimize the creation of reserve funds at the initiative of banks and other investors through sales of Government securities to the Federal Reserve at pegged prices and yields.

Post-Accord Period

After a brief adjustment period during which the Federal Reserve continued to buy some Government securities in support of the 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 nine years, from mid-1951 to mid-1960, the principal factors affecting bank reserve positions changed by the amounts shown in the accompanying table. Taking this period as a whole, the major factor supplying reserves to member banks was Federal Reserve credit and the major factor using reserves was growth of currency in circulation. Gold was also a factor absorbing reserves.

Changes in Federal Reserve credit during these nine years reflected a combination of open market operations, discount operations, and changes in reserve requirements. Federal Reserve operations were continuously adapted toward influencing member bank reserve positions according to the current cyclical and growth needs of the economy for bank credit and money.

MAJOR FACTORS IN BANK RESERVE EQUATION
CHANGE, JUNE 1951—JUNE 1960

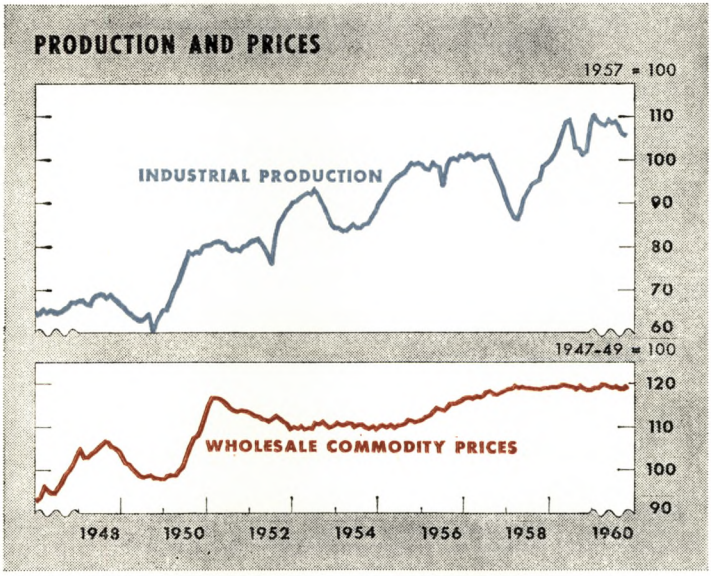
(Monthly averages of daily figures. In billions of dollars)

Factors supplying reserve funds:	
Increase in Federal Reserve credit	3.8
Other factors (net)	1.7
Total	5.5
Factors absorbing reserve funds:	
Increase in currency in circulation	4.4
Decrease in gold stock	2.4
Total	6.8
Decrease in member bank reserves	1.3

There were three periods during which economic activity expanded cyclically — from mid-1952 to mid-1953, from late 1954 to the early fall of 1957, and from the spring of 1958 into 1960. And there were two periods of economic recession — from mid-1953 to late 1954 and from the fall of 1957 to the spring of 1958. These cyclical movements, reflected in the fluctuations in total output of factories and mines shown on the chart on the following page, called for changes in Federal Reserve policy.

In the expansion periods Federal Reserve policy first

encouraged and then, after expansion gained momentum, restrained increases in bank credit. The process of restraint entailed more limited provision of bank reserves through open market operations than was called for by the demand for bank credit. Under these circumstances member banks adjusted their reserve positions in part by borrowing at the discount windows of Reserve Banks.



After study of the discount mechanism and revision of the Board's Regulation A in early 1955, the use of this general instrument was coordinated more effectively with open market operations. Discount rates, which had been raised only once during the 1952-53 expansion, were raised seven times during 1955-57 — from 1½ per cent to 3½ per cent — and five times in 1958-59 — from 1¾ per cent

to 4 per cent. Member banks increased their borrowings at the Reserve Banks to more than $1.5 billion in 1952-53 and to around $1 billion in both the 1955-57 and the 1958-59 periods.

As expansions tapered off and during the recession periods, the Federal Reserve used open market purchases to provide member banks with reserves and thus to ease credit availability and to stimulate bank credit expansion. Member banks paid off a substantial part of their borrowing at Reserve Banks early in the recession periods, and Reserve Bank discount rates were lowered in consonance with the decline in market rates as recession progressed. The Federal Reserve also used reductions in member bank reserve requirements to encourage bank credit expansion during recession periods.

In carrying out a program of countercyclical monetary policy over the past decade, Federal Reserve operations had to take account of effects on member bank reserve positions of movements of gold and currency that were only partly related to domestic cyclical conditions. Aside from reserve adjustments necessitated by seasonal changes in currency in circulation during the year, the amount of reserves absorbed by growth of currency was somewhat larger in the two years from mid-1951 to mid-1953 than in the remaining seven years. An increase in the gold stock from mid-1951 to mid-1952, however, provided some of the reserves to meet this growth. A decline in the gold stock in 1953, and a larger decline from 1958 through mid-1960, absorbed reserves and contributed to the need for Federal Reserve open market operations in these years. During 1957 U.S. purchases of gold provided more reserves than currency growth absorbed.

Concluding Comment

The foregoing analysis indicates how the major long-run factors in the bank reserve equation are related, 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. The discussion has also brought out how Federal Reserve operations may be adjusted to changes in the various factors affecting 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 terms of the bank reserve equation. The data for these factors are published each month in the Federal Reserve BULLETIN.

CHAPTER XIII

SHORT-TERM CHANGES IN BANK RESERVES. *Reserve banking policy responds to all of the elements affecting member bank reserve positions. A full accounting of bank reserve factors is published each week in a table accompanying the Reserve Bank condition statement.*

DISCUSSION of the bank reserve equation in Chapter XII dealt with the factors — gold, Federal Reserve credit, and currency in circulation — that have been central in longer run changes in the general level of member bank reserves. Significant short-run or week-to-week changes in the reserve position can be caused by still other elements, such as Federal Reserve float, Treasury checking accounts, and foreign deposits with the Reserve Banks. Federal Reserve operations must be as responsive to transient as to more lasting reserve changes.

From the standpoint of an observer of the credit market or of a participant in it, the fact that member bank reserves have changed is of paramount interest. But how the change

came about—that is, what specific factors produced it—is of only slightly less interest to him. Since he is trying to judge the current course of Federal Reserve policy, it is important to him whether a given short-run change is the result of a positive banking action, of reserve banking tolerance of the play of market forces, or of a chance interplay of factors without policy significance.

From the standpoint of its own operations, the Federal Reserve must have detailed knowledge of the performance characteristics and potentialities for fluctuation of each reserve factor, and for this purpose it must maintain a full statistical record of each reserve element. Such background information makes it possible for the System to identify promptly the nature and likely amount of prospective changes in the various reserve factors and to decide whether the resulting changes in member bank reserves should be permitted or should be offset by System action. As is true of any dynamic process, this mechanism for administering the level of member bank reserves must work with a margin of tolerance for the unpredictable, because innumerable economic forces are influencing all of the reserve factors.

Interplay of Elements

The weekly statement includes a table showing all of the elements of the reserve equation. Balance-sheet data for the Reserve Banks are consolidated with data from certain accounts of the Treasury that relate to its cash holdings and to its currency outstanding. Thus, the figures reflect the effects of the country's gold and currency flows upon member bank reserve positions.

The weekly reserve equation focuses on how much the

member banks have in their reserve accounts. Since it is an average of member bank reserve balances rather than the level on any single day that is significant, the figures

DETAILED BANK RESERVE EQUATION

(Weekly averages of daily figures. In millions of dollars)

Factor or element	Week ended June 29, 1960	Change from week ended June 22, 1960
Supplying reserve funds:		
Federal Reserve credit:		
U.S. Government securities	26,129	+118
Acceptances	30	+1
Member bank borrowings	412	−138
Float	1,168	−376
Total Federal Reserve credit	27,739	−395
Gold stock	19,325	−21
Treasury currency outstanding	5,356	+2
Total	52,420	−414
Absorbing reserve funds:		
Currency in circulation	31,867	−60
Treasury cash holdings	406	−6
Deposits with Reserve Banks:		
Treasury	505	−45
Foreign	249	+24
Other	415	−22
Other Federal Reserve accounts (net)	971	+1
Total	34,413	−108
Member bank reserves with Reserve Banks	18,007	−306
Cash allowed as reserves	335	+48
Total reserves held	18,342	−258
Required	*17,856*	*−186*
Excess	*486*	*−72*

used in the reserve equation are ordinarily weekly averages of daily figures. The figures for the week ending June 29, 1960, are given in the table on page 205.

The information is grouped under two headings — factors supplying reserve funds and factors absorbing reserve funds, with details concerning member bank reserve positions under the latter. For elements under sources of reserves, increases tend to add to member bank reserves and decreases to reduce such reserves. For elements absorbing reserves, increases tend to reduce member bank reserves, and decreases tend to increase them. To highlight the role of particular elements and groups of elements in that week and to facilitate discussion of them, the factors may be rearranged as shown in the following table.

Identifying the Factors in Reserve Changes

At the outset, it should be noted that no great significance can be attached to the changes occurring in a single week, except as they may seem to be part of some longer term movement. Any week's figures may be affected by fairly wide fluctuations of an unpredictable and short-run nature in such monetary factors as those discussed here.

The more important factors increasing member bank reserves during the week chosen for illustration, excluding those stemming from direct monetary actions, were decreases in currency in circulation, in Treasury deposits at Reserve Banks, and in "other" deposits at Reserve Banks.

The public's holdings of currency fluctuate sharply with seasonal spending patterns. As commercial banks obtain currency to meet the needs of customers, they pay for it out of their reserve deposits at the Reserve Banks; as customers return currency to the banks, the banks in turn

deposit it in their reserve balances at the Reserve Banks. During the week under discussion, banks returned $60 million of currency to the Reserve Banks.

REARRANGEMENT OF
DETAILED BANK RESERVE EQUATION

(Averages of daily figures. In millions of dollars)

Factor or element	Change, June 22 to June 29, 1960[1]
A. Changes accounting for increases in bank reserves:	
Increases in:	
U.S. Government securities	118
Acceptances	1
Treasury currency outstanding	2
Decreases in:	
Currency in circulation	60
Treasury cash holdings	6
Deposits with Reserve Banks:	
Treasury	45
Other	22
Total	254
B. Changes accounting for decreases in bank reserves:	
Decreases in:	
Member bank borrowings	138
Federal Reserve float	376
Gold stock	21
Increases in:	
Foreign deposits with Reserve Banks	24
Other Federal Reserve accounts	1
Total	560
C. Decrease in member bank reserve balances with Federal Reserve Banks (B−A)	306

[1] Changes based on averages for the weeks ending on these dates.

The changes in Treasury deposits with Federal Reserve Banks reflected Treasury payments for Government expenditures made by drawing checks against Treasury accounts with the Federal Reserve Banks. Treasury transactions run into billions of dollars each month. Despite careful supervision of its accounts, Treasury balances at the Reserve Banks often fluctuate abruptly, with corresponding effects (in the opposite direction) on member bank reserves. Over the illustrative week, changes in these balances added $45 million to reserve funds.

Among the factors absorbing reserve funds during this week, excluding those stemming from overt monetary action, the major one was the change in Federal Reserve float. There were also smaller changes in gold stock and in foreign accounts with the Reserve Banks.

Federal Reserve float represents Federal Reserve credit that is extended to member banks, in the check collection process, when checks are not collected by the Federal Reserve before bank reserve accounts are credited in accordance with an established schedule. The amount of float outstanding fluctuates from day to day primarily in consequence of variations in the volume of check transactions, but also as a result of weather and other factors affecting the speed of collection. In our reference week a decrease in float absorbed $376 million of reserve funds.

When payments are made out of foreign accounts at the Reserve Banks, the recipients of the payments usually deposit them with member banks, which then add them to reserve accounts at the Reserve Banks. Conversely, when foreign deposits are being built up — for example, as a result of a balance of international payments favorable to foreign countries—a corresponding drain on member bank

reserves results. The increase in foreign accounts, together with the decrease in gold stock, absorbed $45 million of reserves in the week under review.

Summarizing changes during this week, the largest was a reduction of $376 million in "float," which tended to reduce member bank reserves by an equal amount. Federal Reserve purchases of $118 million of Government securities offset part of this, as did reductions in currency in circulation and in Treasury deposits, totaling more than $100 million. However, member banks also reduced their borrowings from the Federal Reserve Banks by $138 million; and this accounted for a further reduction of that amount in their reserve balances.

As a result of all the changes in the various factors, reserve balances of member banks at the Reserve Banks declined by $306 million. Their total reserves declined less, however, because there was an increase of $48 million during the week in the amount of vault cash they could count as reserves.

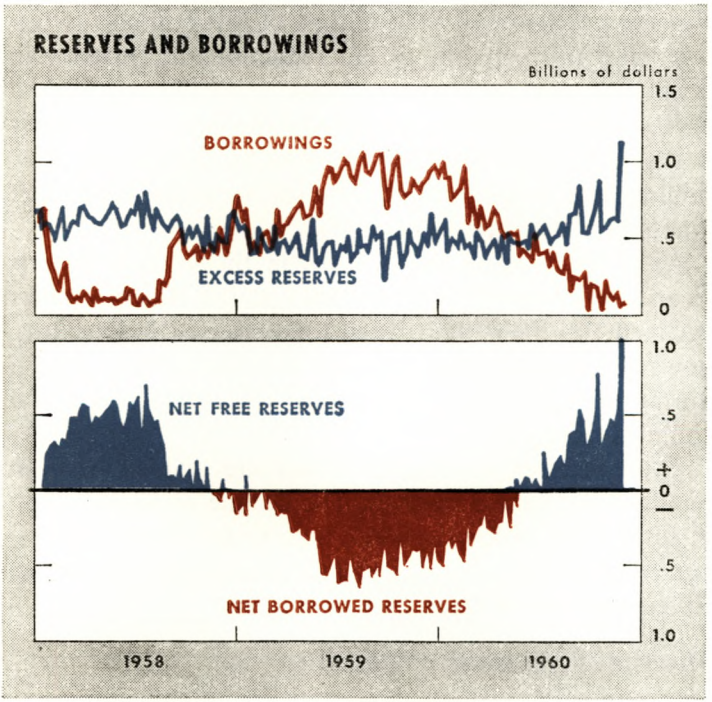
Total reserves of member banks are divided between required and excess reserves. The decline of $258 million in total reserves for the week here reviewed was accompanied by a reduction of $186 million in required reserves. Excess reserves declined by $72 million.

Meaning of Net Reserve Position

The credit market gauges the emphasis of current monetary policy — that is, whether it is tending to be stimulative, restrictive, or neutral in its effects upon the volume of credit and money — by observing, among other things, the trend of changes in the net reserve position of member banks. The net reserve position is defined as the difference

between the excess reserves of member banks and member bank borrowing.

The term "net free reserves" is used by the market to refer to a position in which excess reserves are larger than borrowings, while the term "net borrowed reserves" refers



to a position in which borrowings are larger than excess reserves. As monetary policy moves from a restrictive to a stimulative posture, a net borrowed reserve position will gradually give way to a net free position. These swings in the reserve position will reflect primarily changes in the

volume of member bank borrowings rather than in their excess reserves. The reason for this is that banks universally seek to avoid unemployed funds, thus keeping to minimal levels their combined excess reserves and the fluctuations in these reserves.

Referring again to the principal elements in the bank reserve equation for the last week of June 1960, member banks showed net free reserves of $74 million, the amount by which their excess reserves of $486 million exceeded their borrowing of $412 million. Free reserves had increased by $66 million from the preceding week (since borrowings were reduced by $138 million while excess reserves had declined by $72 million). The member banks' net reserve position over that period appears to have moved significantly in the direction of further monetary ease.

Considering the complexity of the forces affecting the net reserve position in the short run — a fact reflected in the many sizable and irregular fluctuations in this measure from week to week — little or no significance can be attached to one week's shift. However, the trend in the net reserve figure, from sizable net borrowed reserves to small net free reserves over a period of several months preceding this particular week, clearly confirmed that Federal Reserve policy had been working to foster a larger flow of credit and money.

The net reserve position of member banks is not the only index of credit and monetary tendencies of course. The central task of monetary policy is to regulate expansion of bank credit and money in appropriate relation to the expansion in real output. Thus, the movements of bank credit and money, along with tendencies in interest rates, are also

key indices of the monetary situation in the short- as well as in the longer run.

While monetary policy necessarily influences the net reserve position of banks, this position in the short run is also much affected by bank responses to the many cross currents that stem from the interplay of diverse market forces. For short-run interpretation, therefore, the net reserve position of the banking system may not always prove to be a reliable index of reserve banking policy. It is only one index of the direction of policy, and it is not always or necessarily the most important one.

CHAPTER XIV

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 U.S. Government.*

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 U.S. Government, and the public. This chapter describes the principal service functions of the Federal Reserve.

The annual volume of service operations performed by the Reserve Banks for the banking system and the Treasury runs into huge figures, as the table on the next page shows. In 1959 these Banks handled one trillion dollars of checks and transferred nearly two trillion dollars of funds. Both the composition and the volume of these operations vary considerably with short-term fluctuations in the level of production, trade, and prices. Over the half century of the Federal Reserve System's existence, they

have grown rapidly as the financial resources of the nation have expanded.

VOLUME OF SELECTED FEDERAL RESERVE BANK OPERATIONS
1959

Type of operation	Number of pieces handled (thousands)[1]	Amounts handled (thousands of dollars)
Discounts and advances	26	105,058,505
Currency received and counted:		
Paper currency	4,631,081	30,730,461
Coin	9,929,912	1,022,660
Checks handled:		
Postal money orders	279,939	5,078,641
U.S. Government checks	393,860	106,724,118
All other[2]	3,257,839	1,130,235,860
Transfers of funds	2,695	1,882,069,626
Issues, redemptions, and exchanges of U.S. Government securities	196,063	545,489,154

[1] Packaged items handled as a single item are counted as one piece.
[2] Exclusive of checks drawn on the Federal Reserve Banks.

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 in day-to-day transactions, drawing on them for making payments and replenishing them with funds that are received. For example, entries are made in these accounts as member banks obtain currency (paper money and coin) to pay out to their customers or as they redeposit currency in excess of the amount needed for

circulation, and as checks are collected and cleared. Other entries arise as Treasury deposits are transferred from member banks to the Federal Reserve Banks, or as funds are transferred by telegraph for various purposes, or as a bank borrows from, or makes repayment to, a Federal Reserve Bank. Various types of transactions are described in subsequent paragraphs.

The Reserve Banks must record all transactions and strike a daily balance for the reserve account of each member bank. As explained in Chapter II, the average balance that a member bank must maintain as a required reserve is related to its deposits.

Distributing Currency

There are two principal ways by which any individual gets paper money and coin. He may draw it out of his bank and have it charged to his account, or he may receive it as payment for his services or his merchandise. In the latter event, the currency received has usually been drawn out of a bank by someone else.

As was shown in Chapter IX, 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. 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 that the people in their communities will want. When they need to replenish their supplies, member banks order currency from the Reserve Banks and have 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 paper money and coin on hand to meet this demand. This includes both Federal Reserve notes, which are Reserve Bank liabilities, and Treasury currency — silver certificates, United States notes, and coin. A Reserve Bank pays for currency obtained from the Treasury by crediting the Treasury's deposit 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 their reserve accounts. The Federal Reserve adjusts its own credit operations so that the outflow and return flow of currency may take place with minimum tightening or easing effects on the general credit situation.

Until 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 demands for currency could not always be met promptly. This was the case in the panic of 1907. The experience of that year, as already noted, 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

retires surplus currency from circulation 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 larger than those 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 sends the check (together with other checks) to the Federal Reserve Bank of Boston for credit in its reserve account. The Boston Reserve Bank sends the check 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 own reserve account at the San Francisco Reserve Bank. The Federal Reserve Bank of San Francisco thereupon credits the Federal Reserve Bank of Boston.

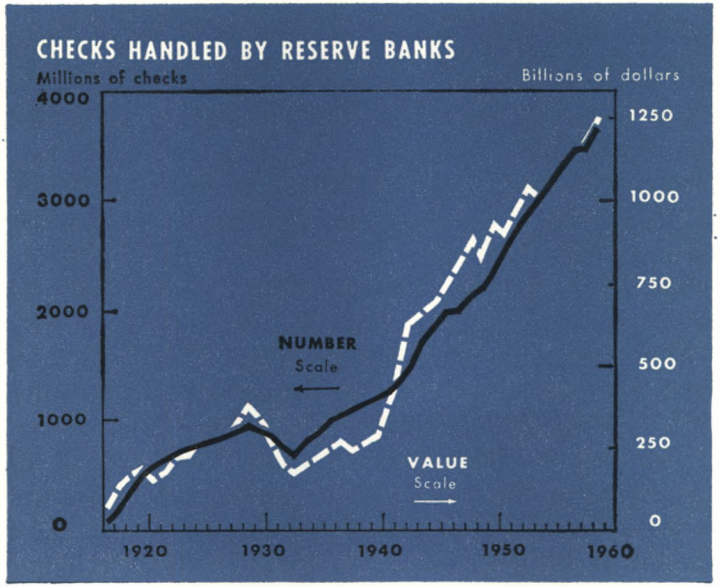
Because promptness in collecting checks is important, the Federal Reserve Banks extend to member banks hav-

ing a substantial volume of checks payable in other Federal Reserve districts the privilege of sending such checks directly to other Federal Reserve Banks for collection. The Hartford bank, therefore, might have forwarded the $1,000 check directly to the Federal Reserve Bank of San Francisco for collection, at the same time informing the Federal Reserve Bank of Boston of its action. On the basis of this information the Federal Reserve Bank of Boston would then have credited the Hartford bank's reserve account just as if the check had been sent through the Boston Bank.

The volume of checks handled by the Federal Reserve Banks has grown rapidly over the years, as the following chart shows. During 1959 the number of items exceeded 3.7 billion, amounting to $1,237 billion. Many other checks are collected by city correspondents. For checks that originate locally, banks collect through their local clearing houses or by presenting the checks directly to the banks on which they are drawn. In most cases, however, the settlement or payment for checks on member banks is made, directly or indirectly, through their reserve balances with the Federal Reserve Banks. Thus, the facilities of the Reserve Banks aid in clearing and collecting checks, whether they originate locally or 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 comprise all member banks and those nonmember banks that have agreed to remit at par for checks forwarded

to them by the Federal Reserve Banks for payment. As of mid-1960 more than 90 per cent of all commercial banks and branches, accounting for about 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. Both commercial banks and the Federal Reserve Banks have participated in this development. By doing so, they have improved the means of paying for goods and services and of settling monetary obligations; they have also reduced the cost to the public of making payments and transferring funds. Ways to achieve further improvements, in-

cluding the application of high speed electronic equipment, are under continuous consideration.

In addition to checks, the Federal Reserve Banks 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. Each Reserve Bank has a share in it. 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 more than $5 billion of transfers and payments are made through this Fund. These are for the most part settlements for checks collected, transfers of balances for account of member banks and their customers, and transfers for the U.S. Treasury.

The cost of clearing and collecting checks and of supplying currency and coin is a major part of Federal Reserve Bank expenses. The Reserve Banks provide these services for member banks and the public 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 U.S. Treasury, handle much of the work entailed in issuing and redeeming Government obligations, and perform numerous other important fiscal duties for the U.S. Government.

The Government 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.

When the Treasury offers a new issue of Government securities, 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, most of these payments are made initially to member and nonmember banks and are kept in Treasury tax and loan accounts at these banks.

Each Federal Reserve Bank administers for the Treasury the tax and loan deposit accounts of the 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 enough Government securities or other acceptable collateral to secure fully the balance in the account.

For the convenience of the Treasury and also for the convenience of investors in Government securities, it is necessary to have facilities in various parts of the country to handle public debt transactions. The Federal Reserve Banks furnish these facilities. They redeem Government securities as they mature, make exchanges of denomina-

tions or kinds, pay interest coupons, and do a number of other things involved in servicing the Government debt. In addition they issue and redeem U.S. savings bonds and service the banks and other financial institutions designated as issuing and paying agents for such bonds.

Another part of the fiscal agency activities of the Federal Reserve Banks is their work in connection with the so-called "V-loan program." This program, authorized by the Defense Production Act of 1950 and implemented by Regulation V of the Board of Governors, is an arrangement to assist competent contractors and subcontractors who lack sufficient working capital to undertake defense contracts for the production of essential goods and materials. For this purpose the Departments of the Army, Navy, Air Force, Commerce, Interior, and Agriculture, the General Services Administration, the National Aeronautics and Space Administration, and the Atomic Energy Commission are authorized to guarantee loans made by commercial banks and other private financing institutions, and the Federal Reserve Banks act as fiscal agents for the guaranteeing agencies in connection with such loans.

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 U.S. 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 U.S. Treasury in gold and foreign exchange transactions. It acts as depositary for the

International Monetary Fund, the International Bank for Reconstruction and Development, and other international organizations. It also receives deposits of foreign monetary authorities and performs certain incidental services as their correspondent. These services include handling short-term investments and holding gold under earmark.

All the Federal Reserve Banks participate in foreign accounts carried on the books of the Federal Reserve Bank of New York. In these matters the New York Reserve Bank 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 international organizations.

Preparedness for National Defense

In 1956 the Board of Governors was assigned responsibility for the development of national security preparedness measures relating to bank credit and monetary policies. In cooperation with the Department of the Treasury (including the Comptroller of the Currency), the Federal Deposit Insurance Corporation, and others, it was also assigned responsibility for national security preparedness programs relating to the operation of the banking system. These planning responsibilities of the Board of Governors are a part of the over-all military and nonmilitary defense program of the Government to assure continued improvement in the nation's readiness to meet economic and financial needs related to any emergency.

SELECTED FEDERAL RESERVE PUBLICATIONS

Board of Governors

Annual Report. (No charge.)

Federal Reserve Bulletin. Monthly. (Subscription price, $6.00 a year or 60 cents a copy; foreign mailing, $7.00 a year or 70 cents a copy. Group subscriptions in the United States for 10 or more copies to one address, 50 cents per copy per month, or $5.00 for 12 months. Reprints of selected articles are available free of charge upon request.)

Federal Reserve Chart Book on Financial and Business Statistics. Monthly. Annual subscription includes one issue of Historical Supplement. (Subscription price, $6.00 a year or 60 cents a copy; in quantities of 10 or more copies of the same issue for single shipment, 50 cents each; foreign mailing, $7.00 a year or 70 cents a copy.)

Historical Supplement to Federal Reserve Chart Book. Issued annually in September. Subscription to monthly chart book includes one issue of Supplement. (60 cents a copy; in quantities of 10 or more for single shipment 50 cents each; foreign mailing, 70 cents each.)

All Bank Statistics, 1896-1955. April 1959. 1,229 pages. ($4.00 a copy.)

Banking and Monetary Statistics. November 1943. 979 pages. ($1.50 a copy.)

Debits and Clearing Statistics and Their Use. (rev. ed.) May 1959. 144 pages. ($1.00 a copy; in quantities of 10 or more for single shipment, 85 cents each.)

Federal Funds Market. A Study by a Federal Reserve System Committee. May 1959. 111 pages. ($1.00 a copy; in quantities of 10 or more for single shipment, 85 cents each.)

The Federal Reserve Act, as amended through December 31, 1956, with an Appendix containing provisions of certain other statutes affecting the Reserve System. 385 pages. ($1.00 a copy.)

Flow of Funds in the United States, 1939-53. December 1955. 390 pages. ($2.75 a copy.)

INDUSTRIAL PRODUCTION — 1959 REVISION. July 1960. 229 pages. ($1.00 a copy; in quantities of 10 or more for single shipment, 85 cents each.)

MONETARY POLICY AND MANAGEMENT OF THE PUBLIC DEBT: A SELECTED BIBLIOGRAPHY. This list (mimeographed) is revised or supplemented annually. (No charge.)

TREASURY-FEDERAL RESERVE STUDY OF THE GOVERNMENT SECURITIES MARKET. Part I. July 1959. 108 pages. Part II. February 1960. 159 pages. Part III. February 1960. 112 pages. (Individual books $1.00 each; set of 3 books $2.50.)

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

In addition to the publications listed, the Board issues periodic releases, other 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.

Federal Reserve Banks

CHICAGO

Workbook on Money and Bank Reserves. Text and "T account" description of the money creation process and the factors affecting member bank reserves. 1960. 32 pages. (No charge.)

MINNEAPOLIS

Your Money and the Federal Reserve System (rev. ed.) An illustrated elementary discussion of the work of the Federal Reserve System. 1957. 20 pages. (No charge.)

NEW YORK

Deposit Velocity and its Significance, by George Garvy. November 1959. 88 pages. (60 cents a copy; 30 cents a copy on orders from educational institutions.)

Federal Reserve Operations in the Money and Government Securities Market, by Robert V. Roosa. July 1956. 105 pages. (No charge.)

Foreign Central Banking: the Instruments of Monetary Policy, by Peter G. Fousek. November 1957. 116 pages. (No charge.)

Monetary Policy Under the International Gold Standard, 1880-1914, by Arthur I. Bloomfield. October 1959. 62 pages. (50 cents a copy; 25 cents a copy on orders from educational institutions.)

Money: Master or Servant? An explanation in nontechnical language of the role of money in our economy. May 1955. 48 pages. (No charge.)

The Money Side of "The Street," by Carl H. Madden. An account of the workings of the New York money market. September 1959. 104 pages. (70 cents a copy; 35 cents a copy on orders from educational institutions.)

The New York Foreign Exchange Market, by Alan R. Holmes. March 1959. 54 pages. (50 cents a copy; 25 cents a copy on orders from educational institutions.)

PHILADELPHIA

EXERCISES IN THE DEBITS AND CREDITS OF BANK RESERVES. Exercises, in simple "T account" form, indicating the essential nature of transactions affecting bank reserves. March 1955. 16 pages. (No charge.)

45 YEARS OF THE FEDERAL RESERVE ACT. [1959] 18 pages. (No charge.)

THE QUEST FOR STABILITY. Five essays describing efforts to achieve an efficient monetary system in the United States. 1954. 54 pages. (No charge.)

WEEKLY FINANCIAL BAROMETERS. How to interpret reports of member banks and the Federal Reserve Banks. October 1959. 48 pages. (No charge.)

RICHMOND

READINGS ON MONEY. A discussion of the nature of money and the processes of its creation and circulation. 1955. 47 pages. (No charge.)

Each Federal Reserve Bank also publishes a monthly review of credit and business conditions which will be sent regularly to anyone requesting it. Some of the banks issue booklets on special subjects, such as agricultural credit and economic indicators.

Requests for the reviews and other Bank publications, and inquiries about quantity orders, should be sent to the Federal Reserve Banks at the following addresses:

Federal Reserve Bank of Atlanta
Atlanta 3, Georgia

Federal Reserve Bank of Boston
Boston 6, Massachusetts

Federal Reserve Bank of Chicago
Chicago 90, Illinois

Federal Reserve Bank of Cleveland
Cleveland 1, Ohio

Federal Reserve Bank of Dallas
Dallas 2, Texas

Federal Reserve Bank of Kansas City
Kansas City 6, Missouri

Federal Reserve Bank of Minneapolis
Minneapolis 2, Minnesota

Federal Reserve Bank of New York
New York 45, New York

Federal Reserve Bank of Philadelphia
Philadelphia 1, Pennsylvania

Federal Reserve Bank of Richmond
Richmond 13, Virginia

Federal Reserve Bank of St. Louis
St. Louis 66, Missouri

Federal Reserve Bank of San Francisco
San Francisco 20, California

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