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Principles and Practices of
MONEY AND BANKING



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Principles and Practices of MONEY AND BANKING

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UNIVERSITY OF PENNSYLVANIA

New York · THE MACMILLAN COMPANY · *1948*

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PRINTED IN THE UNITED STATES OF AMERICA

Preface

An old French proverb runs, "the more it changes; the more it is the same." In money and banking, as elsewhere in economic life, the two features of change and continuity are always present. The scope and magnitude of changes in financial institutions, policies and thinking have never been as great, however, as in recent years. If it would be an exaggeration to say that the past has been left entirely behind, it would be even farther from the truth to suggest that the financial system is the same today as it was even a comparatively few years ago.

This volume is designed to explain in clear and logical form the essentials of money and banking as they exist today. Primary emphasis has been placed throughout on the basic theoretical and operational aspects of the subject. The course of financial development is traced with a view toward clarifying the present working of the financial system, contributing to an understanding of major financial problems still before the country and assisting in evaluating proposals for future banking, monetary and fiscal modifications of the system.

The middle of the twentieth century is roughly the same

distance in time from the second great reform in the American monetary and banking system, the passage of the Federal Reserve Act, as the end of the nineteenth century was from the first major reform, the establishment of the National Banking System. Accordingly, less attention than is customary in books of this sort is devoted to the history of money and banking before 1914, and greater attention to developments since that time. In particular, the changes resulting from the financing of the first and second World Wars and the sweeping reforms introduced in the inter-war period are examined in considerable detail. Inflation and deflation, the national debt and interest rates are treated not as isolated problems but in terms of their relation to money and banking. The concluding chapters provide a brief introduction to the major institutions, problems and practices of international finance.

Purely factual and descriptive material has been held to a minimum and as far as possible has been presented in the form of charts and tables. In discussing the financial organization of this country, primary emphasis has been placed on the distinctive functions performed by the various financial institutions. At the same time, I trust that nothing which is essential to a clear understanding of the American monetary and banking system and to the part it plays in the operation of the economy as a whole has been omitted.

The key to a ready comprehension of the material covered is close attention to the structural plan of the book and to the topical organization of the different sections within each chapter. The discussion of monetary and banking theory is introduced step by step in order, first of all, to facilitate an understanding of financial institutions and policies, and, secondly, so that a knowledge of the application of fundamental principles may render the theories themselves clearer and more real. Thus the income-expenditure approach to

monetary theory is explained in a chapter by itself where it will integrate most directly with the discussion of fiscal policies. Again, the main discussion of international monetary principles has been deferred to the part of the book where international financial institutions and policies are described. The level of analysis assumes that the student has completed an introductory course in general economics.

For a number of years I have served as economist for The Penn Mutual Life Insurance Company and for a shorter period of time as economist for the Fidelity Philadelphia Trust Company. Various parts of the book have been strongly influenced by the experience gained in these positions. That experience has also demonstrated repeatedly the extraordinary practical value of abstract economic analysis in the current affairs of business. Ideas embodied in these pages, which should be part of the standard intellectual equipment of every student of money and banking, have proved of great financial benefit to financial institutions applying them.

It is my sincere hope that this book will help to bridge the gap, which is all too frequently encountered, between the work of the college classroom and that of financial institutions. I wish to acknowledge my personal appreciation to John A. Stevenson, President of The Penn Mutual Life Insurance Company, for the insight he has given me into what can be accomplished, through independent leadership, in applying the fruits of theoretical analysis to the practical conduct of business.

Thanks are due the Social Science Research Council for a grant-in-aid which helped to facilitate some of the research work upon which this volume is based. The National Bureau of Economic Research has kindly given permission to use material from my writings previously published by them. Similar thanks are due the *Quarterly Journal of Economics*

and the *American Economic Review*. Friends at the Federal Reserve Bank of Philadelphia and on the staff of the Board of Governors in Washington have given generously of their time and knowledge. I am indebted most of all to colleagues, past and present, at the University of Pennsylvania who have taught from this book in all stages of its development. For imperfections which remain despite their assistance, I accept sole responsibility.

Philadelphia
May 15, 1948

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A ~ The Framework of Money and Banking

1 Basic Monetary and Banking Concepts

The study of money and banking is made more difficult by the extent of the interrelationships and ramifications among the principles, institutions and laws with which the subject is concerned. It is only when the financial system can be seen as a whole that it can be seen clearly. Yet there is no way of acquiring a knowledge of the system by distinct and easy stages. Money cannot be well understood until we understand banking, but the study of money cannot wait until we have completed the study of banking because it is just as true that banking cannot be fully understood until we understand money. Similarly, in explaining commercial banking, constant reference has to be made to the Federal Reserve Banks, even though the Federal Reserve Banks have not yet been described. On the other hand, in discussing the Federal Reserve Banks it is necessary to refer continually to the commercial banks. Thus the only alternative to speaking about the Federal Reserve Banks in advance of a clear explanation of them would be to speak of the commercial banks in advance of a clear explanation of the commercial banks.

A certain amount of temporary confusion, then, is inevi-

table in the study of money and banking. Most, if not all, of this confusion will be automatically resolved as the course progresses and more and more of the different parts of the subject are taken up and given adequate treatment. The purpose of the present chapter is to provide a brief explanation and description of some of the principal concepts, institutions and forms with which later discussion is concerned. Many of the ideas introduced at this time will be examined in considerable detail in later assignments.

Monetary Standards

The test of what is money is wholly matter-of-fact and practical: That is money which customarily and mainly performs money functions. In conformity with the usage observed in official United States statistics, the term "currency" will be confined to types of circulating medium other than bank deposits. It includes, specifically, minor coins, silver dollars and various kinds of paper money such as Federal Reserve notes, silver certificates and greenbacks (United States notes). It does not include the gold certificates now used exclusively as reserves of the Federal Reserve Banks. The broader term "money," on the other hand, will be applied to all forms of circulating medium and bank reserves. It embraces currency, reserve money (such as gold certificates), gold itself and demand deposits, but it does not include savings deposits.

When one type of money serves as the basis for the monetary system and other kinds of money are customarily related to it, through convertibility or otherwise, it is known as standard money. To be on a particular monetary standard is to have that form or type of money as the standard money. Nominally, the effect of adopting a particular type of monetary standard is to make that the basis for measuring value, in the same sense that the adoption of the foot

or the pound establishes it as the basis of measuring distance or weight. As will be seen later, however, monetary standards have never succeeded in providing a measure of value in any such constant, absolute manner as this. There are two main types of monetary standards—commodity standards and non-commodity or paper standards. Each of these types of standards may be divided into subclasses as follows: [1]

Commodity Standards	Monometallism Bimetallism Symmetallism Composite commodity money
Paper Standards	Free Controlled

COMMODITY MONEY

The best known monometallic standard is gold, though many other metals (as well as other substances) have served, at one time or another, as the monetary standard. The general principles of the gold standard are representative of any monometallic standard and contribute to an understanding of other monetary standards as well. To be "on the gold standard" is to maintain equality between the value of the currency and a given weight of gold in a free market. The international gold standard is said to exist when countries maintain interconvertibility between currency and gold and allow the free export and import of gold. By interconvertibility is meant that currency is redeemable in gold and gold is exchangeable for currency, each at a fixed ratio between gold and currency. The effect of interconvertibility is to maintain equality of value between currency and gold within the country; the effect of free export and import

[1] This schedule includes well known actual and proposed monetary standards but is not offered as all-inclusive.

of gold is to maintain equality between the value of gold in the country and outside the country. These two conditions constitute the requirements of the international gold standard for the simple reason that when they are observed the identity in value between currency and gold in the world market is assurred, while without them a continuing identity in value is improbable if not impossible.

The different types of gold standard differ primarily in respect to the provisions governing interconvertibility between currency and gold. In the case of a gold coin standard such as existed in this country down to 1933, currency was was convertible into gold in quantities as small as the smallest gold coin available. Under the gold bullion standard, currency is convertible into gold only in large amounts. There may be the further qualification that only certain specified groups, such as foreign central banks, may exercise the privilege of redemption in gold.

By the Gold Reserve Act of 1934, the Secretary of the Treasury, subject to approval by the President, was given unusual power in the administration of the gold standard. He was authorized to "purchase gold in any amounts, at home or abroad . . . at such rates and upon such terms and conditions as he may deem most advantageous to the public interest." [2] At one time discretionary provisions of this character would have been regarded as inconsistent with adherence to a true gold standard. Nevertheless, the 1934 Act is generally accepted as having placed the United States on a "modified" gold bullion standard.

Under the gold exchange standard, money is convertible not into gold coin or bullion but into drafts payable in the currency of some country which is on the gold standard. Since foreign exchange payable in gold is assumed to be

[2] *The Federal Reserve Act* as amended to November 1, 1946, Washington, Federal Reserve, 1947, Appendix, p. 204.

identical in value with gold, the gold exchange standard is accepted as a genuine form of the gold standard.

Bimetallism exists when two metals are standard money at a fixed value in terms of one another. The legally established ratio between the two metals is known as the mint ratio. Under symmetallism the standard consists of a single metallic unit in the form of a compound of different metals in legally established proportions. Composite commodity money is similar to symmetalism, but the standard unit, instead of consisting of metals only, is made up of an assorted list of staple commodities. As in the case of symmetallism, these different commodities are combined in fixed legal proportions. Identity between the value of currency and the standard unit or units would be maintained under bimetallism, symmetallism and composite commodity money as it is under the gold standard, namely, by means of interconvertibility and free export and import of the standard commodity or commodities. Neither symmetallism nor composite commodity money has actually been applied in practice.

NON-COMMODITY OR PAPER MONEY

In the case of a country on a paper standard, money is not convertible on fixed terms into any specific commodity or collection of commodities. Such a standard is sometimes called an *inconvertible* paper standard, an expression which is rather redundant since the term "paper standard" necessarily implies inconvertibility. A *free* paper standard is different from the controlled type in that exchange dealings between that currency and foreign currency are relatively unrestricted; exchange rates are allowed considerable latitude to fluctuate, even though the government or some other official organization may undertake to exercise a steadying influence, as through the operations of an ex-

change stabilization fund. In the case of a *controlled* paper standard, exchange dealings, and consequently exchange rates in terms of foreign currencies, are strictly regulated. During the thirties when the German reichsmark was a controlled paper standard currency, international economic transactions such as foreign trade, travel and capital movements were subject to the most rigid and arbitrary regulations. Instead of a single free market quotation for the reichsmark in terms of the dollar, there were a dozen or more different quotations, each applying to a particular type of transaction and all established by bureaucratic methods.

Differences in the various forms of monetary standards, actual or proposed, are designed either to accomplish results which are regarded as advantageous or to avoid undesirable features of other standards. The number of standards which have been tried and the unending flood of plans for monetary reform reflect the widespread lack of satisfaction with the manner in which monetary functions have been accomplished.

Legal and Administrative Organization of Money and Banking

The Constitution of the United States gives Congress the power to control and regulate the issue of money. This provision of the Constitution has not been clearly or strictly construed. Congress, it is true, has passed certain laws for the issue of particular types of money and has enacted other laws specifying the legal standard. On the other hand, Congress granted authority to the President which enabled him to establish a paper standard during the War Between the States and again in 1933, and it established banking laws whereby private institutions were given the power to issue certain types of circulating medium.

The Treasury Department embraces the Director of the Mint who is in charge of the minting of coins and the Bureau of Printing and Engraving which manufactures paper money. Also under the Treasury is the Comptroller of the Currency whose principal duties are those of chartering and supervising all of the banks licensed under the National Banking Act.

The Federal Reserve System is a structurally independent organization under the general administration of a board of seven members whose headquarters are in Washington. It comprises twelve semi-governmental Federal Reserve Banks situated in strategic centers throughout the country. The twelve Federal Reserve Banks are the American equivalent of a central bank and correspond to the Bank of England or the old German Reichsbank. The Federal Reserve System embraces a large proportion of the country's commercial and savings banks; the so-called "member banks" maintain close and vitally important relations with the Federal Reserve Banks.

The Federal Deposit Insurance Corporation was established by the Emergency Banking Act of 1933 and was changed to its present form by legislation enacted two years later. It is federally organized and administered and embraces approximately 95 per cent of all commercial banks. The insured banks hold over 98 per cent of all deposits in commercial banks, though less than half of these deposits are covered by insurance. Any deposit in an insured bank is guaranteed against loss up to $5,000 and all deposits in insured banks (including amounts in excess of the $5,000 limit) are subject to an annual assessment of 1/12 of 1 per cent. In addition to taking over the affairs of insured banks in case of failure and handling liquidation proceedings, the F.D.I.C. assumes a considerable part of the responsibility for examining and supervising insured banks.

The different states charter and supervise banks other than those included in the National Banking System. Banking requirements established by state laws vary widely, the standards of some of the states being virtually as high as those imposed by the federal authorities, while those of other states are considerably lower. There are thus fifty-one different banking authorities in the United States, the forty-eight states plus the three federal organizations. A large number of the country's banks are under three separate jurisdictions, the three federal authorities (Comptroller of the Currency, Federal Reserve System and F.D.I.C.) or two federal (Federal Reserve System and F.D.I.C.) and a state.

Commercial Banks

The thousands of individual banks whose dealings are mainly with the general public consist, for the most part, of the "commercial" banks. Their business is primarily that of holding deposits and making loans and investments. Deposits constitute their principal liability and loans and investments comprise practically all of their earning assets.

DEPOSITS

Classified on the basis of use, deposits are of two types, demand deposits and time deposits. Demand deposits, which give the owner the right to demand currency at any time, are employed principally as a means of making payments through the drawing of checks. Time deposits, including savings deposits, are funds left for safekeeping and ordinarily yield a low rate of interest to the depositor; they are not used as the basis for drawing checks. Classified on the basis of origin, deposits are of the two types, primary and derivative. Primary deposits arise through the deposit of currency or checks. Derivative deposits originate when the

proceeds of a loan or investment are placed at the disposal of the borrower in the form of a credit to his deposit account. As will be seen later, the difference between primary and derivative deposits is highly important from the standpoint of bank operations, but once in existence the two are indistinguishable as regards form or use.

SIMILARITY OF BANK NOTES AND DEMAND DEPOSITS

In the early history of this country, bank notes constituted the principal form of bank credit, but today only the Federal Reserve Banks have the power to issue notes.[3] For commercial banks the holding of demand deposits has taken the place once occupied by the issue of circulating notes. Legally and economically, bank notes and demand deposits are essentially similar. A circulating note issued by a bank, such as those now originating with the Federal Reserve Banks, is a promise to pay a specified sum of money upon demand. Such a note may circulate for long periods of time, being used to exchange goods and pay debts, without once returning to the issuing bank for fulfillment of the bank's promise to redeem it in some other kind of money. Likewise, in the case of a bank whose demand deposits give it a large commitment to pay money on demand, a large volume of payments may be effected by means of checks drawn against the deposits. But if the movement of checks in and out of the bank is fairly even, all this may be accomplished without the bank being called upon at any time to pay out more than an insignificant proportion of the other types of money which it has promised it would pay if requested.

The legal obligation of the bank to pay money on demand

[3] Bank notes, which are a liability of the issuing bank, are not to be confused with the notes of others which banks receive and hold as assets when extending credit to borrowers.

and the economic probability that, for the most part, the obligation will not materialize are substantially the same in the case of bank notes and demand deposits. The chief distinction between them is in physical form: bank notes are formally engraved or printed certificates made out for designated amounts. Demand deposits, on the other hand, are merely a book entry acknowledging a commitment to pay. They circulate by means of checks made out on printed forms in amounts and at times determined according to the convenience of the depositor. While the matter of form might seem to be of relatively minor consequence, it accounts in large measure for the fact that the privilege of issuing bank notes was long subject to strict regulations and finally was taken away from banks entirely, while the privilege of establishing demand deposits against which check money could be drawn has been accorded to banks with great freedom. Legislators have been fully conscious that bank notes were money, but with few exceptions the monetary character of demand deposits has been recognized obscurely or not at all.

LOANS AND DISCOUNTS

From the standpoint of the banks, the chief importance of deposits lies in the fact that their amount is related directly to the amount of loans and investments a bank can hold. The interest which is derived from loans and investments constitutes the main income of banks. Thus the volume of deposits is closely connected with the level of bank income. Credit instruments, particularly those in the form of a draft calling on someone to pay a specified sum of money at some time in the future, are likely to take the form of a non-interest bearing obligation to pay a sum of money at some future time. When a bank acquires such an instrument, it customarily calculates the proceeds

by subtracting interest, from the date of purchase to maturity, from the face amount. This process is known as "discounting" and a private obligation of this character is ordinarily classified among the assets of the bank under the heading of loans and discounts. Certain Treasury obligations are also bought on a discount basis but are listed under investments along with interest-bearing bonds.

The practice of discounting results in the payment of a rate of interest on the actual proceeds of the transaction which is slightly higher than that nominally paid. This may be seen by comparing two credit instruments due in sixty days, one of them bearing interest at 6 per cent and the other non-interest bearing:

	INTEREST-BEARING LOAN	DISCOUNT
Value at maturity	$1,010	$1,000
Interest charged by bank	10	10
Proceeds to borrower	1,000	990
Effective rate of interest	6%	6.04%

The reason why discount entails a higher effective rate than simple interest is that the actual proceeds are less because of the fact that interest is collected in advance. In entering the value of a loan or a discount on the books of the bank, either one is figured at its face value. In the example given, either would be entered at $1,000 even though the present value of the discounted bill is only $990. The effect of this practice is to *overstate* the current value of discounted obligations among the assets of banks. On the other hand, the practice of entering interest bearing notes at par is to *understate* their current value, since their worth gradually rises above par as a result of the accumulation of interest due.

To a certain extent, the inaccuracies inherent in carrying both discounts and interest bearing loans at face value tend

to offset one another. The main justification for the policy, however, is one of practical necessity: to show current value on the books of the bank at all times would call for revaluing each asset every day, since each day alters the interest factor which is present in every earning asset. The policy of carrying assets of this character at face value is standard practice and, even though somewhat arbitrary, is fully understood and allowed for by all those concerned with banks.

Money and Prices

An important function of money—in the eyes of many, the most important function—is to serve as the unit of account or standard of value. It is in this capacity that money serves as the basis of the price system. Prices, by the same token, provide the measure of the value of money. Since there are many different sets of prices—commodity prices, wholesale prices, retail prices, cost of living—it follows that there are many different measures of the value of money. Or one might say that money has value in different uses and each use has its own basis of measurement, wholesale prices measuring the value of money in wholesale trade, retail prices its value in retail trade, and so on.

PRICE MOVEMENTS

Whatever measure one chooses to employ, rising prices mean a decline in the value of the monetary unit and falling prices a rise in the value of the monetary unit. A substantial rise in prices (decline in the value of money) is known as inflation, and a substantial fall in prices (rise in the value of money) deflation. Changes in the level of prices—and at the same time, of course, in the value of money—are the result of a great variety of factors which cannot be explored at this time. This much, however, needs

to be said: prices are an expression of a value relationship between money and goods, including commodities, services and property. The relation existing at any given time is strongly influenced, therefore, by the amount of money which is offered relative to the volume of goods offered. This is a simple application of the familiar principles of supply and demand. The dollar amount of money offered for goods and services depends upon both the physical quantity of money in existence and the rapidity with which it circulates, i.e., what is generally referred to as the rate of turnover or "velocity" of money. So it is that an increase in the quantity of money or the rate at which it is used tends to raise prices, and a decline in the quantity or velocity of money relative to the volume of trade tends to depress prices.

CHANGES IN BUSINESS ACTIVITY AND THE MONEY SUPPLY

The ability of the supply of circulating medium to adjust itself to changes in the volume of trade without any material alteration in the general level of prices is often referred to as "monetary elasticity." A number of different types of change in business activity are to be distinguished and all of them are important from the standpoint of monetary behavior. *Secular* changes (from the Latin word "*saecula*" meaning century) are of long-term character, extending over a period of several decades. *Cyclical* changes are those occurring within the period of a business cycle. *Seasonal* changes are of a regularly recurring character, taking place within the period of a calendar year, such as those related to alternations of spring and harvest or arising out of the concentration of expenditures at Christmas and Easter and of salary payments at the middle and end of the month. *Emergency* or sporadic changes are of an uncertain and irregular character and include those related to some

special event such as an earthquake, a general strike or war. Adjustments of the circulating medium to these various types of business change are referred to respectively as secular, cyclical, seasonal and emergency elasticity of the money supply.

CHANGES IN THE VALUE OF THE MONETARY UNIT

A number of different terms are applied to changes in the value of the monetary unit. While the distinction between these expressions is not always sharply defined, the differences to which they relate are important to a clear understanding of monetary behavior. A general rise in prices, or *inflation,* is synonymous with a decline in the purchasing power of money in terms of commodities and services. The word *depreciation* ordinarily refers to a decline in the quoted value of one monetary unit relative to another monetary unit or to some monetary substance such as gold. The fall in the value of the dollar in terms of the pound sterling and gold following our departure from the gold standard in 1933 was a case of currency depreciation, in this instance depreciation of the dollar. *Devaluation* consists of taking formal action to set a new and lower official quotation of one currency in terms of other currencies or of some monetary substance such as gold. The action of the United States government in changing the official ratio between the dollar and gold from $20.67 an ounce to $35 an ounce constituted devaluation of the dollar. It was, as the word "devaluation" literally indicates, a matter of placing a new and lower value on the dollar.

Policies Relating to Money and Banking

At the time when economic policy in general was thought of primarily in terms of laissez faire, the monetary system was likewise expected to operate in a more or less automatic

manner. Support for the international gold standard was derived largely from the fact that it was believed to provide the basis for such an automatic system. In the course of time, monetary standards here and abroad have been brought under increased control. It is now widely recognized that the international gold standard, even in its heyday before 1914, was to some extent a managed system under the guidance of Great Britain. Although the so-called "free banking system" was an American invention, banking remained far from free; it has been subject to a greater degree of legislative control than the monetary standard.

During and after the First World War, monetary management was carried to considerable lengths. Most of the policies which were adopted at that time centered around the foreign exchange rate, i.e., the quotation for one currency in terms of other currencies. The measures employed extended from attempting to maintain rigidly ("peg") the quotation of one currency in terms of another to the opposite policy of currency depreciation where the purpose was to gain a competitive advantage in foreign markets by establishing a low foreign exchange value of one country's currency relative to foreign currencies. Policies of this character were sometimes resorted to because of a misguided desire to stimulate exports as an end in themselves, and sometimes in a spirit of desperation when other methods of economic revival had proved unavailing. They were both cause and effect of a state of demoralization in international trade and finance. During the thirties, many countries subjected foreign exchange transactions to extreme forms of administrative regulation, and in the period of the Second World War the control of foreign exchange became almost universal.

More moderate methods of control over the monetary and banking systems have been exercised by the Federal

Reserve System since its establishment in 1914, and were employed even before that time by other central banks, notably the Bank of England. The various forms of central bank policies will be examined in detail at a later point. During the thirties and even more in the forties, increased reliance came to be placed on fiscal policies as a means of influencing business activity. These measures relate to the financial operations of the Treasury and may include taxation, public expenditures and the management of the public debt.

We have moved far indeed from the simple conceptions once held of a largely automatic system of money and banking. The departure from these earlier views has been characterized by a changed attitude with respect to the duties which may appropriately be assumed by the State, and by a great increase in the number and variety of methods available for the discharge of these duties.

2 ~ Money and the Monetary System

During the War Between the States when there was a great dearth of small change in the North, many individual businesses and organizations had copper one-cent pieces minted to their order which were then paid out to circulate widely throughout the country. These coins bore various designs, some advertising a merchant's wares, some urging the election of a particular candidate for office and others bearing nothing more than a patriotic phrase or symbol. While they were of the shape, size and material of the one-cent pieces issued by the government, they were obviously based on no legal right of issue, they carried no promise to pay and they were not legal tender. Nevertheless, they were accepted without question in current transactions and, in general, performed all the services ordinarily performed by one-cent coins. Because they did the work of money, they clearly must be considered to have been money.

If a particular unit is commonly employed to state values or exchange goods and services, then it is money, whatever its legal or physical characteristics. It has sometimes happened that one unit or substance was used for expressing values and another for transferring goods. Under those cir-

cumstances both units were money, though the first could be more exactly defined as a money of account and the second as a medium of exchange. A more common division of function is that between standard money and medium of exchange; in the United States gold is the standard of value but is not used as a medium of exchange, while silver dollars, greenbacks, Federal Reserve notes and checks are common media of exchange but do not qualify as the standard of value. The test of what is money is independent of matters of form and substance; it turns on nothing more than whether or not the commodity in question customarily performs what are regarded as the essential functions of money.

Distinctive Features of Money

The fact that the test of what is money turns solely on what money does is the key to a number of features which distinguish money from other economic goods. These features are peculiar to money alone.

THE USEFULNESS OF MONEY

Except for a miser or for a bank which must have it in order to meet certain legal requirements, money is of use to the holder as he gets rid of it. It serves its ultimate purpose not by being consumed, like food, or by being worn, like diamonds, but by being exchanged for something else. It follows that the value of money is a derived, reflected value and is not inherent in the money substance itself. Consequently, the maintenance of the value of money turns on being able to get rid of it—for goods, services and debts—without significant loss. If that condition is met, money will have value even though as a commodity it is worthless. Conversely, the only fundamental justification for having money based on or consist of a valuable commodity is a

belief that such a requirement will help to assure that the condition of being able to exchange it without loss will continue to be satisfied.[1]

MONEY AND WEALTH

Money, which is the most desired of economic goods and the very symbol of wealth, is not the substance of wealth. An increase in the quantity of money in a country does not necessarily represent an increase in the country's wealth. More money results in higher prices or greater liquidity but it does not, except possibly through some indirect process, mean greater wealth. Except during an intermediate period of transition, in fact, the absolute amount of money is of relatively little consequence. The chief difference between having a relatively small or relatively large amount of money would be that in the one case prices would be calculated in terms of a large unit of account, as in England, and in the other case in a small unit, as in Switzerland.

THE "PRICE" OF MONEY

Money, which is the basis for pricing all other economic goods, itself has no price; or perhaps it would be more accurate to say that while other commodities have one common basis of pricing, namely money, money has an infinite number of price bases, i.e., all goods and services. To measure the value of other commodities, we can turn to money, but to measure the value of money, we must resort to a sample of all the other prices. Such a sample is provided by index

[1] It may be added that the usefulness of money in the discharge of various other functions than that of medium of exchange is also quite unique. No ordinary commodity, for example, can serve as monetary reserves, and money can perform its function as a standard of value without even existing in a physical (i e., commodity) sense. On the other hand, the store of value use could also be served by many other commodities. As is mentioned below, however, this is a monetary function which has now ceased to be of any general significance.

numbers where variations in the composite of a selected group of prices are shown as percentage deviations from some predetermined base. This is the customary means of measuring changes in the value of money. The fact that a change in the value of the one commodity, money, represents a change in the prices of nearly all other goods, services and contracts is the principal reason why we must have a separate theory of money instead of making it a part of the general theory of value.

MONEY AND LIQUIDITY

Money possesses the "power of universal command" over goods, services and debts. With any other economic goods we may have difficulty in finding a buyer if we wish to sell. If we wish to exchange money, on the other hand, we are certain of being able to do so. In consequence, money is the most liquid of all possessions. This is the most important single fact about money. It is one of the chief reasons why money is so useful, but it is also a major factor in the problems which arise in the functioning of the price system, such, for example, as inflation, deflation and the business cycle.

Money and the Price System

Money implies price and price implies money. When we speak of a price system, we necessarily assume money since it is in money that prices are stated. It is impossible to have a price system without money or, practically speaking, to have money without prices. The relationship between a price system and capitalism is close and direct: prices facilitate the operation of choice; choice is the essence of individualism; individualism is the essence of capitalism. A system of prices, and therefore money, is an indispensable adjunct of capitalism. It has also proved operationally indis-

pensable under Communism and Fascism, even though the logical connection is less direct. Under any system which makes use of complicated economic process the keeping of records is an absolute essential. The keeping of records would be impossible without a common unit of account such as money affords.

The overwhelming bulk of trade in the United States, measured in terms of value, is carried on by means of checks drawn against bank deposits. By the test of what constitutes money, as well as by generally accepted usage, demand deposits represent a major part of the money supply.[2] Banks perform two main functions and both are of the utmost importance in the operation of the monetary system. In the first place, they act as intermediaries between savers and borrowers. In the elaborate scheme of division of labor they perform the function of middlemen. In the second place, banks are money factories which are responsible through their operations for the larger part of all additions to the supply of money. Not only, then, do banks occupy a central place in the day-to-day operation of the financial organization, but in addition the government has largely surrendered to them the sovereign function of issuing and retiring money.

To the banks, therefore, belongs a large part of the credit for the successful functioning of the monetary system. By the same token, the most conspicuous defects in its operation, e.g., cyclical fluctuations, inflation and deflation, are likewise attributable in substantial part to faults of the banking system. In short, a study of economics and business entails a study of prices, the study of prices entails the study of money, and the study of money entails a study of banks.

[2] They are sometimes referred to as checkbook money in contrast to pocketbook money.

The Process of Monetary Development

ASSET MONEY AND DEBT MONEY

The various stages through which commodity money has passed are nowhere more clearly traceable than in the legacy they have left in the form of terms relating to money. The word "pecuniary" is derived from the word *pecus*, a reminder that in Homeric times the ox served as the monetary standard. Drachma, which originally meant "handful," is a survival of a later period in Greek history when the monetary unit was a handful of iron nails. The pound and the corresponding form in other languages, livre, lira, etc., arose when more exact measures of weight were adopted, and pound sterling (from a corruption of Easterling, the name given Hanseatic merchants in mediaeval London) signified a particularly accurate and reliable pound weight of silver.

From these terms, recalling the physical character of money, it is a long step to the expressions "bank note" and "dollar bill," for both note and bill are words relating to debt. Yet it is precisely this step which is of the greatest significance in the history of money; where all the other terms show a steady continuity in the development of commodity money, "note" and "bill" represent a sharp break with the past. They reflect a stage of monetary evolution when asset money had been left behind and debt money had emerged. For a long time, debt money retained a link with the past in the form of legal and other connections with some commodity base, usually gold. In the course of time even this connection became more tenuous. In many countries of the world debt money now stands alone without even the pretense of commodity backing.

The primary significance of the transition to debt money

lies in a simple and obvious fact. The quantity of physical assets, and therefore of any type of asset money, is subject to physical limitations. There is no such limit, on the other hand, to the amount of debt which is possible and, therefore, there is no physical limit to the possible amount of debt money. Since the nature of the money itself does not establish limits to its issue, the prevention of abuse in the issuance of money requires the exercise of restraint by the issuing authorities. For debt money to function in a tolerable manner, an absolute requirement is a responsible government in a reasonably stable economy. The classic examples of monetary breakdown—in Germany in the early twenties and in China, Greece and Hungary in the middle forties—occurred when this requirement was not met.

THE NATURE OF MONETARY DEVELOPMENT [3]

The evolution of money from its earliest beginnings has been characterized by a steady subordination of the commodity aspects of money. In its earlier stages this subordination represented a transition from the useful to the useless, e.g., from oxen or nails, both capable of immediate use, to a given weight of metal which could be used only by first fabricating it. In its later stages it involved a transition from the tangible (gold coin) to the intangible (gold certificates exchangeable for gold held in the Treasury) and ultimately from asset money to debt money.

The evolution from usable-asset money to debt money was accomplished through constant change and experimentation. For the most part the process was haphazard and accidental.[4] Legislators did not meet together and ration-

[3] Cf. F. D. Graham and C. R. Whittlesey, *Golden Avalanche*, Princeton, Princeton University Press, 1939, Chapter 12.

[4] The chief exception to this statement was the Bretton Woods Conference where representatives of different countries came together for the declared purpose of shaping a new and theretofore untried monetary system.

alize a new monetary standard. Instead, the monetary standard originated spontaneously—ox, wampum, gold, gold exchange—and then the legislators enacted into statutory law what economic forces had already decreed. Usually the laws, both here and abroad, lagged far behind events. The gold standard existed in England for a hundred years before it was accorded legal recognition. Throughout most of the history of the United States, the *de facto* monetary standard differed from the *de jure* standard: from 1792 to 1879 this country was successively on the *de facto* silver standard, the gold standard and the paper standard, but legally we were on a bimetallic standard until 1873 and then on the gold standard.

THE CHANGING FUNCTIONS OF MONEY

What stands out most prominently in the history of monetary development is not that money has become of greater or less importance as society has progressed but that certain functions of money which were of major importance at one time have declined or disappeared while other functions have become more important and entirely new functions have arisen. The store-of-value function of money, which was of great importance in more primitive communities, has come to be of little or no consequence. Today people prefer to store values in savings deposits, insurance policies or securities where the standard-of-deferred-payments function of money is of major concern. Money now occupies an importance as bank reserves which was unknown in an earlier day.

The position accorded to money and the purposes served by it have paralleled closely the economic development of society. The pastoral and manorial economies were relatively self-sufficient; because trade was limited, there was relatively little need for money as a medium of exchange.

A corollary of the heightened specialization (division of labor) which accompanied the industrial revolution was greater dependence on trade and this necessitated a greater use of money. In the present century, this process has been partially reversed by the vertical integration of industry. A giant corporation such as Ford which produces raw materials and parts going into the final product would have to buy much less than an unintegrated concern. It would be moving in the direction of becoming a self-sufficient industrial unit. As such it would have less use for money as a medium of exchange. On the other hand, the keeping of records would become vastly more complicated and with it the use of money as a unit of account would correspondingly increase in importance.

The role of money, the functions it performs and, to a certain extent, the character of the money system are determined by the character of the economic organization of which it is a part. We may think of money as something concrete—i.e., coins, currency, checks, which are physically present when the money function is discharged—and as something abstract—a unit in which accounts are expressed and which does not have to be present in any physical sense. It is a characteristic of monetary development that the growth of modern economic organization has rendered money in the concrete relatively less important and money in the abstract vastly more important than it was in the past.

The Organization of Money and Banking in the United States

MONETARY CHANGE AFTER 1914

The institutional structure of money and banking is greatly altered from what it was before 1914. Changes which were substantial during the First World War and in

the twenties were greatly accelerated in the thirties and during the Second World War. In addition, the changes in the body of monetary and banking theory are as pronounced and perhaps as significant as those which have taken place in the institutional framework of money and banking.

In 1914 the world seemed firmly established on the gold standard. While the war led to widespread departure from gold, these departures were regarded as of an emergency and temporary character. The monetary disturbances during and soon after the war merely emphasized in the public mind the importance of returning as speedily as possible to gold. The return to gold was quite general by the middle twenties, but the restored international gold standard experienced virtually complete collapse during the depressed thirties. The world found itself, toward the end of the Second World War, not only without an international standard but with no common desire to return to gold. The extent of the transformation is indicated by the fact that the only hope of finding a common monetary basis was to contrive an entirely new international system such as had never existed before. This task was accomplished at the Bretton Woods Conference in 1944.

Significant monetary changes have also occurred within the United States. As in practically every other country of the world, gold has ceased to circulate. Even gold certificates are available only to the Federal Reserve Banks. The country is on what is known as a modified gold-bullion standard, as contrasted with the former gold-coin standard. While the currency remains legally convertible into gold, the right of conversion is so restricted that private individuals and corporations are entirely unable to exercise it. Moreover, such gold movements as still take place between countries no longer govern as they once did the volume of

monetary circulation in the respective shipping and receiving countries. The gold reserves of the United States which stood at four billion dollars in 1929 were five times that amount at the end of the Second World War; they were of lighter weight, it is true, but of only slightly lower purchasing power. For many years before 1929 the United States had held under 40 per cent of world monetary stocks of gold, but in the thirties and forties the proportion stood at from three-fifths to three-quarters of the total.

The expansion in monetary circulation within the United States was hardly less extreme. From the middle of 1920 to the middle of 1939, currency in circulation outside banks increased by nearly a half, i.e., from approximately four billion to six billion dollars. In the next six years the quantity quadrupled, rising above 25 billion dollars, and the increase continued, though more slowly, after the end of the war. The bulk of outstanding currency, over five-sixths, consisted of Federal Reserve notes, suggesting that the issuance of currency had come to be largely in the hands of the Federal Reserve Banks rather than the Treasury.

THE TRANSFORMATION OF COMMERCIAL BANKING

In the quarter century from 1920 to 1945, the commercial banking system experienced two contrasting developments, a halving of the number of banks in operation and a quadrupling of total bank deposits. On the average, banks were roughly eight times as large in 1945 as they were in 1920. The institutional framework of banking had been further modified by the establishment of the Federal Deposit Insurance Corporation and by substantial changes in the scope and power of the Federal Reserve System.

Of even greater significance was a change internal to the banking system, namely, an alteration in the character of banking assets. Commercial banking entered the postwar

period with three-quarters of its earning assets in the form of obligations of the United States Treasury and a substantial proportion of the remainder consisting of loans secured by federal securities. Less than 8 per cent of earning assets were commercial and industrial loans. Even with the pronounced rise in bank loans that occurred during the reconversion period, Treasury obligations continued to dominate bank portfolios. The very name "commercial bank" had become, for the time being at least, an anachronism, a survival of an earlier stage in the development of American banking.

The consequences of this change in the character of banking are of mixed advantage and disadvantage to banks. The management problem has been simplified since no examination is required of the credit of the principal borrower, the federal government. Because payment on Treasury obligations is assured, the safety of banks has been increased. Yield per dollar of assets is low, but the volume of earning assets has so expanded that the income of banks has proved adequate as well as stable and certain. On the other hand, the concentration of so large a volume of Treasury securities in the hands of the banks exposes them to the danger that they may become the target of proposals for nationalization of banks as a means of wiping out a part of the public debt. The danger is rendered the more serious by the fact that the traditional functions of commercial banks have been greatly circumscribed. These and other effects of the revolution in commercial banking will be analyzed later in much greater detail.

FEDERAL RESERVE POLICY IN TRANSITION

Central bank powers and policies have been in process of evolution since the inauguration of the Federal Reserve System in 1914. As a result of changes introduced prin-

cipally during the two wars and in the depressed period of the thirties, the Federal Reserve System has developed far beyond what was conceived of at the time of its inception. The prominent place now occupied by Treasury securities in bank portfolios has given a new and major importance to the security market, especially the market for government securities. Some of the traditional methods of central bank operation have largely lost their effectiveness and new methods have had to be devised.

The process of adapting Federal Reserve policies to changed conditions has by no means been fully effected. Nevertheless, the adaptability of the Federal Reserve has proved one of its most conspicuous characteristics, as well as one of the points of sharpest contrast with the National Banking System which preceded. There is no reason to doubt that the tradition for progressive development of the Federal Reserve System will be maintained.

THE MONETARY STRUCTURE OF THE UNITED STATES TODAY

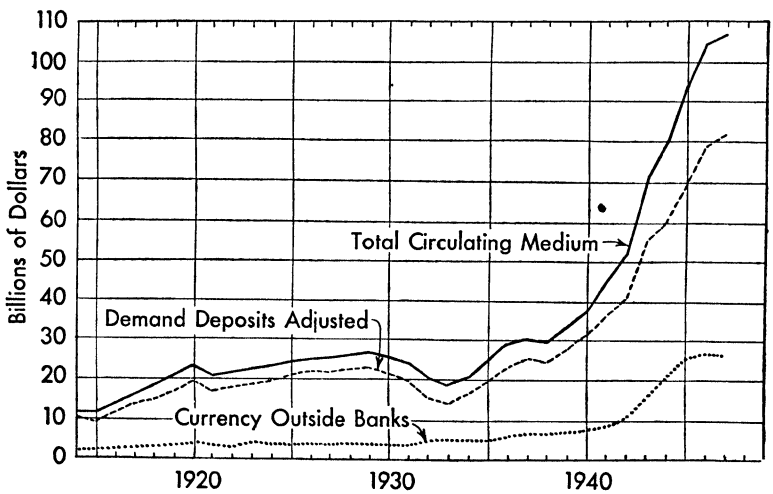
The monetary standard. The monetary system of the United States is attached to the international monetary system which was erected after the Second World War. The center of this international monetary organization is the International Monetary Fund with headquarters in Washington. The United States Treasury maintains a fixed buying price for gold at $35 an ounce. It also stands ready to redeem currency in gold at the same price, but redemption is ordinarily made only in fairly large amounts and to the order of foreign central banks. A high degree of monetary management now prevails under the direction of the International Monetary Fund, the Treasury and the Federal Reserve Board. The traditional international gold standard

—which never existed in the simple, automatic form in which it is often described—is completely foreign to the monetary reality that exists today.

Total circulating medium. The circulating medium consists, as has been said, of currency and demand deposits. As may be seen from Table I, the volume of circulating medium in the United States has shown a great capacity for growth; at the end of the Second World War the total monetary circulation, including currency and demand deposits, was over sixteen times as great as at the turn of the century. The rate of growth in circulating medium was far more rapid than the increase in population or business activity; in 1945 currency and demand deposits totaled $677 per capita, compared with only $52 in 1900.

The growth in circulating medium has been by no means steady or uniform. As is to be expected, the total, particularly of deposits, declined during depressions, while a rapid

CHART I. *Circulating Medium in the United States, 1914–1947*

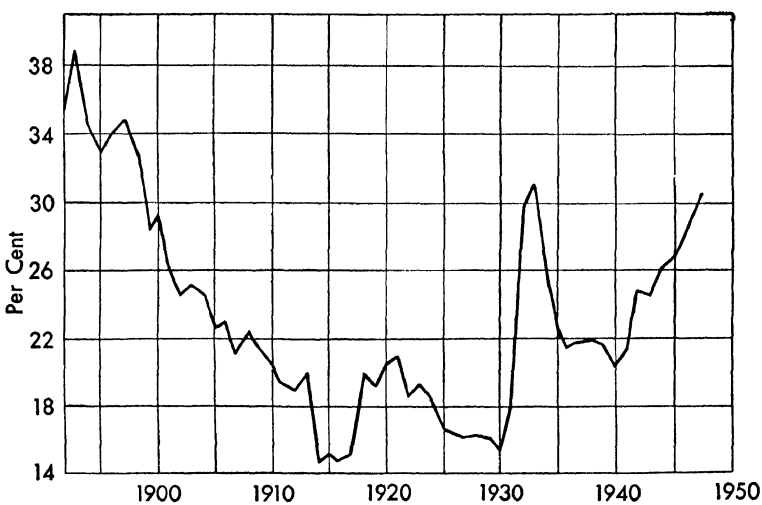


Source: Data from *Banking and Monetary Statistics* and *Federal Reserve Bulletin.*

expansion occurred during war (See Chart I). The effect of war, moreover, was to stimulate the growth of currency considerably more than of deposits. Thus the ratio of currency to deposits which had been falling steadily until 1914 rose from 1915 to 1920 and the same experience was repeated between 1940 and 1945 (Table I and Chart II. It is to be noted that the chart includes United States government deposits).

Currency. At the end of June 1947, total currency in circulation amounted to $26 billion (Table I). The bulk of this sum, an amount equal to nearly four times all forms of currency in circulation ten years before, consisted of Federal Reserve notes. The next most important categories were silver certificates, silver dollars and silver and other fractional coins. The remaining types of currency were the relics

CHART II. *Ratio of Currency Outside Banks to Adjusted Demand and Government Deposits, 1892–1947*



Source: Adapted from *The Business Review,* Federal Reserve Bank of Philadelphia, March 1946.

of earlier monetary legislation. United States notes are the greenbacks which originated during the War Between the States. National bank notes and Federal Reserve Bank notes are no longer being issued. The amounts shown are those outstanding, lost, held in collections or in process of retirement. Federal Reserve notes and Federal Reserve Bank notes, despite the similarity in names, are two distinct forms of currency. The difference between them turned on the conditions governing their issuance and will be described later. Federal Reserve Bank notes, in contrast to Federal Reserve notes, never constituted a major part of the currency supply. The sudden expansion in their volume in 1943 was a result of the issue, on account of the shortage of labor and materials for the printing of currency, of several hundred millions of notes which had been printed up many years before and subsequently held in storage. The complexity of the currency structure, however clumsy and illogical it may appear, is of relatively little consequence; the backbone of the currency system is Federal Reserve notes and small coins. As long as these function satisfactorily, the system as a whole can be regarded as a success by the test that really matters, that of performance.

The particular denominations of currency in circulation as well as the total volume are governed by the actions of individuals. The process of increasing or decreasing the total of all currency outstanding or of any particular denomination is largely automatic; commercial banks, the Reserve Banks and the Treasury are at any given moment merely the agents through which the preference of individuals is expressed. "Neither the Federal Reserve Banks nor the Treasury has under ordinary circumstances any direct way of keeping in circulation a larger amount of currency than the public requires or of reducing the amount of currency that the public needs to finance its current

TABLE I. *Circulating Medium of the United States, 1895–1947*
(In millions of dollars)

End of June	Total	Adjusted Demand Deposits [a]	Currency Outside Banks	Ratio of Currency to Total (per cent)
1895	3,931	2,960	971	24.7
1900	5,751	4,420	1,331	23.1
1905	8,698	7,069	1,629	18.7
1910	9,979	8,254	1,725	17.3
1915	11,403	9,828	1,575	13.8
1920	23,721	19,616	4,105	17.3
1925	24,949	21,376	3,573	14.3
1930	25,075	21,706	3,369	13.4
1935	25,216	20,433	4,783	19.0
1940	38,661	31,962	6,699	17.3
1945	94,150	69,053	25,097	26.7
1946	105,992	79,476	26,516	25.0
1947	108,500	82,500	26,000	24.1

[a] Exclusive of U. S. government deposits.

Source: *Banking and Monetary Statistics,* pp. 34–55, and *Federal Reserve Bulletin.*

TABLE II. *Currency in Circulation, 1936–1947*
(In millions of dollars)

End of June	Gold Certificates	Federal Reserve Notes	Silver Dollars	Silver Certificates [a]	Subsidiary Silver Coin	Minor Coin	United States Notes	Federal Reserve Bank Notes	National Bank Notes
1936	101	4,002	35	956	316	135	278	52	366
1937	88	4,169	38	1,079	341	144	281	38	269
1938	78	4,114	39	1,231	342	146	262	30	217
1939	72	4,484	42	1,455	362	155	266	26	186
1940	67	5,163	46	1,583	384	169	248	22	165
1941	63	6,684	53	1,715	434	194	300	20	150
1942	59	9,310	66	1,755	504	213	317	19	139
1943	57	13,747	84	1,650	610	236	322	584	132
1944	54	18,750	103	1,589	700	263	322	597	126
1945	52	22,867	125	1,653	788	292	323	527	120
1946	50	23,973	140	2,026	843	317	317	464	114
1947	48	23,999	148	2,062	876	331	320	406	106

[a] Totals include Treasury notes of 1890 amounting to $1 million.

Source: *Banking and Monetary Statistics,* p. 409 and *Federal Reserve Bulletin.*

operations." [5] The action of the public in choosing to hold more or less currency or more or less of particular denominations is likely to be influenced by such factors as the physical volume of trade and the prevailing level of prices, the methods by which trade is conducted—as by check or cash—the types of economic activity pursued, and the volume of demand deposits. At times it may be affected by such factors as confidence in the banks and changes in the distribution of the national income among different groups of the population. Methods of Treasury finance, whether by taxation, borrowing from individuals, issue of paper money or borrowing from banks, may exert an important even though indirect effect on the factors that influence the behavior of individuals.

The monetary structure of a country, then, is far broader and more complex than a catalog of the different types of money in use might suggest. It embraces not merely the circulating medium, consisting of currency and demand deposits, but also a vast complex of laws and institutional organization. The commercial banks, the Federal Reserve Banks and the Treasury are essential and basic parts of the monetary system. The study of monetary organization is ultimately a study of the functions of these and related institutions and of the principles which govern their operation.

Re-examination of Traditional Monetary Concepts

The extraordinary changes which have taken place in money and banking since 1914 have rendered some of the most commonly accepted ideas on the subject either unrealistic or inapplicable to the world as it is. The points that follow relate to a few of these familiar conceptions.

[5] Board of Governors of the Federal Reserve System, *Banking Studies*, Washington, Federal Reserve, 1941, p. 310.

THE QUALITIES OF A DESIRABLE MONEY MATERIAL

The commodity origins of money, which in physical forms have largely disappeared from view, have shown greater tenacity in their influence on certain familiar monetary conceptions. It is still customary to list the well-known qualities of a desirable money material which were suggested by Jevons in the 19th century, namely, portability, divisibility, homogeneity, cognizability, durability and stability of value. And more likely than not, it is maintained that gold possesses these qualities in greater degree than any other material.

The idea that gold money is more easily recognized than paper money is a survival from the days when the art of engraving was in a primitive stage. Today the quality of good paper currency is at least as readily discernible as the quality of coins. Paper, whether in currency or checks, is far more portable than any metallic money. Divisibility is perfectly accomplished by the simple method of printing larger or smaller denominations.[6] Gold, on the other hand, is not divisible into small denominations in anything but a purely technical sense; gold coins of a value appreciably under $5.00 would be so small as to be unusable because of the risk of loss. Moreover, when the costs of printing and replacement are compared with the costs of minting and abrasion, the economy of using paper money, even if not its durability, is fully comparable with that of gold or silver.

Only with respect to the final characteristic, value independent of the money use, can paper be said to be definitely inferior to gold, and even here the practical inferiority of paper is open to question. According to estimates by the

[6] The almost infinite divisibility of paper money is seen by contemplating the value of a Hungarian one pengo note at a time in 1946 when one quadrillion pengos were worth 25 cents in American money.

Bank of International Settlement, the industrial use of gold is to be regarded as representing only about 5 to 10 per cent of annual production. It is far from certain that the value of gold, apart from the value set and maintained by the monetary authorities, is of a very stable character. If the value of money is to be established by the policies of central banks, Treasury Departments and the International Monetary Fund, it becomes a question whether the money substance any longer need possess an independent value of its own.

LEGAL TENDER PROVISION

At the time of the emergency financial legislation in 1933 and apparently through inadvertence, all coins and currency in the United States were made full and unlimited legal tender. Formerly it had been customary to argue that fractional coins must be limited legal tender on the ground that great confusion and inconvenience would result if it were possible to compel creditors to accept pennies and nickels in payment of a debt of, say, thousands of dollars. So far as can be discerned, no disturbance has resulted from making coins and currency unlimited legal tender, though it may also be doubted that it has done much good.

The significance of the legal tender provision lies in its effect on acceptability. In normal times no one thinks of raising the question of whether or not the money he receives is legal tender; before 1933 there was never any apparent tendency to discriminate against those types of currency which were not legal tender. To the extent that the legal tender provision is believed to be of value, it is because circumstances are envisaged under which the absence of the provision would interfere with the general acceptability of money and, therefore, with its ability to discharge the essential functions of money.

PASSIVITY OR ACTIVITY OF MONEY

At one time it was customary to think of money as merely a lubricant for the wheels of commerce and industry. The term "neutral money" expresses the ideal of money which is wholly passive. By neutrality of money is meant that money exerts no positive influence on the economic process, whether by stimulating or retarding economic activity or by altering the relationships among economic factors. With neutral money the same relationships would presumably exist as would exist under barter and the only effect of the use of money would be to facilitate operations.

More recently, greater favor has been directed toward the possible dynamic characteristics of money. Professor D. H. Robertson of Cambridge, for example, once remarked that if the tires of industry were sagging, perhaps it might be well to pump them up with a little monetary inflation. Deflation and inflation constitute situations where money is dynamic for ill. They suggest the possibility that, if money can be destructively dynamic when badly administered, it may also be constructively dynamic if wisely administered. Whatever answer is given to this question, the dynamic potentialities of money for evil and possibly for good are of paramount importance, at all times, in the formulation of public policy.

The Reorientation of Monetary Theory

Perhaps the most important change of all in the field of money and banking is that which has taken place in the realm of theory. The principal names associated with the development of these ideas are those of Lord Keynes and Sir William Beveridge in England and Professor Alvin Hansen in this country. The speed with which these ideas spread and the extent of their influence on public policy

throughout the world, particularly on policies for maintaining a high level of employment, are without precedent in the history of economic thought. The propagation of the ideas has stirred a sharp conflict between those who see in them the source of many of the practices they most violently distrust—deficit financing, pump-priming, made work —and those who see in them the hope for the dawn of a new day where man is master of his economic fate and mass unemployment such as afflicted this country and the world in the thirties can be averted.

The essential feature of the reorientation of monetary theory is a shift from concentration on quantitative factors governing the value of money, such as amount of money, velocity of turnover of money and volume of trade, to emphasis on the behavior of money. It is not a question of one theory having disproved or even of having entirely supplanted another, but rather of the focus of interest having shifted from a quantity to a behavior theory of money. The attention of economists has tended to be occupied increasingly with questions of national income, its distribution among different groups of the population and the volume and character of saving, consumption and investment. These are the principal factors governing the volume and pattern of the flow of money payments through the economic system.

The changed focus of monetary theory is clearly reflected in parallel changes which have taken place in the field of public policy. Without abandoning interest in central bank policies, which are primarily of a character to influence quantitative factors, increased attention has been directed toward fiscal policies, including taxation, management of the national debt and public spending. Fiscal policies are capable of influencing more directly than central bank policies the factors governing the flow of money payments

through the economy and, therefore, the behavior of money.

Changes in banking theory in recent years, though less dramatic, are also fundamental. For the most part, these changes consist of adapting the body of banking thought to a situation where the character of banking has become greatly altered from what it once was. At a time when banking has largely ceased to be commercial in character, when assets consist chiefly of Treasury obligations and only to a relatively small extent of the short-term self-liquidating paper of traders, fabricators and farmers, it is obviously necessary to re-think former conceptions of the principles of bank operations and of the nature and effects of banking.

Earlier theories of money and banking have not wholly outlived their usefulness. They remain historically important and their applicability, both present and prospective, has not entirely disappeared. We find ourselves in a situation where we have a substantial body of inherited theory whose validity and current applicability call for revaluation; where we have a significant new theoretical structure which is largely untested; and where further advances in the exploration, adaptation and integration of monetary and banking theory are still in process.

3 ~ Credit Instruments and Commercial Banks

A debt is an obligation to pay and a credit a right to receive. Since one person's right to receive necessarily rests upon another's obligation to pay, it is evident that, quantitatively, debt and credit are identities, the one being looked at from the viewpoint of the person who owes and the other from the viewpoint of the person who is owed. In certain connections it is necessary to choose between the terms credit and debt because the obligation or the right aspect is important, as when we speak of the government debt or a line of credit. In many contexts, however, it is entirely a matter of custom that the one term rather than the other is employed. This is true, for example, in the expression "credit instruments" which could be referred to as accurately and sometimes with greater meaning as "debt instruments."

The *raison d'etre* of credit instruments is that credit, like other rights, is intangible but, again like other rights, it may be of very great value. In order to buy and sell credit, it is necessary to incorporate it in such a form that it can be more readily exchanged. Checks drawn against demand deposits (and also the circulating notes issued by the Federal Reserve Banks) are unique among credit instruments. Tech-

nically, checks are rights to money payable by the bank on which they are drawn, but they are customarily accepted in payment for goods and services and in discharge of debt without any intention of exchanging them for the money which is specified on the face of the check. Because they perform the work of money they are generally regarded as money. By way of contrast, promissory notes, bonds and real estate mortgages constitute claims to money but are not themselves monev.

Characteristics of Credit Instruments

In the merchandising of any commodity, the package in which it is marketed is dictated by two factors, namely, the nature of the commodity and the anticipated desires of the prospective purchaser. This is as true of credit as it is of groceries. A real estate mortgage, a check or a registered government bond represents a "bundle" of this important commodity, credit, and each is in the form which is best suited to its particular characteristics. Differences in their form are largely traceable to differences in the nature of the underlying credit operation. The use of such terms as promissory note and equipment bond, as well as the familiar classifications of credit instruments into the two broad categories of commercial and investment instruments, are the reflection of differences in the form and purpose of the credit which the instruments embody.[1]

Such differences as are indicated by the adjectives "registered" bond and "negotiable" instruments arise out of the need of adjusting the form of credit instruments to the wishes of prospective buyers. *Registration* protects the owner against the danger of loss, theft or destruction of the credit instrument. Accordingly, the incorporation of this

[1] Cf. also the customary division of commercial credit into mercantile credit and bank credit.

feature brings within the scope of the market for credit instruments those investors (individuals, businesses and institutions) who demand this sort of protection. The quality of *negotiability* signifies that a "holder in due course" of a negotiable instrument possesses a perfect title to it. Embodiment of the feature of negotiability reduces the risk attendant upon the acquisition of a credit instrument and greatly increases its marketability. It is essential to the ready use of checks and contributed greatly to the important position formerly occupied by bills of exchange and promissory notes in the portfolios of commercial banks.

The distinguishing features of different types of credit instruments stem not from arbitrary reasons or chance but from the fact that these features are essential in order that the instruments may conform to the nature of the debt which they embody. The *requirements of a negotiable instrument,* namely, that it be determinable as to amount and time of payment, be payable to bearer or order and be unconditional, rest not on a legal basis, even though in the course of time they have come to be confirmed by statute. They arise rather out of sheer economic necessity: unless these features are present in a credit instrument the average individual or business man could not acquire it with the assurance of being able to dispose of it again if desired. Without that assurance he might be unable or unwilling to acquire the credit instrument. The requirements of negotiability, therefore, are merely those conditions which will enable the instrument to be negotiated. That simple fact explains both what the requirements are and why.

Whatever the particular features of the many different varieties of credit instruments, all of them have this in common, that they represent the written evidence of an obligation to pay. By giving credit tangible form, they make possible credit transactions on an extended scale. They have

been an essential factor in the emergence of the elaborate structure of financial institutions which distinguishes modern economic society. In substance, they constitute the raw material and the stock in trade of financial enterprise.

Expansion in the lending activities of banks has brought within the scope of normal banking routine a variety of credit instruments which were formerly not included in their operations. Aside from checks, which still constitute the most familiar credit instrument used in banking, the great bulk of the business of banks is concerned with credit instruments of three types, namely, bills of exchange, promissory notes and bonds. The first two appear among bank assets under the classification of loans and discounts and the third is included under investments, a classification which also includes a large volume of short-term government obligations.

A *promissory note* is an unconditional promise to pay to order or to bearer a specified sum of money at a stated or determinable time. Ordinarily it consists of a document, partly printed and partly written, containing a statement such as,

Sixty days after date I promise to pay to the order of John Smith the sum of $1,000.00.

In addition, it carries a signature of the maker, a date and, usually, the name of the city where it was drawn. A *bill of exchange* or *draft* differs in being in the form of an order rather than a promise to pay. In addition to place name, date and signature, it contains words such as,

Sixty days after date pay to the order of James Brown the sum of $1,000.00.

It is customarily confirmed by the drawee (the person or firm ordered to pay) making an appropriate notation on

the bill; thereafter it is known as an *acceptance.* A *bond* is more formal in that it is a printed or engraved document, is for longer periods and embodies more detailed terms.

The Primary Function of Credit Instruments

Credit instruments permit command over goods and services to be shifted over time. An individual who expects to receive money in sixty days but has urgent need for money now may be able to obtain money at once by exchanging for it his promise to pay money in two months. In effect, he has pushed forward by sixty days his ability to use money to command goods and services. The lender, in turn, surrenders his use of the money now in return for the right to money in sixty days. In effect, he has deferred by two months his ability to use money to command goods and services. Through the payment of interest, the borrower contents himself with a slightly smaller total of dollars in return for the convenience of having it at once, and the lender is rewarded with a slightly larger total of dollars as compensation for waiting.

The primary function of credit instruments then, is to allow the use of money to be transferred over time. That is the substance of what is accomplished by every credit instrument, whether it be a government bond, a commercial loan or a personal note. The terms productive loan and consumptive loan call attention to differences in the uses to which funds transferred to a borrower may be put, but the feature of a transfer forward to the borrower and a subsequent transfer backward to the lender is common to each.

Self-liquidating Credit Instruments

A credit instrument may do more than transfer forward the use of money whose receipt sometime in the future is already assured. A credit transaction may make it possible

to employ today money which will accrue in the future only because of the fact that use can be made of the money now rather than later. This constitutes the very nature, for example, of so-called *"self-liquidating"* commercial paper. A manufacturer of cotton textiles obtains a loan from a bank for the purpose of buying raw cotton. The cotton is fabricated and the cloth sold for enough to pay off the loan at the end of the sixty days, plus enough to cover other expenses and provide a profit on the transaction. There is a cycle from cash at the start of the transaction, into commodities during the process of manufacture and sale, and back into cash at the end of the transaction. In the case of a successful self-liquidating loan the completion of the operation which gave rise to the loan provides the funds for discharging it. What is distinctive about this type of loan is that the money transferred forward to the borrower at the start of the process is money to which he presumably would not have been entitled had it not been for the possibility of the transfer.

The concept of a cycle from cash back to cash, which is the essence of a self-liquidating commercial loan, applies also to many types of investment instruments. An issue of 20-year bonds might be floated, for example, to provide a million dollars to build a hydro-electric installation. Let us suppose, first, that the proceeds from the operation of the plant are sufficient to pay interest on the bonds and build up a sinking fund which is used to retire the bonds at the end of the twenty years, and, secondly, that the plant is entirely worn out or obsolete at that time. This would constitute a self-liquidating transaction in the same fundamental sense as the loan to the textile producer, the principal difference between the two being the length of time each had to run. In each instance, the funds to redeem the obligation would have been provided as a matter of course

through completing the operation which gave rise to the obligation in the first place. In customary usage the term "self-liquidating" ordinarily appears in connection with "short-term self-liquidating commercial paper." It is important to recognize that the quality of being self-liquidating is not peculiar to that class of instruments. The terms "short-term" and "commercial" are as significant as "self-liquidating" in identifying the nature of such credit instruments.

Credit instruments which are not self-liquidating can be of as high quality as those which are, and they may be no less desirable from the standpoint of social welfare. Government bonds redeemed out of taxation or a new flotation are not self-liquidating, nor is a consumer loan. A consumption loan used to defray the costs of a college education may be repaid out of the higher income made possible by that education. But since the higher income was not inherent in the operation, the loan is not classified as self-liquidating. Furthermore, while such a loan might be of great financial benefit to the individual and to society, it is nevertheless classified as a consumptive rather than a productive loan.

In general, the qualifying expressions applied to credit instruments, e.g., *government* bond, *trade* acceptance, *banker's* bill, *collateral* loan, are primarily a means of identifying where or how the transfer of the right to money takes place. Instead of being descriptive of their ultimate economic effects, they turn on considerations of form or of the immediate use for which the proceeds are employed. In other instances, the meaning of the terms attached to credit and credit instruments, and even the overtones of approval or disapproval which they carry, rest on nothing more substantial than long established custom. The conventionalized meaning of the particular credit terms must always be borne in mind; the terms cannot always be accepted literally as describing the functional characteristics

of the instrument. The one function that is common to all credit instruments, however, is that they are a device for transferring over time the right to the use of money.

Practices and Policies in the Use of Credit Instruments

CHECKS, CERTIFIED CHECKS AND CASHIER'S CHECKS

Because of their great advantages as a means of effecting payment, checks have come to be the principal type of circulating medium in the United States and other Anglo-Saxon countries. A check can be transferred by simple endorsement on the back and the endorsements provide a record (not necessarily complete) of the hands through which the check has passed. In addition, the Federal Reserve Banks, along with many other large banks, may make and retain photographic copies of both sides of checks which pass through their hands. A cancelled check, when returned to the drawer, constitutes a receipt for the payment made. Checks are extraordinarily convenient in that they can be made out at just the time and in the exact amount desired and can be transported with equal ease regardless of their value. They add greatly to the safety of doing business since they dispense with the necessity of holding large sums of currency and both payer and payee are safeguarded in case of loss or destruction of checks in a way they would not be if currency were employed.

A certified check differs from an ordinary personal check in that it bears a notation by a qualified officer of the bank, ordinarily the cashier, declaring that the check is valid and will be honored in full. At the time of certification the account against which the check is drawn is debited and the necessary funds are set aside to make sure that the full amount of cash will be available when the check is pre-

sented for collection. Certified checks are employed where the drawer is not well enough known for his personal check to be accepted freely, or where it is desired to avoid delay which might be entailed in the clearing of an ordinary check. Similar considerations dictate the use of cashier's checks (also known as banker's drafts) which consist of checks drawn by a bank against itself or against that bank's deposit account in another bank. A business or individual who desires to use a cashier's check pays the issuing bank for it by currency or check at the time of issue, and ordinarily a small fee is charged for the bank's services. Both certified and cashier's checks are of superior quality, but the high quality of checks in general is attested by the fact that the bulk of check transactions are carried on by ordinary checks while these special types are resorted to only under exceptional circumstances.

The advantages of checks are so great that they are preferred over other forms of money in the great majority of monetary transactions. The British economist, R. G. Hawtrey, has remarked that instead of regarding checks as a substitute for coin and currency, it is more accurate to regard coin and currency as a substitute for checks. Better still is to look upon the different forms of money, including checks, Federal Reserve notes and fractional coins, as complementary types with different characteristics which render them suitable for particular uses.

Demand deposits, against which checks are drawn, and time deposits, which consist chiefly of saving accounts, constitute the liability of banks to the public. Apart from checks, the types of credit instruments which are most important to banks are those which they hold as assets and which provide them with the bulk of their operating income.

COLLATERAL LOANS

The right of a creditor to receive money in the future is frequently safeguarded by the debtor's pledging collateral security of some sort. The security pledged for collateral loans usually consists of bonds and stocks (stock exchange collateral) and bills of lading, warehouse receipts and trust receipts (merchandise collateral). The pledging of collateral serves a double purpose. In the first place, the fact that the only way the security can be redeemed is through paying the loan, gives the debtor a special stake in carrying out the obligation. Secondly, in case of default the creditor can dispose of the pledged security to discharge the claim. In effect, there are two sources to which the creditor can look for discharge of the credit instrument he holds, the debtor himself and the security which has been given as collateral.

A further factor of safety is introduced by the fact that the market value of the collateral pledged is always expected to be greater than the face value of the loan which is secured. The difference between the market value of the collateral and the amount of the loan which is granted with it as security is known as margin. With a 40 per cent margin the loan would equal 60 per cent of the market value of the collateral; with a 75 per cent margin the loan would be 25 per cent of market value. The size of the margin which is required differs according to the character of the collateral and the stability of the market price of the securities or merchandise involved, as well as according to other special factors—not excluding how good a bargain the lender is able to drive with the borrower. If the margin shrinks through a decline in the market value of the collateral, the borrower may be required to post additional collateral or to reduce the face amount of the loan. In the case of stock market loans, if the borrower is unable to maintain the re-

quired margin or to provide additional margin when called upon to do so, the loan becomes immediately payable. If it is not then paid, the bank is empowered to sell the collateral and apply the proceeds toward retirement of the loan.

It might seem that no loss could possibly be incurred by banks on loans of this type. Actually, their record is by no means perfect. In periods of crisis the scramble to liquidate collateral may be so general that not every bank is able to get out from under in time. It then becomes a question of nursing the loan along in the hope that the debtor may be able to pay out, or of waiting for a reversal of market conditions to restore the value of the collateral. Needless to say, the sale of collateral to protect loans serves to aggravate a downward movement of prices and when prices later begin to improve the liquidation of security or other property acquired through default may continue for some time to exert a dampening influence.

Collateral loan agreements ordinarily give the borrower the privilege, without disturbing the loan itself, of substituting different collateral from that which was pledged when the loan was made. New collateral which is substituted for old must, of course, maintain adequate margin and be of satisfactory quality. The reason for providing for the substitution of collateral is that otherwise the asset pledged as collateral would be immobilized for the duration of the loan. In that event, the owner might be prevented from disposing of it in such a way as to derive a profit or avoid a loss. The lender has no reason to object to changes so long as the protection afforded him is maintained, and it is to his long-run interest to facilitate those operations which are financially advantageous to the one who owes him money. Moreover, unless this degree of flexibility were afforded the borrower would be less willing to enter into collateral loan agreements. As in the case of other features

of credit instruments, the provision for substitution of collateral is a logical adaptation of business practice to the requirements of the situations which this particular type of instrument is expected to meet and the functions it is designed to perform.

A survey conducted not long after the Second World War indicated that of all bank loans to business enterprises, over three-fifths by number and over two-fifths by dollar amount were secured by the endorsement of others or by the pledge of specific collateral. The type of collateral most commonly pledged was real estate, followed by bonds and stocks and warehouse receipts, with assignments of title, accounts receivable, life insurance, chattel mortgages and trust receipts occupying a relatively minor position.

TERM LOANS

The rise of term loans in the latter 1930's is attributable in part to the experience of the depression when many businesses which had come to rely on short-term borrowing found themselves severely embarrassed as a result of the tightening of credit conditions. Another factor in its sudden popularity was the fact that the term loan permitted substantial sums to be borrowed without going through the formalities which were imposed by the newly enacted Securities and Exchange legislation in the flotation of other types of securities.

Term loans run typically for periods of from five to fifteen years and usually contain an amortizing feature whereby current payments cover interest and in addition provide something toward reduction of principal. "Time," it has been said, "is the enemy of promise"; the amortizing feature helps to reconcile this conflict by reducing the amount of the promise which is embodied in the more distant claims. Most term loans are not secured by any particular

property or other collateral. They have been used to provide funds for a great variety of productive purposes, e.g., to supply working capital, to modernize equipment, to obtain rolling stock, to add to fixed capital.

One of the major advantages of term loans is their flexibility. In the first place, the loan contract is readily adjustable, with the result that the amount of a loan may be increased or reduced or the period lengthened or shortened on the basis of simple negotiation between borrowers and lenders. In the second place, the series of annual payments of interest and principal provided for under a term loan contract can be divided among different types of lending institutions. In a representative term loan agreement, for example, the funds may be supplied partly by a bank and an insurance company with the bank taking the shorter maturities and the insurance company, for whom liquidity is of less concern, the longer maturities. In such a contract the rate of interest earned by the insurance company on its share of the loan is somewhat higher than that earned by the bank on its share.

MERCHANDISE COLLATERAL OR DOCUMENTS OF TITLE

A number of different types of documents are in current use which enable goods in process of being sold or manufactured to serve as collateral for the lending of money. A *bill of lading* is a receipt, issued by a carrier, such as a railroad, steamship company or airline, to show ownership of goods in transit. By discounting a draft secured by the bill of lading, the seller of the goods is able to obtain funds without waiting until the transaction is finally completed. At the same time, the lender of the money, e.g., the bank which discounted the draft, has the protection afforded by the claim (bill of lading) to the goods being shipped.

When the goods arrive at their destination the bill of

lading must be forthcoming if the buyer is to obtain possession of the goods from the carrier. If it were not convenient for the buyer to pay the draft outright he might arrange, upon "accepting" the draft, to obtain the bill of lading and transfer the goods to a warehouse, giving the lender a *warehouse receipt* as security for the loan. In effect, the collateral for the loan would have been changed from a bill of lading giving title to goods in transit to a warehouse receipt carrying title to goods in storage.

Still another sort of substitution of collateral may take place before the transaction is finished. If the buyer is relying upon the proceeds of the sale of the goods to provide funds for paying off the acceptance, it is necessary to find some means of enabling him to obtain possession of the goods in order to effect their sale. This is accomplished by surrendering the warehouse receipt in exchange for a *trust receipt.* The warehouse receipt enables the buyer to take possession of the goods but the loan is still protected since the trust receipt gives the lender legal title to the goods and a claim on money received from their sale.

At each stage of the operation just described, the loan was secured by a document adapted to that particular stage, i.e., by a claim on goods in transit, on the goods stored in a warehouse or on the proceeds of the sale of the goods. The element of faith (credit) was present in each instance and the form of the document employed was accommodated to the particular circumstances, as was also the body of law and convention which has been built up to safeguard the interests of both borrower and lender. The basis of the security afforded by each of the documents was the value of the goods. Because the future price of goods is seldom certain, the amount of the loan extended on the basis of such security is normally somewhat less than the nominal worth of the goods.

[illegible]SITY LIBRARY

OTHER TYPES OF CREDIT INSTRUMENTS IMPORTANT TO BANKS

By far the most important class of credit instruments appearing among the assets of banks consist of United States government obligations. While these are all classified as investments, they differ widely in the length of time they run and the rate of interest they bear. The principal forms are Treasury bills maturing in three months, certificates of indebtedness running up to one year, notes which mature in from one to five years, and bonds of various maturities from five up to thirty years.

Banks hold a limited volume of other bonds, chiefly municipals and high-grade corporates. Except for the stock of Federal Reserve Banks, which member banks own as one of the requirements of membership in the Federal Reserve System, and a few other minor cases, the only stock held by national banks and most state banks is that which was acquired through seizure of collateral to protect loans going into default. Since stocks represent shares in the concern issuing them rather than an obligation to effect specified payments on account of interest and principal, they are not regarded as suitable earning assets for banks to hold. Banks are required to liquidate such unauthorized assets within a reasonable period of time, a period of five years being specified in some states.

Personal loans and installment sales credit constitute a relatively new field of commercial bank operations but one of increasing importance. The former consist of rather small, generally unsecured, notes of individuals, and the latter consist chiefly of personal notes, collateraled by claims on durable consumer goods sold on the installment plan, by far the most important being new and used automobiles. Both personal and installment loans are customarily of the

amortizing type. Interest rates, when figured on the basis of unpaid balances, are high compared with other types of credit, but so also are costs of handling, largely because of the relatively small size of the individual transaction. Losses, on the other hand, have proved surprisingly small. In the case of consumer sales credit, the lender is effectively safeguarded by the size of the margin exacted, the right of repossession of the property in the case of default and insurance policies covering such contingencies as theft, destruction and damage to the property. Commercial banks and various specialized lending institutions, described in the next chapter, have entered the field of personal loans and consumer sales credit to an increasing extent in recent years. At the same time, demand for such credit has continued to grow and net return to lenders, though declining, has remained high.

Two principal observations are called for in connection with the various types of credit just described. The first is that several of them are relatively new. This means that they have not been tested by experience during a severe business depression. Whether their reputation as a result of such testing would be better or worse is beside the point, which is simply that the record of their performance as bank assets is still far from complete. Because of their newness, competition among suppliers of these new types of credit has not had time to become stabilized. Rates of return, therefore, have ruled above what may well prove to be the long-run competitive level. In the second place, it is to be observed that the economic basis of the different types of credit is that they serve different ends. The long-run outlook for these forms of credit, including the place they occupy in the portfolios of commercial banks, rests primarily on the value to society of the services they assist in providing.

4 The Structure of the Financial System

Financial institutions owe their existence to the need, in a complex economic society, for certain fairly well defined services connected with safeguarding money, mobilizing available funds, extending credit of various types and maturities, providing circulating medium, and the like. Finance in general constitutes one phase of specialization among different branches of economic activity. The process of division of labor is further refined within the field of finance by the presence of numerous specialized types of financial institutions. Not only does financial specialization permit the more efficient discharge of financial functions by lenders and borrowers alike. It also enables nonfinancial services to be carried on more economically since it relieves manufacturers, merchants, carriers and farmers of the necessity of also being financiers. Without financial specialization there could not be as great specialization in other lines of endeavor as there now is.

The materials of finance—corresponding to the physical commodities which constitute the materials of trade and manufacture—consist of money and credit instruments of all types, from checks and promissory notes to government

bonds. Many of the methods and techniques of finance are common also to other kinds of business, though some, as will be seen, are not. All of them are carried on within a developing framework of law, custom and institutional organization. The institutional organization embraces a wide range of public and private financial institutions, from a village post office selling money orders to a multi-billion dollar bank or insurance company; a fairly elaborate structure of financial markets; and the machinery of governmental supervision and regulation.

Major Financial Services

The country's financial structure includes so many distinct types and combinations of institutions that only confusion would result from attempting to describe them in detail. In recent decades, moreover, the lines of demarcation between the different categories of institutions have become less and less distinct as banks and others have broadened their activities or merged their identities. In many instances it would be impossible to classify a particular institution as commercial bank, savings bank or trust company since it may at one and the same time be all three, besides performing still other financial services. The major financial services will be outlined and in connection with each of them the principal or typical institutions providing that service will be indicated.

ACTING AS INTERMEDIARY IN THE DISTRIBUTION OF SECURITIES

At one time *commercial paper houses* did a substantial volume of business in buying and selling short-term commercial paper. Roughly two-thirds of their business was in single-name paper of widely known business enterprises, the other third consisting of double-name paper and col-

lateral notes. The paper was bought outright and then sold to commercial banks, estates and others desiring this type of high-grade liquid asset. The role of commercial paper houses was essentially that of a dealer, but they also were obliged to investigate and pass upon the credit standing of the companies whose paper they handled. In recent years the relative volume of commercial paper has diminished as companies have come to rely to a greater extent on their own financial resources. Moreover, the demand for the limited supply of commercial paper has been so great that the services of the commercial paper houses have become more or less superfluous and most of them have either disappeared or changed their functions.

Investment bankers act as intermediaries in the distribution of bonds and stocks. Where the field of commercial paper houses is short-term securities, the field of investment houses is long-term and equity securities.[1] In connection with the discharge of their main function, they perform services to the borrowing organization which, while incidental, may be extremely valuable. They investigate the requirements of intending borrowers, advise on conditions in the security market and make recommendations concerning terms, forms and maturities of the securities to be offered. They may also attend to legal details and formalities, including compliance with requirements laid down by the Securities and Exchange Act. It is customary for them to support the market for new and outstanding issues in order to prevent prices of the securities from being depressed or unduly disturbed during the period of the flotation. Public acceptance of new issues is thereby facilitated, and the liquidity of outstanding issues maintained.

[1] By equity securities is meant those that constitute evidence of ownership in an enterprise, such as shares of common stocks, in contrast to those that represent debt, such as mortgages and bonds.

In order for the borrower to be certain that the full amount of money desired will be realized from the sale of new securities, the investment banker customarily agrees to "underwrite" the issue. He guarantees that proceeds at a stipulated rate, say 98 per cent of par, will be turned over to the borrower. It is then up to the investment banker to sell the securities to the public at a price, say 100½, such that the difference will enable him to cover costs and realize a profit. If buyers prove less receptive than was anticipated, the banker may decide to hold a substantial part of the issue until conditions in the security market improve. The investment banker supplies the borrower with the funds agreed upon by drawing upon his own resources or by borrowing, as from a bank, using the securities which were underwritten but unsold as collateral.

Because of the risk involved in such an undertaking, an investment banker is likely to associate other investment bankers with him in the flotation of an issue of substantial size, foregoing a share of the return from the operation in order to avoid assuming an unduly large commitment. Such a group is known as an *investment syndicate.*

PROVIDING EXPERT MANAGEMENT AND ADMINISTRATION

While most, if not all, financial institutions are in one sense engaged in selling the services of their own trained and expert specialists, certain of the institutions have as their primary function the furnishing of financial management as such. This is especially true in the case of *trust companies.* The head of a family, for example, who wishes to provide for the future of dependents, may arrange that in the event of his death his estate will be turned over to a trust company to be administered at the discretion of its officers, subject to the limitations imposed by law or within terms laid down by him. The trust company will then as-

sume the role of manager of the business affairs of the estate, performing routine administrative functions, making decisions, disposing of property and income and, in general, conducting itself as the householder might have done if he had lived. It may collect rents, interest and dividends, supervise the care of real estate, shift investments, arrange for the schooling of minors and distribute funds for living and other expenses.

Trust business may be carried on for others than the beneficiaries of some deceased person, as when funds or property are turned over to a trust company to be administered during the lifetime of the owner in order to relieve him of the care and responsibility of management and at the same time to secure the benefit of the expert technical knowledge of the trust officers. Corporations may ask a trust company to invest and administer money they have accumulated for particular purposes such as sinking funds, money which is awaiting use to replace or repair capital equipment and undistributed profits. Trust companies frequently serve as agents in the distribution of interest and dividends to holders of bonds and stocks. The trust relationship is relatively flexible and capable of being applied in a variety of ways. The essence of the trust function is that something of value is "entrusted," as to a trust company, to be managed in particular ways and for particular purposes.

Among other organizations and institutions which devote a substantial part of their activities to providing expert financial management are investment counsel firms, insurance companies, savings banks and investment trusts.

PROVIDING DIVERSIFICATION

An individual having $1,000 to invest would be able to buy only a small number of different securities and so

would be prevented from obtaining the protection that goes with spreading his investments over a wide list of diversified securities. By putting his money in the hands of an *investment trust* along with the funds of many other small investors like himself a sum can be accumulated which will be large enough to afford opportunity for wide diversification. An investor who holds a share or stock certificate of an investment trust has a participation in all securities owned by the trust, proportional to the contribution he has made to the total capital of the trust. Thus the investor's $1,000 gives him the same diversification that is obtained, for example, by an entire $10,000,000, if that should be the total size of the investment trust. In addition, a good-sized investment trust can afford to employ the services of competent investment experts. Regardless of the relative size of his own investment, the holder of shares in such a trust secures the full benefit of the investment skill of the officers.

Investment trusts differ substantially in the degree of freedom and scope of their operations. Investments of a "fixed" trust are restricted to a prescribed list of securities, while those of a "management" trust are determined by the independent judgment of the officers. Other investment trusts confine their acquisitions to the securities of companies in particular industries, as oil stocks, public utilities and so forth. Even where the investments are restricted in such a way as this, the distinguishing feature of investment trusts, that of affording the investor a greater degree of diversification than would otherwise be possible, is still present.

Investment trusts have had a long and distinguished history in England and more especially in Scotland. In this country they went through a period of rapid expansion during the 1920's and then a period of considerable deflation in the thirties. While they have an established place in the

American financial structure, that place is somewhat smaller than it was once thought that it would be.

ACTING AS INTERMEDIARY FOR LOANABLE FUNDS

Savings. The largest group of financial institutions are those which act as intermediaries for money. The motives which lead to funds being placed in their hands differ widely, as do the practices they follow in finding outlets for these funds. In the case, for example, of *savings banks* and *insurance companies* (in their role of providing custody of savings rather than that of distributing risk), the primary consideration is ordinarily that of safety for the funds entrusted to their care. In accordance with this emphasis, the funds are customarily placed in what are regarded as conservative types of investments. In the case of savings banks, the fact that deposits are likely to be left for long periods of time and, moreover, that advance notice of intention to withdraw can be demanded if a bank desires, makes it possible to place a large proportion of invested funds in long-term securities. Since the banking legislation of 1933, the rate that can be paid on time [2] deposits in insured commercial banks has been limited by decree of the supervisory authority.

At the end of June 1946, time deposits amounted to a total of $51.7 billion compared with total demand deposits, private and governmental, of $93 billion. Prior to 1939 the volume of time deposits had been in excess of demand deposits. Slightly under one-third of all time deposits in 1946 was held in mutual savings banks, the form of savings bank organizations which predominates in the Atlantic seaboard states. Not quite two-thirds were in incorporated banks

[2] Time deposits include deposits not solely of a savings character, e.g., business deposits not subject to withdrawal on demand. Despite the difference in origin and purpose, these deposits are similar to ordinary savings deposits and are combined with them in officially published figures.

which also carried demand deposits. A relatively small share of the total, $3.1 billion, was held by the *Postal Savings System.*[3]

Savings and loan associations.[4] A number of specialized intermediary institutions exist which take their names from the particular business in which they were designed to engage or from other characteristics. Among the best known are the *savings and loan associations* which combine the functions of a savings bank with those of an institution specializing in loans on residential mortgages. There are approximately 8,000 such companies, or more than half the number of commercial banks, but for the most part they remain relatively small in size and local in character. A typical association receives deposits from members and lends the proceeds for home financing. Repayments are made at a uniform monthly (or other period) rate which provides, in addition to interest, a steadily increasing amount to reduce principal. This form of reducing loan has been widely copied by other types of lenders.

Prior to 1933 all savings and loan associations were state chartered. At the present time about one-fifth are chartered by the Federal Home Loan Bank Board. In addition to these federally chartered associations, a substantial proportion of the state chartered associations are members of the Federal Home Loan Bank System, which is designed to provide for savings and loan associations somewhat the same services that the Federal Reserve System provides for member banks, and are entitled to borrow from the Federal Home Loan Banks. All members of the Federal Home Loan

[3] *Trust companies* and *investment trusts* also perform intermediary functions but, as was noted previously, their other specialized functions, such as providing managerial services or diversification, constitute a more distinctive feature of their activities.

[4] Formerly known under various names but most commonly as building and loan associations.

Bank System and a considerable number of other state chartered associations have their share accounts insured by the Federal Savings and Loan Insurance Corporation up to $5,000 each.

Small loans. The first *industrial bank* was organized in 1910 in Norfolk, Virginia, under the so-called Morris Plan, which has become virtually synonymous with this type of banking. Originally it was designed to extend credit, chiefly consumer credit, to workers in industry—whence the name. Funds were derived in considerable part from the deposits of the same group to whom it extended loans. The industrial banks filled a distinct gap in the credit structure; even though rates charged were much higher than commercial bank rates, loans were not readily obtainable anywhere at comparable rates by this class of borrowers. Other types of lenders have gradually moved into this field and at the same time industrial banks have modified their character to such an extent that many of them are now classified as commercial banks. A good many of the banks have dropped the term "Morris Plan" or "industrial" from their name. According to an official of the Federal Deposit Insurance Corporation, "there is strong evidence that the industrial bank, as a *clearly distinguishable and separate* form of banking institution, is disappearing." [5]

Credit unions are a form of financial cooperative. They are of small size and ordinarily are organized among groups in the same plant or occupation or having other interests in common. Small loans are made on the credit of the member, but for larger amounts collateral or the participation of a co-maker is generally required. Because of the unique

[5] Ernst A. Dauer, "Radical Changes in Industrial Banks," *Harvard Business Review, Autumn* 1947, pp. 609–24. Interestingly enough, the movement of industrial banks into the commercial banking field has paralleled the movement of commercial banks into installment credit financing with which the industrial banks were once briefly identified.

advantages possessed by the union in the form of intimate knowledge of the credit worthiness of borrowers and, not less important, the normal compulsion that goes with the knowledge that one is borrowing from his fellows, the record of credit unions is extremely good. The rate customarily charged is 1 per cent a month on the unpaid balance. Since 1934 credit unions have been able to take out federal charters under the Farm Credit Administration. Well over half of all credit unions, however, are still under state charter.

Also operating in the small loan field are *personal finance companies* which came into prominence with the adoption by most states of the so-called uniform small-loan law. This law was sponsored by a distinguished philanthropic institution, the Russell Sage Foundation, in an effort to combat the loan-shark evil. It provided, in the typical instance, for loans up to $300 at rates of from 2 per cent to 3½ per cent a month on unpaid balances. The reasons for endorsing so high a rate (24 per cent to 42 per cent per annum) were that the costs were extremely high for this type of business; in order to attract legitimate lenders into the field, such rates must be authorized; and if experience demonstrated that lower rates were justified, competition among lenders could be expected to force them down to a level that was reasonable.

Years of experience under drastic usury laws had proved that laws could not be relied upon to prevent extortionate rates from being charged. The effect of stringent legislation was to drive necessitous borrowers into the arms of loan sharks whose rates were made the higher by the very laws which forbade high rates: such lenders were free to charge high rates because the effect of the laws was to limit competition to lenders who were willing to operate clandestinely and were inclined to charge higher rates than they otherwise might have done because of the added risk re-

sulting from the fact that they were operating outside the law.

Sales financing. Sales finance companies engage in financing installment sales of durable consumer goods, chiefly automobiles. Funds are obtained mainly by direct borrowing from banks and by sale on the open market of various types of secured or unsecured obligations of the finance company.

Lending is of two types, wholesale and retail. Wholesale financing consists of advancing funds to dealers, usually on the dealer's promissory note. The notes are ordinarily secured by warehouse or trust receipts covering, for example, the cars which are being financed. Much of this business is of the type customarily handled by commercial banks. Retail sales financing involves the financing of purchases by consumers themselves. In addition to holding the promissory note of the buyer, the finance company is protected by documents allowing the article purchased, such as a car, to be attached in case of default in payment, as well as by insurance policies covering fire, theft and accident. The practice is sometimes followed of asking the dealer to endorse the buyer's note as an added assurance that the dealer will exercise due caution in selecting risks. In view of the protection afforded by these various devices, it is not surprising that the losses on this type of lending have been light.

Commercial banks have been entering the field of instalment sales financing to an increasing extent. Increased competition and reduced interest rates generally have been reflected in a somewhat lower level of charges for this form of financing, though the costs still remain high compared with many other types of financing. As in the case of personal financing, individual transactions are relatively small and a considerable volume of bookkeeping is involved. Be-

cause of these and other factors, such as the payment for insurance protection, the cost of such lending is necessarily rather high.

A very different type of financing is that provided by *factors,* who trace the origins of their business to classical times. The bulk of the business of factoring is carried on by a relatively small number of companies located in New York, some of which have been in existence since the start of the 19th century. Operations are confined largely to the textile business, though recent years have seen a tendency for factors to spread to other fields. Funds are obtained mainly from invested capital and short-term borrowing from banks.

Formerly factoring included the actual handling and selling of finished merchandise but today factors are almost wholly concerned with financing of accounts receivable. The factor takes over invoices or receivables, making a large advance payment (as much as 90 per cent of the face amount) to the company employing its services and turning over the remainder when it is due. The factor assumes all credit risks and attends to collections. Of necessity it is obliged to check the credit standing of customers and must therefore maintain an extensive credit department. Charges are based on a commission amounting to ¾ per cent to 2 per cent for the service of collecting, plus interest at 5 or 6 per cent discounted on sums advanced. The income of a representative factoring company over an average of several years was derived roughly one-third from interest and two-thirds from commissions on collections. On the basis of return, therefore, factoring is to be regarded as more a collecting than a lending activity.

Another type of accounts receivable financing, known as "nonnotification financing," is carried on principally by *commercial finance companies* and commercial banks. In

this form of financing the lender advances money against the purchase or assignment of receivables, but the customer is not notified of the transaction and the lender does not assume the risk of loss on receivables bought or assigned. In this type of financing it is usual to advance 75 per cent of the face value of the accounts receivable taken and the rates charged range from 9 per cent to 20 per cent per annum on funds actually in use. As in the case of factors, the funds of commercial finance companies are obtained chiefly from subscribed capital and borrowing from banks. About one out of four commercial banks engage in accounts receivable financing, the practice being most common among larger banks and banks located in commercial and industrial centers. The total volume of such business is small, however, relative to total banking business.

Miscellaneous. Other intermediary financial institutions include the long list of governmental agencies, certain of which are considered below. Commercial banks may also act as intermediaries for funds, though this is not their most distinctive function. Finally, there are a variety of relatively small financial operations, each with its special services, including check cashing offices, pawnbrokers and the so-called loan sharks. In general, these institutions deal with a clientele which is unable, unaccustomed or disinclined to utilize the services of the more highly organized institutions mentioned above. Charges are generally high, sometimes extremely high, compared with those levied by other institutions. Funds are derived chiefly from the capital of the individual or company operating the business. The nature of transactions carried on by *pawnbrokers* is slightly different from that of straight lending institutions. At one time the operation was legally regarded not as a loan secured by a pledge of collateral but as a sale of an article to the pawnbroker accompanied by an agreement that the pawn-

broker would sell it back to the customer on stipulated terms within a specified period of time. Many of the items pawned, of course, are never intended to be reclaimed, so that the idea of a sale was more than a fiction. Where the transaction was an actual credit operation, the legal assumption that it was a combination of sale and repurchase made it possible to circumvent limitations restricting the rate of interest that can lawfully be charged on ordinary credit transactions. Consequently, many states have enacted legislation specifying that pawnbrokers are subject to the same limitations as to rates charged on money advanced as apply to other lending institutions.

PROVISION OF CIRCULATING MEDIUM

In the United States the creation of circulating medium is performed by the *Federal Reserve Banks,* the American equivalent of a central bank, which issue currency in the form of Federal Reserve notes and by *commercial banks,* including a handful of private banking houses, which create circulating medium in the form of demand deposits. The operations of both these classes of financial institutions will be examined later in detail.

Federally Created Financial Institutions [6]

The expansion of governmental activities into the field of finance is a relatively new development. Nevertheless, it has reached such proportions and gives rise to such problems as to call for separate discussion.

THE DEVELOPMENT OF GOVERNMENT FINANCIAL INSTITUTIONS

The entry of the government into the field of financial operations, other than those more or less closely related to

[6] The Federal Reserve System and the Federal Deposit Insurance Corporation are discussed elsewhere.

the discharge of governmental functions, was signalized by the establishment of the *Postal Savings System* in 1910. This organization was designed to provide readily accessible facilities for small savers who were thought to be inadequately served by existing private institutions, whether the reason for the inadequacy was location or lack of familiarity. Postal Savings is organized within the Post Office Department; its effect is to bring absolutely secure savings facilities as near to the saver as the nearest post office.

Until the early thirties, nearly all of the funds of the Postal Savings System were placed in time deposit accounts in banks, but the inability of banks to pay a sufficiently high rate of interest led to the funds being shifted almost entirely into government bonds. Working balances, however, continue to be carried with banks. Rates paid on postal savings deposits were set at 2 per cent, partly in order to be noncompetitive with other savings institutions which at the time were generally paying from 4 per cent to 6 per cent. After the great decline in interest rates, the rate paid on postal savings deposits came to exceed that paid by most banks.

Growth of the Postal Savings System was slow until the period of disturbed banking conditions in the early thirties. From 1930 to 1933 the number of depositors increased from under ½ million to 2.3 millions and deposits rose from $175 millions to $1.2 billions. There was little increase from this figure until some time after our entry into the war. By 1946 the total of deposits had risen well above three billion dollars, an increase to be attributed to the expansion in the amount of money in the hands of small savers and the low rates of return available elsewhere.

The first avowed extension of federal activities into the lending field came with the establishment of the *Federal Land Banks* in 1917. Their purpose was to provide long-

term credit for agriculture at lower rates and on more favorable terms than had been available in the past. This step was followed in 1923 by the establishment of the *Federal Intermediate Credit Banks* to aid in furnishing intermediate and short-term credit for agriculture and for the marketing of agricultural products.

With the foregoing exceptions the extension of federal lending activities falls into two main periods, the great depression and the Second World War.[7] Both of these were periods of emergency, the first an emergency of economic distress and the second an emergency of war. The character of the conditions which gave rise to the institutions provides the key to their nature. A number of the institutions have declined or disappeared with the passing of the circumstances which gave rise to them, but others, particularly a number of those which were established during the depression, seem to have become a permanent feature of the financial system. Even those which are no longer in current operation may be expected to serve as a guide to policies which may be adopted in the event of some future emergency.

CHARACTER OF FEDERAL LENDING ACTIVITIES

Lending activities of the federal government are chiefly confined to three fields—agricultural credit, housing and real estate credit, and foreign loans. The volume, distribution and immediate source of lending by government financial institutions at the end of June 1946 are shown in Table III. Comparison of later with earlier years would show a substantial contraction in war-connected lending and in lending of a distress character, and an expansion in foreign lending by the Export-Import Bank.

[7] The War Finance Corporation formed in the First World War was discontinued after the war's end, though it served as a model when the Reconstruction Finance Corporation was organized in 1932.

It would be a mistake to assume that the government credit institutions obtain all of their resources directly from the government. It is true that many of the agencies, particularly those of a temporary or emergency character, have been financed by direct appropriations, and some have obtained funds from other government agencies—in somewhat the way member banks are allowed to obtain funds from the Federal Reserve Banks—or the Treasury. Others, however, obtain funds through the sale of their own securities in the open market, with or without a guarantee by the federal government. Banks themselves have supplied a substantial proportion of the funds used by federal corporations and agencies. Borrowing from banks has amounted at times to roughly half of their total outstanding obligations.[8]

SIGNIFICANCE TO BANKS OF FEDERAL LENDING OPERATIONS

The complaint is frequently heard that the federal government has "invaded" the field of banking, that commercial banks in this country are being seriously injured by competition from tax-supported lending agencies. The description of the origin and development of governmental lending activities has made it clear that the movement of the government into this field was the result of emergency demands or of a feeling that there were certain gaps in the structure of existing financial institutions. The record fails to support in any way the view that the government has deliberately encroached upon a domain which rightfully belongs to private banking institutions. This is not to deny that a certain amount of overlapping and actual competition between governmental and private lending institutions may now exist. But what has developed can neither accurately

[8] *Banking Studies*, p. 157.

nor adequately be described as an "invasion" of the banking field by the government.

Where competition exists. As was mentioned earlier, the Postal Savings System many now be competing to some extent with other types of savings institutions. This situation arises, however, out of changes on the part of the banks rather than of the Postal Savings System. Competition with private savings institutions was definitely foreign to the intention of the framers of the Postal Savings Act. On this score it might perhaps be argued that as rates paid

TABLE III. *Lending Activities of Federal Agencies*
(By purpose of loan. End of June 1946. Millions of dollars)

Agency	Agriculture	Home Owners	Railroads	Other Industry	Banks	Other Financial Institutions	Foreign Loans	Other	Total
Fed. Land Banks	1,059								1,059
Fed. Farm Mortgage Corp.	186								186
Fed. Intermed. Credit	332								332
Banks for Co-ops.	162								162
Com. Credit Corp.	48								48
Rural Elec. Adm.	453								453
Farm Sec. Adm.	485								485
H.O.L.C.		735							735
Housing Auth.								280	280
Fed. Home Loan						203			203
R.F.C., etc.		24	177	151	14	32	238	289	927
Ex.-Im. Bank							734		734
All other	148	1	18	46	9			117	339
All agencies	2,873	760	195	197	23	235	972	686	5,381

Source: *Federal Reserve Bulletin*, October 1946, p. 1174.

by savings banks declined the Postal Savings System should have lowered its rate. To describe the failure to take such action as an "invasion" of private banking, however, is hardly accurate.

To the extent that there may be competition between banks and government agencies in the mortgage field, it is probably because banks have been attracted increasingly into this type of financing as other fields of lending have become less remunerative and more crowded. The same emergence or accentuation of competition has occurred in the relations of banks with lending institutions in many other lines, including consumer financing, personal finance and accounts receivable financing. Such a contingency is an inevitable consequence of the broadening scope of the lending activities of banks. If the term "invasion" is to be applied under these circumstances, it could appropriately be asked who it is that is doing the invading.

It is the sincere belief of many bankers that, because of either the way the law was drawn in the first place or an extension of their original scope, certain government lending agencies are now cutting into business which was formerly theirs. This charge has been made with particular frequency by bankers in rural districts in connection with lending by *production credit associations*. The line between what is a legitimate complementing of the work of banks and what is unfair competition is not easy to draw—and it is certain to be construed differently by individuals and groups having different interests. There is perhaps greater substance to the claim that the activities of government agencies have tended to contribute to a general downward trend of interest return to lenders in a variety of different lines. On the other hand, the entry of the government into certain fields of credit operations has undoubtedly served to render these fields more attractive and suitable to lending

by banks. What the net effect has been on the income of banks in general would be very difficult to measure.

Where lending by government agencies supplements lending by banks. A substantial part of the lending by government agencies has been of a character that would not have appealed to banks. The loans granted by the Home Owners Loan Corporation, for example, were widely criticized at the time they were made as being of an extremely low quality. It was at about the same time that the Federal Reserve Banks introduced their policy of making industrial loans, but a prerequisite for the granting of such loans is that the credit desired should not be available from private lending institutions. The Reconstruction Finance Corporation stipulated as a requirement for granting a loan to a private borrower proof that the loan was earlier refused by an established lending institution such as a bank.

The extension of credit by the Commodity Credit Corporation should probably not be viewed in the light of an ordinary extension of credit. It was much more in the nature of a device for stabilizing prices since as long as the government was willing to lend on a given commodity at a specified price, its price in the market was not likely to fall appreciably below that level. The fact that price support took the form of an extension of credit (which in many cases may have been expected to amount to a purchase) was because of the popular objection to outright price fixing by the government.

Where the banks are aided. During the depression banks were direct beneficiaries of financial aid from government agencies. A substantial volume of capital was supplied to banks through loans and the purchase of preferred stock by the R.F.C. In some instances banks availed themselves of this service, not because they were in danger themselves, but in order, by their taking the lead, to make other banks

more willing to accept the assistance offered. For many banks, however, it can be assumed that the financial support provided by the R.F.C. brought valuable aid at a critical moment in their affairs.

Financial support extended by the R.F.C. to enterprises other than banks may be supposed to have improved the credit of customers of banks. Loans to the railroads during the depression, for example, are said to have been an important factor in strengthening the position of railroad securities held by banks and in other instances enabled borrowers to repay their bank loans. Similarly, mortgage loans by the H.O.L.C. were used to reduce and consolidate mortgage and other debt held by banks.

Guarantees given by certain government agencies serve to improve the quality of different types of credit, thereby rendering them more suitable for purchase by banks. Mortgages guaranteed by the Federal Housing Administration, for example, become as safe to hold as government bonds. Various types of participating loans are available whereby the R.F.C. or the Export-Import Bank absorbs part or all of the risk attached to the granting of loans by banks.[9] To the extent that the various credit policies of government agencies achieved their declared purpose of contributing to recovery during the depression and of promoting stability thereafter, banks and other private lenders may be presumed to have benefited through the improvement in general business conditions.

Financial Markets

The security markets constitute an important segment of the country's financial structure. In addition, they pro-

[9] During and just after the Second World War, loans related to war production and reconversion could be guaranteed by other divisions of the government, with the Federal Reserve Banks acting as intermediaries.

vide the center of many of the activities of other financial institutions; without a smoothly functioning market for securities the work of many of these other institutions would be performed badly or not at all. The practice of pledging stocks and bonds as collateral for loans has long given the security markets a position of some importance in the operation of banks. Expansion in the relative importance of Treasury obligations in the portfolios of commercial banks was accompanied by a corresponding increase in the importance of the security markets, and particularly the government bond market, to the banking system of the country.

The first stock exchange in this country was organized in Philadelphia in 1800, followed in 1817 by the formal establishment of the New York Stock Exchange. The great bulk of trading in stocks and bonds is today carried on in the New York Stock Exchange, but smaller exchanges exist in other cities throughout the country. A large volume of trading is also conducted on the curb exchange in New York where many securities are traded which are not listed on the stock exchanges.

In addition, many securities are traded in the so-called "over-the-counter" market; instead of purchases and sales taking place in a market where prices are a matter of public record, transactions are essentially a private matter between buyer and seller. The securities traded may be those which are unlisted because of the small size of the capital issues; they may be of such large denominations or so narrowly held as not to appeal to traders in the ordinary exchanges; such issuers as banks may prefer not to have their securities traded publicly where fluctuations in current quotations might injure public relations; municipal issues which are payable serially may not be suited to trading on the organized exchanges.

During the thirties a practice grew up known as direct or

private placement whereby funds are provided without the services of an investment bank as intermediary. The great bulk of funds obtained in this way has been supplied by a small number of large insurance companies.[10] Aside from possible saving in expenses including commission, private placement may make it possible to avoid formalities and responsibilities which would be entailed in registering the issue with the Securities and Exchange Commission. Private placement has been confined very largely to issues which would have been subject to the S.E.C. Thus railroad securities (which are not under S.E.C. jurisdiction) are usually handled in the ordinary manner.[11]

From a general point of view, security markets facilitate the operation of supply and demand by affording a meeting place for buyers and sellers of securities. Values are thereby tested more objectively than would be possible otherwise; though it must be admitted that under conditions of panic or boom the market may cease to be at all a reliable guide to long-run values. The market affords holders of investment securities assurance that the securities can be sold if that is desired, and thus enables banks and others to make commitments they might be unwilling to assume if they were obliged to hold to maturity.

The status of security markets in relation to the affairs of nonfinancial corporations as well as banks has altered significantly since the 1920's. Influenced by their experience in the 1920-21 recession when many businesses were severely pinched through the tightening of bank credit, corporations resorted to security flotations, frequently of common stocks, to build up their working capital. Accumulation of depreciation reserves and undistributed earnings further reduced

[10] Reference is here made to placement in the form of bonds or preferred stock. Term loans are also placed in much the same way.

[11] Willard E. Atkins and others, *The Regulation of the Security Market*, Washington, Brookings Institution, 1946, p. 110.

their dependence on commercial banks. Many nonfinancial corporations even assumed the role of lenders rather than borrowers, becoming holders of substantial blocks of corporate and government securities. For them the movements of security prices assumed a double significance, reflecting both the market valuation of their own business and the realizable value of a part of their assets.

Since 1936 Federal Reserve Banks have followed a policy of preserving "orderly conditions" in the security market—a tacit recognition of the importance of the government security market to the country's banks. The S.E.C., in turn, has brought security markets in general under closer scrutiny and supervision. While reducing somewhat the independence of the security market, the Federal Reserve and the S.E.C. together have helped to provide a stability and degree of responsibility which the enhanced importance of security markets in the conduct of financial institutions renders of such paramount importance.

B Basic Principles of Money, Banking and Credit

5 ~ Theories of the Value of Money

The value of money is customarily measured in terms of what money will buy. Since money is used to purchase an endless variety of goods and services it is usual to express the value of money in the form of some suitable index of prices. The value of money is said to vary inversely with the price index: a rise in the index signifies that a given amount of money will command fewer goods and services than before, while a fall in the index signifies that it will command more. If, for example, the index were to rise from 100 to 200 it would signify that twice as much money as before was required to purchase a specified quantity of goods. A decline from 100 to 50 would mean that only half as much money was required.

Neither value of money nor index of prices is to be thought of as changing *because* the other changes. It is rather that a change in one *is* a change in the other; they change *together,* and necessarily in an inverse, i.e., reciprocal, manner. In the example just given, it would be incorrect to say that the purchasing power of money was cut in half *as a result* of the doubling of prices. One might as well say that John is taller than James because James is shorter than John. Causality between the value of money and the

price index does not enter in; they are simply alternative ways of expressing the same idea.

Classification of Monetary Theories

Until approximately the decade of the thirties the efforts of monetary theorists were directed chiefly toward explaining what determines the value of money and why it rises and falls, i.e., why the level of prices falls or rises. One group of theories of the value of money emphasized non-quantitative factors, particularly the value of the material of which money was made or into which it was convertible, the action of the State, or influences affecting the cost of production of commodities in general. The other group of theories, those which stressed quantitative factors, gradually came to supplant other explanations. By the time of the First World War it had become customary in the United States to present this explanation in terms of a formula of the "transactions" or "Fisherine" type ($P=MV/T$)[1], so named after Professor Irving Fisher who helped to popularize it. Another version of the quantity theory is that known as the Cambridge or "Cash Balance" theory of money. It originated in England and was as widely used there as the "transactions" version was in this country. The Cambridge theory emphasized the holding of money as liquid reserves. One important effect of this formulation was to stress changes in the rate of turnover of money as a determinant of the price level.

Largely as a result of the writings of John Maynard Keynes an entirely new direction was given to prevailing monetary thought. Today monetary discussion is directed less toward the value of money than toward its behavior, and especially toward the effect its behavior has on the functioning of the economic system in general and on the

[1] Explained on pp. 87-89.

level of employment in particular. Accordingly, monetary analysis is now concerned less than formerly with the quantitative factors (M, V and T) involved in money transactions, and much more with the flow of the stream of money receipts and payments through the economic system.

The two methods of attacking monetary problems—by way of quantitative factors which are related to the value of money, i.e., the level of prices, and by way of receipts and expenditures which are related to the behavior of money, including the effect of monetary behavior on business activity and employment—are not to be regarded as alternative or contradictory theories of money. The later theory has not disproved the earlier. It has tended to displace the other not because it is more correct but because it is felt to be more significant; it emphasizes different factors and provides additional leads to economic and financial policies. Nevertheless, the quantity theory, correctly interpreted, remains as valid as ever, and within the range of problems to which it is adapted is still a useful tool of analysis.

The present chapter is devoted to a description of the value theories of money, with primary attention to the quantity theory in the familiar Fisherine formulation. Detailed discussion of the income-expenditure or behavior approach to the theory of money is reserved for later when it will be presented in connection with a description of recent financial policies for which it has provided the ideological foundation.

The Quantity Theory of Money

FORMULATION OF THE THEORY

The formula generally used in discussing the quantity theory of money is derived from a very simple and self-

evident fact, namely, that what is sold is equal in value to what is given in payment. Stated somewhat more fully, the quantity of goods and services traded (T) in a given period of time, multiplied by their average price (P), is equal to the quantity of money (M), multiplied by the average number of times the money is used (V) during the period. It amounts to saying that the total value of what is bought (PT) is equal to the total value of the money given in exchange (MV). This is the Equation of Exchange, which is usually written $PT=MV$ or $P=MV/T$.

The equation of exchange is not the quantity theory of money but merely a starting point for stating the quantity theory. The equation itself is a simple statement of identity, is open to no dispute, and proves nothing. The fact that it is a truism does not in any way imply that the quantity theory is also necessarily true.

The rigid quantity theory. It is only when certain assertions are made concerning the different factors in the equation of exchange that it is conjured into a theory, and then it ceases to be a truism or, possibly, even true. The most extreme set of assertions regarding the different factors in the equation were those advanced in arriving at the so-called "rigid" quantity theory, which is substantially the form in which it achieved its early popularity in this country. The assumptions or contentions underlying the theory are as follows:

a. *The constancy of V and T.* It was maintained that ordinarily the velocity or turnover of money is determined by custom, which is said to change very slowly. The volume of transactions, it was maintained, is limited by physical considerations and likewise can change only gradually as technology advances, population grows and trading areas expand.

b. *The passivity of P.* Price was held to be a dependent variable, initiating no changes in other factors in the equation but completely responsive to the changes occurring in those factors.

c. *The proportionality of P to M.* The final assumption necessarily follows if the two preceding assumptions are valid. It represents an abbreviated statement of the extreme or "rigid" quantity theory of money, to wit, that *the value of money varies inversely with the quantity of money.*

The loose quantity theory. Modified versions of the quantity theory consist of gradations between one extreme which is represented by the rigid quantity theory and the other extreme which is represented by the equation of exchange. The nearer the formulation approached the latter extreme, the less debatable it became, but at the same time the closer it approximated a degree of generality that deprived it of any practical usefulness as an instrument of policy. Qualifications were attached to the theory in its rigid form, such as "in the long run," "except during periods of transition," "at similar stages of the business cycle," etc. Or the theory was restated in a form such as that *the value of money varies inversely with the quantity (M) and velocity (V) of money and directly with the volume of trade (T).* This is the "loose" quantity theory. It amounts to little more than a restatement of the equation of exchange, except that the assumption is still retained that P is passive, i.e., that it is the resultant of changes in the other factors, M, V and T, rather than also a possible cause of changes in them.

CRITICISM OF THE QUANTITY THEORY

The principal criticisms of the quantity theory are that in its rigid form it is not true and in its loose form it is not

useful. Earlier criticism was devoted almost exclusively to attacking the reliability of the quantity theory as an economic generalization. It consisted principally of challenging the basic assumptions underlying the theory, particularly in its more rigid form. At the present time there is more of a tendency to criticize the quantity theory on the score of usefulness. The belief that the quantity theory of money in a form sufficiently loose to be logically tenable is not particularly significant either as an analytical tool or as a guide to policy has diverted interest to the theoretical approach which emphasizes factors influencing the behavior of money.

Validity of the quantity theory of money. The validity of the rigid quantity theory is attacked on the score of all the basic assumptions indicated above. It is now generally accepted, for example, that neither the volume of transactions nor the velocity of money is as stable as was once believed. The volume of transactions is subject to gradual changes over long periods of time, and the "miracle of production" in this country from 1942 to 1944 may be said to have constituted a considerable change in trade even during a relatively short period. The most striking changes in volume of transactions, however, are those consequent upon a change in the territory over which a particular type of money is used. The shrinkage in the volume of trade that resulted from the secession of the Southern States was an important factor contributing to the depreciation of the greenbacks during the War Between the States. During the First World War the contraction in the area where gold was used as money was partly responsible for the rise in prices which occurred during that period, as when gold released in one country flowed into other countries.

Changes in the velocity of money gradually came to be regarded as of particular importance. According to the esti-

mates of Professor Graham, the German Reichsmark in 1923 attained a rate of turnover twenty-six times normal. Substantial as this was, it was negligible alongside the increase in the volume of marks in circulation. The rate of turnover of demand deposits of all commercial banks in the United States was nearly 54 times in 1929 and less than 19 times in 1940. Because of changes in monetary turnover during different stages of the business cycle or as a result of psychological influences, the velocity of money may be a more important factor than quantity in accounting for short-run variations in the level of prices. With some writers on money, indeed, the theory of money has tended to become more a velocity theory than a quantity theory as originally understood.

In criticizing the rigid quantity theory it is also maintained that *P*, far from being entirely passive, may contribute to changes in other factors. To illustrate, a rise in the level of prices may lead people to try to get rid of their money for fear its purchasing power may decline further, with the result that velocity of circulation is increased. Or it may be argued that even under the operation of the old gold standard the level of prices was expected to influence the production of gold. Falling prices involved a reduction in the costs of producing gold, and since its selling price was fixed at the mints the output of gold was correspondingly stimulated. A rising level of prices had the opposite effect. Thus it was claimed that instead of remaining passive the level of prices, through its effect on gold production, played an active role in determining what the quantity of money would be at some future time. In fairness to the claims of the quantity theory, it is to be noted that the theory related only to a given moment of time. Criticisms based on relatively long-term effects, therefore, are not entirely relevant.

Usefulness of the quantity theory of money. All forms of the quantity theory are based upon an examination of quantitative factors, e.g., the amount of money, the volume of transactions and the rate of turnover of money. The quantity theory is essentially static, calculated to show the value of money at any specified time as a resultant of certain quantitative elements without indicating causation. It does not undertake to show why those quantities, and therefore the price level, are what they were. It can be adapted to indicating changes only by comparing a succession of such calculations, and even then the reasons for the changes are not a part of the theory. In substance, this amounts to saying that the quantity theory accounts for changes in the value of money rather than providing a causal explanation of them. It calls attention to quantitative elements which would tend—if they were to change—to cause a change in prices. Upon occasion this may be a useful reminder to have, as Germany learned to her sorrow during the period of inflation after the First World War. But for the most part the quantitative elements have to be assumed; the theory does not undertake to show what causes the quantities to change.

The rigid quantity theory, if it could be accepted as valid, would constitute an invaluable guide to policy. All that would be necessary in order to establish a desired level of prices or to check an inflationary or deflationary trend of prices would be to effect appropriate adjustments in the volume of circulating medium. Such changes in the quantity of money are by no means impossible to bring about.

In its loose form, on the other hand, the quantity theory ceases to be particularly useful as a guide to policy. When the velocity of money (V) and the volume of transactions (T) as well as the quantity of circulating medium (M) are regarded as important factors influencing the general level

of prices, the task of monetary control becomes extremely complicated. It is then a matter of regulating all three of these factors instead of just the one. The difficulty of effectively balancing the three variables is obviously very great, and action to control any one of them is impeded by the thought that such an attempt might be neutralized through a contrary change in one or both of the other variables.

This is the substance of the observation that in its rigid form the quantity theory of money is not true and in its loose form it is not useful.

Non-quantitative Theories of the Value of Money

The non-quantitative theories are concerned with the same problem as the quantity theory of money, namely, the determination of the value of money as measured by the general level of prices. They differ sharply from the quantity theory, however, in the explanations offered as to the factors governing the value of money, and they are considerably less deserving of respect. The theories described below are by no means all of the non-quantitative explanations of the value of money, but they are among the most interesting and influential.

THE QUALITY THEORY OF MONEY

The quality theory emphasizes the commodity aspects of money as the source of the value of money. In effect, it says that the value of money depends upon the value of the material used as money or upon the prospect of redemption in some valuable money commodity. Since money evolved out of a particular, valuable commodity coming to assume money functions—a situation where value in the commodity use preceded its coming to have value as money—it was not surprising that value as a commodity was looked upon as the source of value as money. As long as commodity money

was in general use as the standard it was natural enough that the general public should continue to associate the value of money with the valuable commodity into which the circulating medium was exchangeable. It was not until the decade of the thirties that the limitations of such an explanation of the value of money became glaringly evident to all. Year after year, most of the world continued to employ money which had no commodity value, was convertible into no money commodity and had no prospect of future convertibility into a valuable money commodity. Yet in many countries the money continued to maintain its monetary value as successfully as when it was attached to some commodity base.

Even before this world-wide object lesson in the shortcomings of the quality theory of money, many special situations had been noted which served to disprove the claims of the theory as a universal generalization. One such instance was the famous case of the Bank of Amsterdam whose notes continued to circulate at the same high value as before, even after the Bank's gold reserves had been dissipated as a result of fraudulent activities of the Bank's officers. While this instance was often treated as an exception since the loss was not publicly known, it was disproof of the idea that the actual existence of a commodity backing was an essential of monetary value. There was the instance in the early history of this country of money continuing to circulate even though it was known to be counterfeit, its monetary value sustained by the fact that circulating medium was so scarce that people preferred to accept counterfeit money rather than try to get along without money. In Sweden during the First World War and in Switzerland after the Second, convertibility of the local currency into gold was suspended and the money, far from depreciating, went to a premium in terms of the gold into

which it had theretofore been convertible. The appreciation relative to gold was apparently the result of scarcity, and not of any prospect that a new and higher rate of convertibility betwen currency and gold would be established.

The quality theory of money embodies perhaps the most tenacious of popular conceptions concerning money, namely, that some sort of commodity "backing" is necessary in order for money to retain its value. At the same time, however, it is one of the most questionable of monetary theories.

THE STATE THEORY OF MONEY

The State Theory of money starts from the assumption that money is a creature of law. Therefore, so it is said, all the government has to do is fix its value by legislature fiat. By always agreeing to accept money at the legal value in payment of taxes, the government can endow it with an additional source of value. This theory of the value of money was propounded and received its widest acceptance in Germany. And it was German experience that was to demonstrate so conclusively that while the State can give slips of paper the status of money, it cannot prevent the value of money from dwindling to practically nothing if it is issued in sufficient volume. Acceptance for taxes was a futile safeguard; it only meant that the yield of taxes likewise became all but negligible. The conclusion became inescapable that while money itself may be the creature of law, the value of money is what economic forces—and public policy operating within the framework of those forces—make it.

COST OF PRODUCTION

Occasionally the attempt is made to explain the level of prices on the basis of costs entering into the production of

particular commodities. A rise in prices may be ascribed to such factors as an increase in tariffs, higher taxes, the growth in trade unions with their demands for higher wages, and the like. According to the best known exponent of this doctrine, the late Professor Laughlin, the purchasing power of gold is changing constantly, but not because of influences primarily affecting gold itself. Instead, it changes because of "changes in the expenses of bringing goods to the market." [2]

While a change in the price of a particular commodity may sometimes be traced to changes in elements entering into its cost of production, cost factors are of no use in providing an explanation of the general level of prices, and therefore of the purchasing power of money. For prices in general there is no such sharp dividing line as this theory implies between costs and selling prices; what is selling price for one producer is often cost for another. Moreover, a change in selling price is as likely to precede as to follow a change in such cost factors as wages. Finally, major movements in prices fail completely to correlate with the factors mentioned; an increase in tariffs, for example, may be followed at one time by rising prices and at another time by falling prices.

Despite the shortcomings of the cost of production theory, it exercises considerable influence in public thinking on monetary questions. During the inflationary period following the Second World War, the rising level of commodity prices was repeatedly ascribed to such factors as the increase in wages, higher transportation costs and even the high level of profits. For the most part, these explanations of changes in the general price level implicitly rested on a cost of production theory of the value of money.

[2] J. Laurence Laughlin, *A New Exposition of Money, Credit and Prices*, Chicago, University of Chicago Press, 1931, p. 696.

Relation of Non-quantitative Theories to the Quantity Theory of Money

The quantity theory of money seeks to find the source of the value of money in the balance that exists between the effective supply of money and the goods and services offered for sale. The non-quantitative theories of the value of money, on the other hand, try to account for it on some more concrete and specific grounds, finding it in the "intrinsic" value of the money commodity in one case, in the fiat of the government in another and in the factors entering into the cost of goods in still another. It can be said, once and for all, that the non-quantitative explanations are wholly inadequate as a general description of the factors entering into the determination of the value of money, while that is not true of the quantity theory of money in its loose form. Whatever elements of truth the non-quantitative explanations contain are capable of being assimilated to the quantity theory.

At any time when the commodity value prevents a decline in the purchasing power of money it will be found that it does so by limiting the quantity (M) through bringing about retirement or redemption of part of the money supply, or by preventing a rise in the rate of turnover (V). It is not that quality determines the value of money, but that it may help to govern the quantitative relationships which do enter into the determination of money value. Similarly, the fiat of the government may account for the fact that slips of paper constitute money and therefore are included in the quantity of circulating medium (M), rather than remaining nothing more than scraps of paper. What directly governs the value of the monetary unit, however, is not the declarations of the government but the amount of money and the rate of its use, relative to the volume of

goods and services to be bought. Wherever quality and government action are important in determining the value of money their effects can invariably be accounted for in terms of M, V and T.

The usefulness of the non-quantitative theories is two-fold. They help to cell attention to factors that may have a bearing on the relationships emphasized by the quantity theory, and their study is helpful in putting us on guard against the more superficial views commonly encountered in discussions of money and monetary policy. But as rational explanations of the value of money they are utterly worthless.

The Quantity Theory and Monetary Policy

The character of the monetary and central banking policies which a country follows reflects the beliefs on which they are based. The prevailing monetary theories are likely to influence what is regarded as calling for action by the authorities and to suggest what, with the tools available, can be done and how it should be attempted. The bearing of theory on policy was never more clearly illustrated than by the change in the character of proposed policies since thinking on monetary matters began to shift from concern with quantitative factors to emphasis on the flow of income and expenditure payments (cf. Chapters XXIII and XXIV). Nevertheless, central bank policies, which are based primarily on the quantity theory of money, still retain much of their traditional importance, and proposals for monetary reform which are drawn from quantity theory reasoning have by no means lost their interest.

Monetary policies based on the quantity theory are directed, as is to be expected, toward influencing factors in the equation of exchange which are held to be responsible for changes in the level of prices. In line with the emphasis

accorded them in the theory, the policies are concerned primarily with the volume of money, including demand deposits, and to a less extent, with their velocity.

CENTRAL BANK POLICIES

The most orthodox and respected of all monetary policies are those employed by central banks.[3] Central bank policies designed to influence the volume of demand deposits through changes in member bank reserves may be said to rest principally on quantity theory considerations. This is particularly apparent in the case of such typical Federal Reserve policies of credit control as open market operations and changing of reserve requirements, where the purpose is to bring about an expansion or contraction of the circulating medium. Particular policies may be employed to accomplish particular purposes, and sometimes these purposes are not directly related to the quantity theory origin of the policy. Thus securities have been purchased in the open market at different times when the primary aim was not to induce an expansion of the volume of currency and deposits but to provide direct support of the security market. Despite such recent adaptations, most central bank policies may still be said to be based on the quantity theory.

STAMP MONEY

The quantity theory basis is even more conspicuous in certain proposed policies of a less orthodox character. Numerous plans have been drawn up for the introduction of "disappearing" or depreciating money and such a plan was actually attempted at one time in the province of Alberta in Canada. Most of the plans provide for the issue of currency to which stamps costing a small amount would have

[3] Discussed at length in Chapters XIII, XIV and XV.

to be affixed each week or month in order for the money to continue to circulate at par. The effect of the stamp requirement would be to impose a penalty on the hoarding of money. The purpose would be to prevent the velocity of money from declining, on the quantity theory reasoning that such a decline is deflationary.

ONE HUNDRED PER CENT RESERVE MONEY [4]

The plan for compelling banks to maintain 100 per cent reserves against all demand deposits is also derived primarily from the quantity theory. Its purpose would be to make it impossible for the operations of commercial banks to bring about the creation or destruction of demand deposits. While the proposal might also be defended in terms of the behavior-of-money analysis, its chief support has come from those who believe, reasoning from the quantity theory, that changes in the quantity of money disturb the level of prices, and that a system of 100 per cent reserves against demand deposits would tend to bring about greater stability of prices, and of business generally. Even though the problem of controlling other factors in the equation of exchange would still remain, monetary management would presumably be made simpler and more effective through eliminating the unpredictable changes in the quantity of money which result, under the fractional reserve system, from commercial bank operations.

The Practicality of Monetary Theory

In any discussion of monetary theory it must always be borne in mind that theory does not have to be directed toward practical application in order to justify itself. Theory is an end in itself in the sense that the greatest theoretical advance is possible only if the investigator feels free to

[4] Described more fully in Chapter XXII.

pursue theory wherever he wishes without regard to whether or not it will lead to practical application. The greatest advances in physical sciences have been made by scholars who were not concerned over application. These advances have later been adapted to practical uses, but the application has usually—one might almost say invariably—been effected by others than those responsible for the basic discoveries. There is no reason why the functions of the theorist and the practitioner should be combined in the same individual. In fact, the entire conception of division of labor suggests that it may be better for them to be separated. To require that every physicist be an engineer and every engineer a physicist would probably be to lower the general caliber of both engineers and physicists.

While it is not necessary that theory or the study of theory be defended on grounds of practicality it is nevertheless to be expected that most points of monetary theory will have their practical application and most advances in monetary theory will come to fruition in policy. Even the conflict between the quantity and the quality theories of the value of money, which might appear wholly philosophical, had highly practical implications; the quality theory led to the conclusion that we must have an expensive money system while the quantity theory suggested that money made of a worthless material could maintain its money value as readily as any other provided the amount issued was carefully restricted.

There is an old saying to the effect that "nothing is so practical as good theory." It is also true that a knowledge of monetary and banking practices, past and present, is conducive to both comprehension and refinement of monetary theory. The interaction of theory and practice is to be observed, and should be noted, at every stage of the study of money and banking.

6 ~ Principles of Commercial Banking

The different meanings attached to the word "bank" cover a wide, and widening, range. At one extreme, it is used to refer to a reserve fund used in gambling and at the other extreme it is applied to the most conservative investment house. No useful purpose would be served by attempting a strict definition of the term bank; it is largely a matter of personal preference where one draws the line between what is a bank and what is not. The term is used most frequently, however, in connection with the banking institutions where depositors ordinarily carry checking accounts. The small national or state bank found in any medium-sized community is of this type, as is a huge metropolitan bank with assets of several billion dollars. These banks are generally known as commercial banks, even though their activities may be far broader than this description would imply. The present discussion relates to banks of this sort.

The Lending Process

THE THREE METHODS OF LENDING

Three distinct methods are employed by those who are engaged in the business of lending money. These may also be regarded as the different historical stages through which

the art of lending developed. This does not mean that the art ever completely passed the first or second stage, since all three methods are important still and all are combined in the ordinary work of a commercial bank today.

The first of these methods or stages consists of *lending one's own money.* This is the method of a private capitalist or investor, who lends his own funds on the promise of a later payment of interest and principal. It may be exemplified also in the operations of commercial banks. Let us suppose that a bank has accumulated out of earnings more ready cash than it needs for its current operations. If the bank were then to purchase government bonds, paying for them with the cash it has on hand, it would be practicing the first method, that of lending its own money.

The second method consists of *lending other people's money;* it is essentially the work of an intermediary or middleman. A large part of the operations of a commercial bank are of this sort. An example of such a transaction would be when a depositor leaves funds with a bank and all or part of these funds are used to buy government bonds. In that case, the bank would have come in between the depositor who had funds available for temporary use and someone else who needed cash and had government bonds to sell.

In transactions involving a transfer of bonds or commercial paper to a bank the borrower is not, necessarily, the individual who receives the money from the bank. Unless this individual is also the one who is expected at a later date to pay the obligation, the transaction amounts to a passing on of a debt from one creditor (the individual who gets the money) to another (the bank). It is easy to see that in the above examples the government is the borrower. It is equally true that when a businessman discounts a customer's note at a bank the bank becomes a lender not to

the businessman but to his customer. The businessman has stepped out of the role of lender to his customer and the bank has stepped in.

In lending of the second type, the bank acts primarily as an intermediary since it takes the money of certain individuals and puts it at the disposal of others. The legal position, of course, is that the bank owes the depositors and the borrowers owe the bank, but from an economic standpoint what the bank has done is to facilitate the transfer of funds from depositors to borrowers.

The third stage is the most interesting and significant of the three. It consists of lending what one does not have, or perhaps more accurately, of *lending money that is created as a part of the process of lending it.* At first glance, such a transaction sounds, if not impossible, at least unethical. Yet it is neither. It is of the very essence of deposit banking; and it constitutes the outstanding and distinctive characteristic of commercial banking. The nature of the third method of lending as contrasted with the others, can most readily be understood from concrete illustrations showing the various steps involved in the organization and operation of a bank.

Let us suppose that in a community where there are no other banks a group of stockholders put up $1,000,000 in cash to establish a bank. The balance sheet of the bank then stands as follows:

Resources		Liabilities	
Cash	$1,000,000	Capital	$1,000,000

A building is bought with cash for $300,000 and $25,000 is paid for supplies and equipment. The balance sheet then becomes:

[1] It need hardly be mentioned that this example is greatly simplified for the sake of clarity.

Resources		Liabilities	
Cash	$ 675,000	Capital	$1,000,000
Bank Building	300,000		
Furniture and Supplies	25,000		
	$1,000,000		

The bank is ready to commence lending operations. We will assume that the bank lends $50,000 in cash to a borrower who gives his interest-bearing promissory note for this amount, and that it buys government bonds amounting to $100,000, paying for them with cash. The balance sheet is then:

Resources		Liabilities	
Cash	$ 525,000	Capital	$1,000,000
Bank Building	300,000		
Furniture and Supplies	25,000		
Loans	50,000		
Investments	100,000		
	$1,000,000		$1,000,000

The bank has now performed the first type of lending operation, that of lending or investing its own money.[2]

A customer comes to the bank and opens a savings account by the deposit of $20,000 in cash. This adds $20,000 to the Cash account and originates Savings Deposits of the same amount. The balance sheet becomes:

Resources		Liabilities	
Cash	$ 545,000	Capital	$1,000,000
Bank Building	300,000	Savings Deposits	20,000
Furniture and Supplies	25,000		
Loans	50,000		
Investments	100,000		
	$1,020,000		$1,020,000

[2] This is simpler and more accurate than considering that the bank has served as an intermediary by lending out the money of the stockholders.

At the same time the bank decides to purchase with cash additional government bonds amounting to $20,000. Cash is thereby reduced by $20,000 and Investments are increased by the same amount. The balance sheet then stands:

Resources		Liabilities	
Cash	$ 525,000	Capital	$1,000,000
Bank Building	300,000	Savings Deposits	20,000
Furniture and Supplies	25,000		
Loans	50,000		
Investments	120,000		
	$1,020,000		$1,020,000

These two transactions together represent the second type of lending operation in that the bank has in effect acted as an intermediary. It has taken the cash of the depositor, giving him a claim on the bank in the form of a deposit credit, and has turned the cash over to the government or other seller of the government bonds.

When the operation is complete, the net result is that the bank's debts to others in the form of savings deposits have been increased by the same amount as the debts of others to the bank in the form of investments. The bank has in effect bought an interest-bearing debt of others and sold its own debt which also bears interest, but at a lower rate. The difference between these two rates of interest may be thought of as corresponding to the difference between the buying and selling prices of a commodity—in this case the commodity traded is debt—and roughly represents, as in any other merchandising operation, the gross return from the transaction. By this means the bank can obviously extend its business farther than it could if it were restricted to dealing with its own capital funds. It is apparent, however, that in transactions of this sort the bank is limited to

the amount of cash brought to it by depositors. It may, of course, be able to influence this amount by its policies, for example, by offering free services or by the rate it offers to pay on deposits. But since this would presumably increase its costs, there is a limit to the extent to which it can expand in this way, even apart from the restrictions imposed by law or by agreements among bankers.

Let us now suppose that a businessman, needing ready funds, asks to open a checking account and offers the bank high-grade bills of exchange worth $25,000. At the conclusion of the operation the balance sheet would be as follows:

Resources		Liabilities	
Cash	$ 525,000	Capital	$1,000,000
Bank Building	300,000	Savings Deposits	20,000
Furniture and Supplies	25,000	Demand Deposits	25,000
Loans	75,000		
Investments	120,000		
	$1,045,000		$1,045,000

This transaction represents the *third type* of lending operation. The bank has again acquired income-yielding assets, the bill of exchange, but what it has exchanged for them is not cash of the type lent previously, but its own promise to pay. The bank has parted with nothing in exchange for the interest-bearing obligations it acquired; it has merely given the borrower the right to draw checks on the bank. The checks which are drawn against this deposit credit may be used for the same purposes as currency. For the most part, deposit credits circulate throughout the economic system, moving from one deposit account to another without actually being redeemed in currency at any time.

Demand deposits, like savings deposits, may also arise out of a simple deposit of currency. In that case they involve

not a net expansion in the volume of circulating medium in the hands of the public (i.e. outside banks) but merely the exchange of one type of money for another. Not even that much of a change occurs when one deposits checks drawn on some other bank. While demand deposits, therefore, may or may not involve the third method of lending, savings deposits cannot possibly do so. What is most important to recognize is that in the illustration of the third type of lending, the bank lent out that which did not previously exist but which was actually created as part of the lending operation.

It is apparent that, contrary to the usual connotation of the word "deposit," the term "bank deposit" does not mean something physically present. Instead, a deposit is simply an entry on the books of a bank acknowledging the bank's liability to a customer.[3] While it may originate out of the transfer of cash or other assets to the bank, it is not itself an asset but a liability of the bank.

The terms "primary" and "derivative" deposits relate to the manner in which demand deposits arise. A primary deposit is one which originates out of the deposit of currency or checks at a bank. The balancing item on the books of the bank is in the form of a corresponding addition to assets under the heading "Cash and Due from Banks." A derivative deposit is one which is "derived" from a loan or investment by the bank. The balancing item takes the form of an addition to the bank's assets under the heading of "Loans and Discounts" or "Investments." The designation of "derivative" refers only to the manner in which the particular deposits arise. When derivative deposits are transferred to another account by being checked against they become primary deposits.

[3] As will be seen later (pp. 250–51), this is also true of deposits at a Federal Reserve Bank.

The creation of derivative deposits, which is another name for the third stage of the art of lending, is sometimes referred to as the "monetization of credit." The distinction between primary and derivative deposits is of great importance in considering the effect of banking operations on the total money supply. The deposit of checks serves merely to transfer demand deposits from one bank to another or from one account to another and does not alter the total. When deposits are created through the exchange of currency for demand deposits there is an expansion of deposits but this is accompanied by an equivalent reduction in the amount of currency at the disposal of the public. The effect is to exchange one type of circulating medium, currency, for another, demand deposits, but not to increase the total volume of circulating medium. The creation of derivative deposits, on the other hand, constitutes an increase in the total circulating medium.

Distinguishing Features of Deposit Creation

It might appear, since the net changes in the balance sheet are so nearly alike, that the third type of transaction is substantially the same as the preceding. This is by no means the case, since fundamental differences exist between them. In this instance the bank was able to acquire interest-bearing debts without waiting for anyone to bring cash to it. It did not in any way serve as an intermediary. What the seller of the notes took in exchange was the debt of the bank. Simply by expanding its debts in the form of demand deposits the bank was able to increase the total of its earning assets and at the same time to supply the businessman with the ready funds he desired.

The process just outlined is normally carried to a rather advanced stage. The examples given above present no more than a highly simplified illustration of the nature of banking

operations. A more complete and accurate picture of the effect of all the lending operations is obtained by examining an actual bank statement like those published from time to time by commercial banks. Such a statement is shown below.

Statement of the *X* Bank

December 30, 1947

Resources		Liabilities	
Cash, Exchange and Due from Banks	$2,633,000	Capital Stock	$1,000,000
Loans and Discounts	1,611,000	Surplus	746,000
U. S. Govt. Securities	6,990,000	Undivided Profit	484,000
Other Securities	741,000	Savings Deposits	3,056,000
Building and Fixtures	240,000	Demand Deposits	7,367,000
Real Estate and Other Resources	439,000	Other Liabilities	1,000
	$12,654,000		$12,654,000

This statement, it will be seen, is equivalent to an expansion and extension of the simple balance sheets presented earlier. It shows the distribution of assets and liabilities after the operations just described have been carried on for a considerable period of time. It is to be noted that in this case the process of acquiring assets and creating deposits has reached a point where they are many times the capital stock of the bank or the bank's cash.[4]

It is important to recognize always that there are limitations on the process of deposit creation which has been de-

[4] Meanwhile, as will be observed, the capital accounts have been increased by additions to Surplus and Undivided Profits. Undivided profits consist, as the name indicates, of undistributed earnings. Surplus is a more permanent addition to the capital accounts, which is not, however, represented by capital stock. Surplus is usually built up out of earnings which are put back into the business, but it may be created by special assessment, as part of the original subscription or through reorganization.

scribed in connection with the third type of lending operation. The most important of these are examined in the next chapter. It is sufficient here to point out that the bank must be able to redeem the promises it has made. Experience long ago taught that a bank needs to hold in cash only a small fraction of the total of its deposit liabilities, since not all the deposits will be claimed at once and a certain amount of cash will be coming in from other sources. In our illustration, the ability of the bank to expand deposits rested in part on the fact that it had reserves of cash on hand sufficient to meet any withdrawals resulting from the added deposits.

In any event, it is clear that a bank is much more than an intermediary, and that the total of deposits may be greater, in fact much greater, than the cash reserves on hand. It is worth noting also that the ability of the bank to lend by this process of credit expansion is greatest when it holds excess reserves.

The final distinguishing characteristic of this type of lending has been referred to already, and is the most important of all. It is that the checks drawn against demand deposits do the work of money; indeed, that they may be considered to be money. In the United States, in fact, they are nine or ten times as important, judged by the transactions effected, as all other forms of money combined. Banks perform, then, the seemingly impossible feat of *creating something out of nothing, and that something which they create is, to all intents and purposes, money.*

Another way of expressing this idea is that the bank has created money on the basis of the debts it acquired. This type of circulating medium is the principal type of debt money, in contrast to asset currency where a physical asset such as gold, having value in itself, is coined into money. Governments have also from time to time issued debt

money, as this country did when it printed greenbacks during the War Between the States. Perhaps the most surprising feature of this type of debt money, however, is that the traditional governmental function of providing money has to a great extent been placed in the hands of banks which are private institutions. For the creation of deposit currency amounts to the private issue of money.

The contrasting effects of the second and third types of lending may be shown by a further illustration. Let us suppose that on a given day one individual deposits $10,000 in cash in a savings account and another individual deposits the same amount in a checking account. Suppose further that the bank immediately takes the full amount of cash received, $20,000, and invests it in government bonds. Superficially it would seem that the two transactions are identical, but they are not. Investment of the first $10,000 leaves the same amount of circulating medium in existence as before. Investment of the second $10,000, on the other hand, increases the potential total of circulating medium by the $10,000 of checks which can be drawn against the demand deposit. While the savings deposit represents an increase in the total claims to money, i.e., the total of the community's debts and credits, it does not increase the circulating medium. The savings depositor can now spend only by surrendering his savings deposit and *withdrawing cash from someone else.* The other depositor can spend, and presumably will do so, *without anyone else being compelled to spend less.*

The second and third divisions of the art of lending are not as distinct as might appear from the previous discussion. Once our bank has attained a size more or less adapted to the needs of its community, new loans will be made out of the proceeds of the repayment of old loans, and a growth in the deposits of one customer will be at the expense of a

decline in those of another. When this is the situation, the bank will again be acting as an intermediary for the disposal of money (i.e., demand deposits) already in existence. One could, of course, look upon each repayment as involving the destruction of deposits and each new loan as leading to its re-creation. It would still be true, though, that a net creation of means of payment, which has been treated as the third stage of lending, occurs only when the total of demand deposits is rising. The overwhelming bulk of credit operations, whether of an individual bank or a banking system, involve no change in total deposits and are similar to the second type of lending operation.

The Traditional Theory of Commercial Banking

Enough has been said to indicate that the essential feature of commercial banking is the holding of liabilities in the form of deposits payable on demand, and the holding against these of resources in the form of interest-bearing obligation which are payable not on demand but at some future time. The former represent the debts of the bank and the latter the debts of the public. Bank resources now include a large proportion of government bonds. Traditional thought on the subject of banking was based upon the assumption, however, that the earning assets of commercial banks would be of commercial origin and this assumption still dominates the attitude of the public toward banks and influences strongly the conduct of the banks.[5]

[5] The historical preference of bankers for self-liquidating commercial paper was amusingly illustrated by Governor Benjamin Strong in testimony presented before the Joint Committee of Agricultural Inquiry during the twenties: "Lord Rothschild once was asked how he told a good bill when he had it presented for discount—in the early days the Rothschilds were the largest buyers of bills in Europe—and he said he always put his tongue to it to see whether it had a little flavor of salt. The idea was that he didn't want to buy a bill that hadn't moved across the ocean in a vessel carrying a shipment of goods." Joint Commission of Agricultural Inquiry, Washington, Government Printing Office, 1922, Vol. 11, p. 517.

The implicit assumption underlying the theory of commercial banking was that an expansion of bank credit (which may here be thought of as meaning demand deposits) was desirable if it accompanied, and highly virtuous if it facilitated, an expansion in the volume of goods produced and exchanged. It was reasoned that if production and trade increase this will presumably give rise to a larger volume of bills of exchange. By the discount of these bills of exchange at banks, demand deposits will be increased and thus the desired result is achieved, a growth in circulating medium (i.e., demand deposits) corresponding to the growth in the volume of business. Similarly, if business is declining fewer bills will be drawn so that as old bills mature and are paid they will not be replaced by an equal quantity of new bills. Consequently the total of discounted loans in the portfolios of banks will decline and with it the total of demand deposits. Thus a contraction of the circulating medium was expected to accompany a decline in business.

The whole relationship can also be stated in reverse. If the quantity of commercial paper is proportional to the volume of trade, then adjusting the total of demand deposits to the total of commercial paper will adjust deposits to trade, since things equal to the same thing are equal to each other.

By creating deposits against good self-liquidating commercial paper, the banks were expected to provide a system that would be automatic, safe, and adjusted to that vague ideal, "the needs of trade." The role of the banks was presumed to be passive, reflecting and facilitating changes in business but not inducing them.

The function of commercial banking as traditionally conceived can best be indicated by an illustration.

Let us suppose that a wholesaler buys a shipment of

clothespins and in return gives the manufacturer his promissory note or accepts a draft drawn by the manufacturer. The note or acceptance is made payable in sixty days, since the dealer anticipates that by that time the proceeds of his sale of clothespins will provide funds for meeting it. The manufacturer, however, needs ready cash and cannot wait sixty days for his money. Accordingly he takes the note or acceptance to his banker who "discounts" it for him; that is, the bank allows him the face value of the note less interest to maturity. The banker does this by crediting the checking account of the manufacturer, and the latter draws against this credit as he needs to. When the note falls due it is collected by the bank rather than by the manufacturer.

The result of this series of arrangements is that the bank has exchanged its own highly acceptable credit, in the form of the checking account balance, for the less well known credit of the clothespin dealer which was in the form of the latter's note or acceptance. In the process commercial banks performed two obvious services, they *raised the quality of the credit* and they *made it available in more convenient form and amounts.* Commerce and industry have been served, since the merchant secured a stock of goods he otherwise might not have been able to get, and the manufacturer sold an order he otherwise might not have been able to sell. The interest on the discounted note constituted the bank's reward for the economic service it performed, and in the end—as in every textbook idyl of this sort—all parties benefited. And the "invisible hand" of the economic harmonists moved on to other good deeds.

The essential element in this highly idealized description is that the banking process was held to be firmly rooted in trade and industry. This traditional relationship is emphasized in the name *commercial* banking. Instead of attempting to examine at this point how widely this convention-

alized picture departs from present reality it is enough to indicate the main assumptions upon which the theory rested. The basic assumptions were that:

a. A close adjustment of bank credit to the volume of business is desirable;
b. The volume of commercial paper varies with the volume of business activity;
c. The volume of bank credit adjusts automatically to the volume of commercial paper; and
d. Banks are passive in their actions, reflecting changes in the volume of business but not causing them.

This is a somewhat rigorous statement of traditional commercial banking theory and should be looked upon as the way it presumably would have functioned if given a chance, rather than as an exact expression of its anticipated actual operation. The assumptions should, however, be clearly borne in mind; they are the basis for an understanding of the traditional theory of banking and for judging its applicability under present day conditions.

The foregoing description of the banking process has shown how banks lend money, and more particularly how in lending they may at the same time create money. The illustrations have failed to indicate how the process operates in an entire system of banks, what holds the creation of deposit credit within bounds and the principles which actually guide bankers in their everyday affairs. These matters constitute the subject of the next two chapters.

7 ~ Bank Reserves and the Limitation of Deposit Creation

Demand deposits, as the name indicates, carry the obligation for the bank to pay currency whenever the depositor requests it. Out of this obligation arises the necessity for banks to hold reserves against their deposit liabilities. It is the necessity of maintaining bank reserves that constitutes the ultimate limiting factor governing the creation of demand deposits. In addition, reserves provide the key to deposit behavior for an individual commercial bank as contrasted with that of the entire system of commercial banks. Finally, as will be seen later in the discussion of Federal Reserve operations, reserves are the principal basis for operations by the central banking authorities directed toward the control of credit.

How Reserves Limit Deposit Expansion

THE RESERVE RATIO

Even a bank, such as was assumed in describing the third stage of the art of lending, which held a complete monopoly on banking operations in its community would not be free to go on expanding deposits indefinitely. In order

to be sure of being able to fulfill its obligations to redeem deposits on demand, it would wish to have at its disposal a certain amount of currency or to maintain a certain proportion of currency to deposits. It would plan to have enough for use as till money to meet routine, day-to-day demands, and additional funds on hand or on deposit with other banks to meet any sudden emergency that might arise. These sums constitute bank reserves and the proportion of reserves to deposits is known as the reserve ratio. Whatever the reserve ratio may be, the process of deposit creation must cease when reserves are reduced to that point, unless additional reserve money is obtainable from other sources. The reserve ratio may vary from time to time and it customarily differs for different sizes and types of banks. Moreover, the reserve ratio may be set by law as is the practice in this country, or by custom as happens in England and some other foreign countries. Always, however, the reserve ratio constitutes the principal and basic limitation on the creation of bank credit. This is true whether we think of an individual bank in a system or of the system as a whole; it is central to and inseparable from the internal operations of a bank. It is the most important of all the factors limiting the expansion of deposits and is basic to the others.

INTERNAL DRAIN

Up to this point we have been discussing deposit creation and the effect of bank reserves in a community where there was only a single bank. While this is an obvious departure from reality, the position of the banking system as a whole [1] is similar, for the most part, to that of a bank in a society

[1] This refers to all commercial banks in the community. The effect of including the central bank (Federal Reserve Banks) is reserved for later treatment.

where there are no other banks. The presence of other banks within the system, however, profoundly modifies the behavior of any individual bank within that system. This is because the creation of deposit credit by a bank which is one of many having relations with one another is subject to a second curb, the limitation imposed by the possibility of internal drain. By internal drain is meant the shift of reserves from one bank to other banks in the system. It is regarded as internal because, while external to the bank, it is internal to the banking system.

The shift of reserves to or from a particular bank is determined by the balance of clearances between that bank and other banks in the system. This in turn is governed by the dollar volume of checks drawn against the bank relative to the volume drawn on other banks which are collected through it. The payments due to and from banks in settlement of check drawn can be offset against one another, i.e., "cleared," but any balance remaining must be paid in cash. These cash payments represent a corresponding shift in reserves. The mechanical operations of check clearance are conducted through the Federal Reserve Banks, correspondent banks, clearing-houses and by means of direct collection between banks. As will be seen later, settlements between member banks are often effected by debits and credits to reserve accounts with the Federal Reserve Banks.

If a particular bank, having received additional reserve money, were to expand its deposits very much more rapidly than others in the system, it would almost immediately be subjected to heavy withdrawals as checks drawn against the new deposits were exchanged for cash or deposited at other banks. The withdrawals over the counter and payments to settle unfavorable balances with the other banks would greatly reduce the reserves of the original bank. On the assumption that *all* reserves drawn out of the first bank

were redeposited in other banks, the banking system as a whole would be able to expand by the full reciprocal of the reserve ratio. Thus if the reserve ratio were 10 per cent, deposits could rise tenfold, if 20 per cent they could rise fivefold. But they could not expand more than the amount determined by the reserve ratio since the system as a whole is in the same position as a single bank in a closed community such as was assumed above and is subject, as has been said, to the limitation imposed by the reserve ratio.

Even if a bank originally receiving additional reserve money does not attempt to expand on the added reserves, the increased reserves will nevertheless not be confined to the first bank but will be shared by other banks in the system. As a result of the clearing of checks drawn against the deposits which were established by the initial deposit of the new reserve money, the added reserves will be distributed throughout the system.

The presumption is that at the end of the process each bank in the system will have gained and retained reserves approximately in proportion to the size of its total reserves relative to those of all other banks in the system. This would be true even of the bank which received the original deposit of additional reserve money; in fact, the permanent increase in its deposits might well be less than the original deposit of additional reserve money and might also be less than that of other banks in the system.[2] On the basis of the net gain in its reserves, each bank will presumably tend to have outstanding increased demand deposits corresponding to the reciprocal of its reserve ratio. The basic factor in the analysis, however, is not what happens to deposits—that is the result—but what happens to reserves. For the individual

[2] If two banks, one large and the other small, were to receive new reserve money in equal amounts, the first bank could expect to retain a correspondingly larger proportion of the increase than the smaller bank.

bank and for the banking system as a whole, deposits can be increased only by a multiple of the reserves *that are retained.* That multiple corresponds to the reciprocal of the reserve ratio.

EXTERNAL DRAIN

It is improbable that all of the increase in reserves will remain within the banking system. Just as most of the reserves will be drawn out of the original bank and into other banks, so a part will probably be drained out of the banking system entirely. The third type of restraint upon deposit creation, then, is the limitation imposed by the possibility of external drain. There are two places where funds may go which are withdrawn from the banking system. In the first place, it is likely that an increased demand for currency to circulate within the country will occur, so reducing the amount available for bank reserves. Secondly, under certain circumstances reserve money may be sent out of the country to settle foreign balances.

Whether an external drain involves the withdrawal of cash from the banking system only or from both the system and the country, in either case the effect is to restrict the possible creation of deposits. The important difference between internal and external drain lies in the fact that internal drain limits the expansion of deposits for an individual bank but not for the system, while external drain limits it for both.

The concepts of internal and external drain relate to the movement of reserves away from banks. They are thus precisely the reverse of the concept of primary deposit, described in the previous chapter, which refers to the movement of checks or currency, and therefore of reserves, to a bank. The same operation would be called a primary deposit when viewed from the standpoint of the bank where a check

was deposited and internal drain when viewed from the standpoint of the bank against which it was drawn.

The Nature of Bank Reserves

The fundamental importance of reserves as the limiting factor in deposit creation calls for a detailed analysis of the meaning and significance of bank reserves. The usual connotation of reserves is something saved or held back for a particular purpose, as for use in an emergency. It is in this sense that we employ it in speaking of reserves of troops or of food reserves. At one time, the expression "bank reserves" conveyed the same general idea, that of a stock of ready cash, held to meet abnormal demands. Today, however, only a limited part of the funds classified as bank reserves are of this character.

THE MEANING OF BANK RESERVES

In discussions of banking, the term reserves not only is used to refer to all cash items, some of which may not be readily available in time of need, but is extended to cover so-called "secondary" reserves. These are earning assets which can be exchanged for cash with little delay in time or loss in value. Use of the expression "secondary reserves" is not strictly logical; by a further extension one might speak of tertiary reserves, or reserves of the fourth or fifth power. By such a stretch of the term, all assets of a bank, including buildings, fixtures and whatnot, could be classified as reserves of one grade or another. This would, of course, deprive the term "reserves" of any useful significance. On logical grounds it might be best to confine the term to cash and cash items only, but use of the expression "secondary reserves" is too strongly entrenched to allow such a departure. Where the 'word reserves is employed without qualification, however, it ordinarily refers exclusively to

cash and cash items. The following discussion relates to reserves in this restricted sense.[3]

It is well to bear clearly in mind that there are two broad categories of bank reserves, the reserves of individual banks and the reserves of the central banking organization. The former will be referred to as member bank reserves, and the latter as central bank reserves. Each is significant in particular ways, and to each attach important problems. The present chapter relates only to member bank reserves.

CLASSIFICATION OF RESERVES

For a bank which is a member of the Federal Reserve System, reserves may be said to consist of cash held in the bank in the form of till money or vault cash, cash items in process of collection, cash due from (demand deposits on the books of) other individual banks and deposits with the Federal Reserve Bank of its district.[4] It should be carefully observed that earning assets such as commercial loans and Treasury obligations, no matter how liquid or safe they may be, do not constitute reserves of member banks in this technical sense.

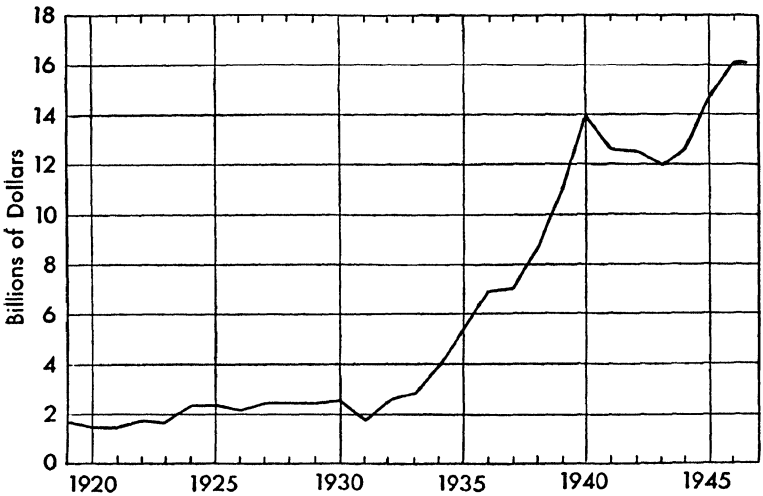
Reserves fall into the two broad classes of working reserves and legal reserves. The first three categories mentioned above are included in *working reserves*, though this description of them is somewhat misleading since some of these funds may remain idle for long periods while deposits

[3] Various "reserve" accounts such as "reserve for contingencies" and "depreciation reserves" are an accounting device. It is true that they are created for the purpose of preparing for some special need, but since they do not represent assets they are entirely distinct from the reserves under consideration here.

[4] Somewhat different reserve provisions exist for banks not members of the Federal Reserve System, but these differences are not essential to the present discussion. It may be noted that in quite a number of states state-chartered banks may count certain types of investments, usually Treasury or state obligations, as legal reserves. Cf. *Federal Reserve Bulletin*, March 1937, pp. 188–219.

with the Federal Reserve, which are not included under working reserves, may be far from idle. Deposits with the Federal Reserve Bank constitute *legal reserves* (cf. Chart III). Of these, the amount which the bank is required by law to hold against its time and demand deposits constitute *required reserves* and anything over and above this amount represent *excess reserves.* Working reserves, regardless of

CHART III. *Legal Reserves of Member Banks, 1919–1947*



Source: Data from *Banking and Monetary Statistics* and *Federal Reserve Bulletin.*

their size, are never counted as excess reserves. The term excess reserves applies exclusively to legal reserves, i.e., to deposits at the Federal Reserve.

Since the early thirties reserves have been in excess, often far in excess, of what had formerly been regarded as normal. Changes in the total amount and relative magnitude of the different categories of reserves between 1929 and 1946 are indicated by the following figures of reserves held by mem-

ber banks of the Federal Reserve System (totals are in millions).

	1929[5]	1936	1941	1946
Required reserves	$2,307	$2,780	$7,656	$14,977
Excess reserves	31	3,004	5,875	1,023
Total legal reserves	2,338	5,784	13,531	16,000
Working reserves	6,020	6,381	8,980	12,008
Total reserves	8,358	12,165	22,511	28,008

Size of Reserves: The Goldsmiths' Principle

The quantity of reserves a bank needs to hold in order to be able to meet claims as they are presented is ordinarily a rather small fraction of its liabilities to the public. Indeed, the assumption of liabilities, in the form of bank notes or deposits, greatly in excess of the currency available for redeeming these promises has always been the cardinal feature of commercial banking. London goldsmiths in the 17th century are supposed to have discovered (though probably they were not the first) that it is ordinarily safe to hold reserves amounting to only a fraction of the liabilities assumed, and accordingly the practice of holding fractional reserves is sometimes said to be based on the Goldsmiths' Principle.

There are various reasons why partial reserves are ordinarily adequate and these reasons constitute the bases of the Goldsmiths' Principle. The most important reason is that some of the claims will probably not be presented at all, and in no case will all of them, or even a very large proportion of them, be presented at the same time. In the second place, some of the checks drawn on a bank will be redeposited by customers of the same bank so that reserves are not actually taken out of the bank. Thirdly, new de-

[5] Figures for 1929–41 are end of March and for 1946 end of June.

posits will be bringing currency in at the same time that withdrawals are taking it out. Fourthly, the maturing of loans and investments, which can be controlled to some extent by a conscious spacing of maturities, provides a continuous inward flow of cash. Finally, some of the assets of the bank can be converted into cash with little or no loss in case the funds obtained from other sources are insufficient.

The exact amount of reserves that may be needed cannot be determined with exact precision. Moreover, the amount varies with different banks, and with the same bank at different times. Calculations of reserve ratios quite properly include allowance for a considerable margin of safety. A number of factors influence the proportion of reserves likely to be necessary. The most obvious, perhaps, is the liquidity of the bank's earning assets, which relates to the ease of obtaining additional cash in case of need. Another is the "liquidity" of its liabilities. By this is meant the probability of a sudden increase in the presentation of claims on the bank, is in the case of a run. The prospect of a sudden increase in withdrawals may be influenced by legal safeguards, by the stage of the business cycle and by foreign or domestic disturbances.

Another basic consideration bearing on the size of the reserve ratio is the extent to which the bank resources of the country are capable of being mobilized in time of emergency. The importance of this factor was illustrated following the establishment of the Federal Reserve System. Largely because of the way in which the mobility of bank funds was thereby increased, reserve rations were substantially reduced with no apparent sacrifice in safety. Finally, there is the important question of the quality of bank management. The less competent the management, the higher would reserves presumably need to be in order to provide the same degree of safety for deposits. (It is not to

be supposed, however, that a less competent management would, in fact, carry higher reserves!)

For many years the trend of reserve ratios was downward. Moreover, a reduction of the ratio where this could be achieved without loss of security was long regarded as one of the objectives of banking policy. It appealed to the banker as economically desirable since it signified a reduction in the proportion of nonearning assets, and from the standpoint of society it suggested that gold and other basic reserve money were being more fully, and hence more economically, utilized.

The problem during these years was the one just discussed, namely, how large reserves need to be to insure the safety of deposits. Following 1929 both reserves and reserve ratios in the United States rose enormously (Table IV). Since the early thirties, the size of reserves has been influenced practically not at all by consideration for the safety of deposits. The growth in reserve ratios has been the

TABLE IV. *Deposits and Gross Reserves of Member Banks, 1929–1946* (Year end figures. Millions omitted)

	Deposits			Gross	Gross Reserve
	TIME	DEMAND	Total	Reserves	Ratio
1929	$13,233	$24,747	$37,981	$9,260	24.38%
1930	13,546	23,029	37,029	8,710	23.52
1932	10,550	18,140	28,690	6,666	23.23
1934	9,908	23,940	33,848	10,019	29.60
1936	10,989	31,896	42,885	13,938	32.50
1938	11,510	31,853	43,363	15,493	35.73
1940	12,319	44,110	56,430	23,966	42.47
1941	12,487	49,231	61,717	23,123	37.47
1942	12,841	65,436	78,277	24,280	31.02
1943	15,330	76,932	92,262	23,790	25.79
1944	19,317	91,600	110,917	25,860	23.31
1945	24,274	105,395	129,669	29,822	23.00
1946	27,253	90,917	118,170	29,537	25.03

Source: *Member Bank Call Reports.*

result partly of forces before which bankers and banking authorities felt more or less powerless and partly, as will be seen presently, of a shift in emphasis as to the functions of reserves.

The Functions of Bank Reserves

Just as there are different categories of reserves, so there are a number of different ends served by reserves. The functions of reserves must be distinguished according to the particular type of reserve under consideration.

ROUTINE BANKING OPERATIONS

A substantial part of the funds included under working reserves simply represent operating balances which have as their function the carrying on of the normal banking routine. Reserves of this sort are rather badly named; they do not represent cash set aside for an emergency, and to call them reserves is rather like speaking of soldiers at the front as reserve troops. It is only because of the difficulty of accurately isolating these funds that they are classified under reserves.

ABNORMAL DEMANDS

That portion of working reserves over and above what is employed in current operations is presumably held for the purpose of meeting abnormal demands. These are, therefore, reserves in the ordinary sense. At times the lack of attractive opportunities to lend or invest has led banks to accumulate large balances of idle funds in their vaults and on deposit with other banks including the Federal Reserve Banks. These also are hardly to be thought of as reserves in the usual sense. Instead of being ready funds awaiting an emergency, they are idle resources awaiting more permanent disposition.

LIMITATION OF DEPOSIT EXPANSION

The origin of a legal reserve requirement appears to lie in a belief that banks should hold an adequate amount of reserves and could not be trusted to do so except under legal compulsion.[6] It is even now not always realized that the establishment of fixed statutory requirements with respect to reserves greatly impairs their availability for use in time of need. This can be easily illustrated. If a bank has $10,000 of reserves, free and unrestricted, it can use them whenever the need arises. If a law is then passed compelling the bank to have $10,000 on hand at all times, it is no longer free to use the money and the money has ceased to be a reserve for an emergency. By way of analogy, one may consider what would be the effect of requiring each fire station always to have two fire trucks ready in the station house. Reserves for an emergency must be capable of use when the emergency arises or they are reserves for something else but not for emergency.

It would be incorrect to suggest that the legal reserve requirement has completely destroyed the availability of required reserves. A Federal Reserve member bank is allowed to dip into required reserves provided that at another time it holds extra reserves sufficient to bring the average amount held throughout the period (which varies from weekly to semimonthly) up to the required ratio. In addition to this possibility, any reduction in deposits frees reserves by a fractional amount. Thus if there is a 20 per cent reserve requirement, every drop of five dollars in deposits frees one dollar of reserves.

Despite these minor qualifications it remains true that the effect of the legal requirement is to limit drastically the

[6] In England and many other countries reserve ratios are set by custom rather than by law.

function of reserves as an immediate resource and to render them primarily important as a limitation on the expansion of deposits. In fact, the principal function of required reserves is to limit the expansion of bank liabilities.[7] A requirement that legal reserves of 20 per cent be held against demand deposits is a check on the increase of these deposits beyond an amount that would allow this ratio to be maintained. By the same token, if 100 per cent reserves were required no expansion would be possible and if none were held or required, assuming this to be possible, the potentiality of expansion would hypothetically be infinite. The role of reserves in limiting the expansion of demand liabilities rests on the existence of a particular ratio of reserves to liabilities, and as long as that ratio is maintained it makes no difference whether it is established by law or by custom.

MINOR FUNCTIONS

Two minor, but by no means unimportant, functions performed by reserves may also be mentioned. In the first place, balances among member banks are settled largely through debits and credits to reserve accounts, in much the same way as a clearinghouse adjusts balances among the banks of a particular city. Thus reserves perform the function of a *settlement fund.* In the second place, legal reserves may be thought of as representing, in part, a *contribution of member banks to the costs* of operating the central banking organization. The gain to the central bank from having the deposits of member banks is exactly analogous to the benefit derived by member banks from the deposits of their customers. The existence of deposits enables the bank to hold

[7] This is true whether the liabilities of the bank take the form of demand deposits or bank notes. Since the commercial banks of this country are no longer allowed to issue bank notes, the present discussion is in terms of demand deposits only.

income-yielding assets. In the case of the Federal Reserve Banks, the revenue from these assets helps to defray the costs of the central organization.

Excess Reserves of Member Banks

The phenomenon of excess member bank reserves is peculiarly a product of the period after 1929. As a result of the lower reserve requirements provided under the Federal Reserve System, there was a short period in the early years of the Federal Reserve when excess reserves existed in considerable volume, but these were soon absorbed. It was a tenet of banking theory that reserves would always be adjusted to legal requirements, never being much above or below this amount. The reasoning behind this assumption was simple and clear: bankers would not hold less because that would contravene the law, and they would not hold more because that would lessen their profits. The former was illegal and the latter was unthinkable.

Down to 1930 this assumption was supported by experience; since that time it has been wide of the truth. Table V shows changes in the legal reserves of Federal Reserve member banks in recent years. Legal reserves increased by $10.6 billion (from $2.4 billion to $13 billion) in the period from the end of 1929 to the middle of 1941. The increase in excess reserves, $5.2 billion, though great, was considerably less than the increase in total legal reserves. The chief reason why excess reserves failed to show a greater increase than this was that in the meantime reserve requirements had been substantially increased by the Federal Reserve authorities as a credit control measure. If the reserve requirements prevailing in 1929 had been in force in 1941, the total of excess reserves would have been not $5.2 billion but $9.3 billion. Assuming that the original requirements were adequate from the standpoint of safety, the increase in what

might be called "economic," as contrasted with legal, excess reserves was over $9 billion. In the middle of 1941 reserves were over three and a half times (356 per cent) what was needed as judged by standards prevailing in 1929.

TABLE V. *Legal Reserves of Member Banks, 1929–1946*
(Year end figures. Millions omitted)

	Required Reserves	Excess Reserves	Total Reserves	Ratio of Total Reserves to Deposits which Require Reserves
1929	$ 2,428	$ —54	$ 2,374	7.4%
1930	2,374	100	2,474	7.3
1932	1,935	576	2,511	7.5
1934	2,301	1,781	4,082	14.2
1936	4,632	1,939	6,571	18.0
1938	5,511	3,183	8,694	22.4
1940	7,438	6,554	13,992	29.4
1941	9,365	3,085	12.450	23.8
1942	11,136	1,936	13,072	19.2
1943	11,635	1,200	12,835	17.5
1944	12,747	1,514	14,261	17.3
1945	14,424	1,387	15,811	15.2
1946	15,524	490	16,015	15.4

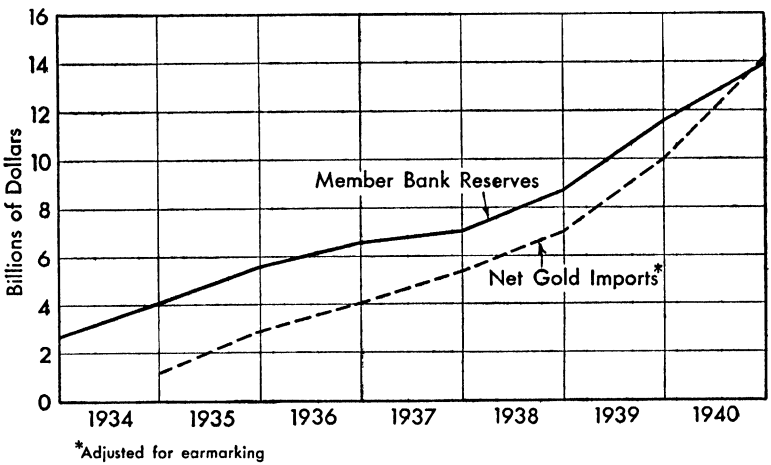
Source: *Member Bank Call Reports.*

The growth of excess reserves was obviously the result of the failure of deposits to increase as rapidly as legal reserve balances. Notwithstanding an increase in the total of deposits of member banks from $33 billion at the end of 1929 to $50 billion in the middle of 1941, the relative expansion of member bank reserves was very much more rapid. A number of different factors contributed to the growth in both total and excess member bank reserves. From 1929 to 1934 operations of the Federal Reserve Banks designed to promote recovery, particularly the purchase of securities in the open market, added to the supply of reserve

funds. For part of the period this increase was offset by a return of funds by member banks to reduce their borrowing at the Reserve Banks. On the other hand, a decline in the volume of deposits, from $33 billion at the end of 1929 to under $27 billion in June 1934, contributed to the growth of excess reserves, even at times when the absolute amount of reserves was decreasing.

After 1934 purchases by the United States Treasury of silver and gold contributed to a growth in both the absolute

CHART IV. *Net Gold Imports and Member Bank Reserves, 1934–1940*



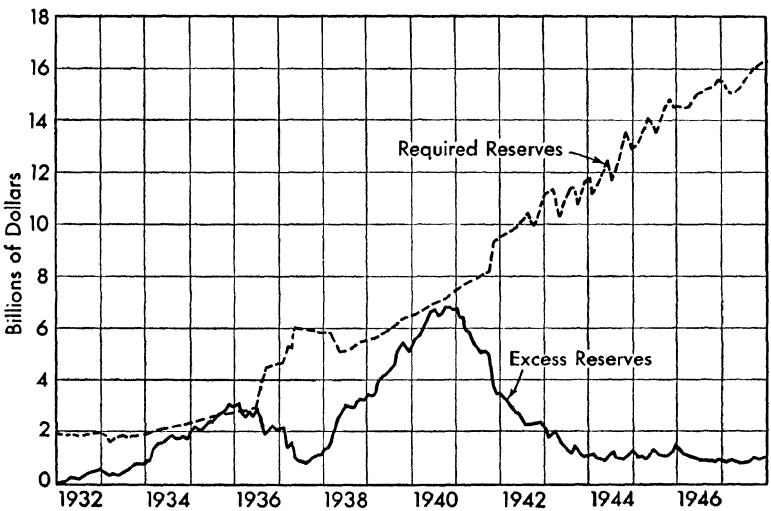
Source: Basic data from *Banking and Monetary Statistics.*

volume of reserves and the amount of the excess above legal requirements. While the gold and silver was added to Treasury stocks rather than remaining in the banks, the effect of payment for the metals by the Treasury was to increase the reserves of member banks. The mechanical operations whereby this was accomplished are not important to the present discussion. By far the most important factor in

the increase of reserves from 1934 on was the growth of the gold stocks of the United States. Between the end of 1933 and the middle of 1941 gold reserves of the Treasury increased by nearly $16 billion. A large part of this increase entailed an expansion in the reserve balances of member banks (see Chart IV).

Excess reserves reached their maximum, nearly $7 billion,

CHART V. *Required and Excess Reserves of Member Banks, 1932–1947*



Source: Adapted from *Federal Reserve Charts.*

in October 1940 (Chart V). From that point they declined even more rapidly than they had grown. At the end of the war, excess reserves were not much larger than in 1932. The increase in reserve requirements in 1941 contributed to the decline in excess reserves, while the inflow of gold, which had been the principal cause of the growth in reserves, was reversed during the war years. The dominating

influence, however, was the wartime expansion in bank deposits and currency in circulation. So great was the increase in both deposits and currency that the Federal Reserve found it necessary to supply additional reserve funds soon after our entry into the war.

The word "excess" implies, with considerable accuracy, that excess reserves perform no very useful function. It is true that they represent funds which are available for use whenever needed and, therefore, partake of the original nature of reserves. However, this is to a very limited extent the reason for their existence; they are rather to be thought of as funds awaiting more profitable application. From the standpoint of the individual bank, an increase in excess reserves signifies an expansion in nonearning assets, though it also makes the position of the bank more liquid than it might otherwise be. The chief significance of excess member bank reserves, however, it that they destroy the immediate effectiveness of the legal reserve ratio as a limitation on the expansion of deposits. The existence of excess reserves, which represent, it will be recalled, excess *legal* reserves, means that the legal barrier to an increase in deposits has been surmounted. In short, the effect of excess reserves is to interfere with the principal function of required reserves, that of providing a check on the further expansion of demand deposits.

Demand for Credit as a Factor in Deposit Expansion

Before concluding this discussion, it is well to note a popular misconception as to the factors limiting the volume of bank credit. It is frequently implied that the principal, or perhaps the only, factor governing the volume of bank credit is the demand by the public for loans. The usual explanation of why banks do not expand is that no one wants to borrow. The idea that banks are passive and must wait until some

deserving borrower comes petitioning for a loan, while never wholly accurate, is a survival from the time when banking was related much more narrowly than it is now to commercial operations. The rise of bonds as a field for bank investment has modified both the extent to which deposits depend upon the demand for loans and the degree to which banks are passive.

It may be acknowledged that there is little that banks can do to increase materially the quantity of commercial loans they make. This is almost entirely dependent on the volume of loan applications. But it is clearly not true that banks are passive with respect to making bond investments; all that is necessary if a bank wants to do more of this type of lending is to go out into the market and buy as many bonds as it chooses. The initiative rests with the bank. As our illustration of the third stage of the art of lending demonstrated, deposits may be created by the acquisition of bonds quite as effectively as by commercial loans. It follows that *the amount of deposits is not limited to the volume of applications for bank loans by individual and business borrowers.* And it follows also that the *banks are not mere passive instruments in the process of deposit creation.*

Nevertheless, there is an element of truth in the view under consideration. At a time when banks have all the bonds they are willing to hold but are ready to increase their loans, the volume of loan applications would seem to be the controlling factor in the creation of credit. Actually, however, the obstacle to credit creation is not the limited quantity of loans but the unwillingness of the banks to add to their investments in bonds. Clearly, the hesitancy to increase bond holdings is not in any absolute sense a limit to the creation of credit. It rests on psychological and not on objective grounds and for this reason is uncertain and unpredictable. That it is far from being a fixed or rigid

element is seen from the fact that bankers have frequently altered their views as to both the absolute and the relative amount of bonds they should hold.

Whether or not a retirement of loans or investment leads to a permanent reduction of deposits will depend upon what happens with respect to reserve balances, and whether or not a constant ratio of reserves to deposits is maintained. At a time of active demand for credit and virtually no excess reserves, as in 1929, the actively controlling factor is reserves. It is quite probable that a repayment of government debt at that time would have contributed less to a reduction in the volume of deposits than to a shift in assets from bonds to loans; in all likelihood banks would have replaced their holdings of government bonds, as they were paid off, by making additional loans. During the thirties, reserves were not the determining element, as the existence of large excess reserves indicates. Under those conditions the governing factor may well have been the quantity of acceptable loans or government bonds.

It remains true that the only quantitative check on deposit creation is that which is set by reserves. The various limitations which have been described all rest on this fundamental banking fact. The existence of excess reserves has at times made us forget the role of reserves as a limiting factor, and to look for some other explanation of why deposits did not expand further. It is true that the limit imposed by reserves is not always operative. But because deposits are within one limit, it does not follow that they are constrained by another. It signifies, rather, that there is no effective quantitative check on the expansion of deposits so long as excess reserves exist in substantial volume.

8 ~ The Fundamental Banking Problem

The fundamental problem confronting any banker is to keep the realizable value of assets equal to liabilities. The reasons for this may be clear from previous discussion of the nature of banking, but they will bear repetition. In contrast with other middlemen, the banker holds few assets of a tangible sort; his resoures consist predominantly of the debts of businessmen and the government. At the same time, he owes very large sums to the public in the form of time and demand deposits. The demand deposits carry the obligation to pay cash whenever it is requested; in the case of time deposits a short period of grace is allowed by law but is seldom invoked. Thus the bulk of a bank's liabilities are subject to payment on call, and it is essential that the resources of the bank provide the means at all times for meeting demands for currency as they are made.

It might appear that the correct procedure in this situation would be to hold against these liabilities obligations of others which were also payable on call. Actually, a perfect technical solution of the problem, an exact balancing of the legal maturities of assets and liabilities, would not be feasible. Fortunately, it is also not at all necessary since there is not the slighest likelihood of the public's legal rights with

respect to the early payment of the bank's liabilities being fully exercised.

While the banking problem as stated embraces all liabilities it is the bank's liabilities to the public rather than to its stockholders which, from a social standpoint, constitute the first concern. If liabilities in the form of capital accounts are not covered by assets it is no doubt unfortunate for the stockholders, but that may be thought of as a normal business hazard attaching to any enterprise.[1] If depositors lose it is much more serious since this represents the failure of a vital part of the monetary mechanism, involves unjustifiable hardship to the bank's customers, and may impair the efficient working of the entire economy. In practice the fundamental banking problem divides itself into two parts, the immediate and the long-run. The first is the problem of keeping liquid assets equal to liquid liabilities, meaning by this the liabilities which are liquid in fact as well as form. This is the problem of *liquidity,* of being able to meet all demands for cash as they are presented. The long-run banking problem is to keep the realizable value of total assets equal to that of total liabilities. It is the problem of *solvency:* could the business be dissolved without loss to anyone?

The short-run banking problem is important at all times, since failure to remain in a position to meet all claims as they are presented leaves the bank with no alternative but to close its doors. The long-run problem, on the other hand, is of practical significance only if it is desired to close out the bank. There is a famous case of a Canadian bank which was technically insolvent for a period of forty years but continued to remain open because it was able to meet the problem of short-run liquidity. It is probable that upon more

[1] This is not to deny the importance of maintaining capital intact. For reasons which will be apparent later, continued impairment of capital may lead to the forced suspension of a bank.

than one occasion many of our banks have been temporarily in a position where the current market value of their assets failed to cover liabilities. This could be the result of a sharp recession in business activity, as in 1920–1922, or of a drastic decline in security prices such as occurred following the 1929 crash. By continuing in operation until recovery set in the majority of these banks were restored to full solvency. It is not to be supposed, however, that the long-run banking problem is of negligible practical importance. Unless this problem is constantly considered, the day will probably come when the short-run problem cannot be met. That is, upon the solution of the immediate problem depends the ability of the bank to remain open, but upon a solution of the long-run problem largely depends the solution of the immediate problem.

The bases of an attack on the fundamental banking problem are suggested by the statement of the problem. Since the objective is to keep assets equal to liabilities, it is evident that the solution lies in maintaining assets and in restricting an undue expansion in liabilities. In the long-run phase this applies to all assets and liabilities while in the short-run phase it applies primarily to those which are highly liquid.

It may be stated once and for all that the first essential for a successful handling of the problem is honest and competent management. That is what Walter Bagehot meant when he said that we shall have good banks not when we have good laws but when we have good bankers. Without disparaging the basic importance of this consideration, the following analysis will be devoted to an examination of factors of a somewhat more tangible character which bear on a solution of the fundamental banking problem. It will be apparent that the principal problems are related to the maintenance of assets rather than to the restriction of

liabilities. It is appropriate for this reason to dispose of the latter point first.

Measures for Controlling Liabilities

RESTRICTING THE LIQUIDITY OF LIABILITIES

Various devices have been employed at different times to restrict the demand on banks to redeem their liabilities. One of the simplest—and crudest—of these methods has frequently been applied during runs. It has happened, for example, that banks impose obstacles to the payment of deposits at such times. All paying windows except one may be temporarily closed; excessive time may be consumed in counting out cash; or bank officials and others may issue reassuring statements to persuade depositors that it is unnecessary to attempt withdrawal. All these devices are designed to reduce the rate at which cash is called for by the bank's depositors.

The establishment of the Federal Deposit Insurance Corporation in 1933 probably exerted an influence in the same direction. By providing assurance that no loss will be incurred on deposits up to $5,000, it should lessen the anxiety of small depositors to demand cash during periods of uncertainty. While the introduction of this reform is generally assumed to have reduced the danger of severe runs, its efficacy has not been subjected to test. The fact that deposit insurance covers only smaller deposits signifies that depositors with balances in excess of $5,000 lack the full protection afforded other depositors and, therefore, may still be inclined to make sudden demands upon banks. Studies of bank failures have indicated that it is precisely the larger deposits which are the first to be withdrawn in times of doubt as to the safety of banks. Withdrawals of the larger deposits have been the most important cause of sudden in-

creases in the liquidity of liabilities. Thus the F.D.I.C. fails to cover the very type of deposit which has chiefly contributed to difficulties in the past. While the F.D.I.C. has probably reduced to some extent the danger of heavy withdrawals of cash, it is too early to conclude that the problem has been solved. The most that can be said is that the F.D.I.C. is, among other things, a factor which tends to reduce the liquidity of liabilities.

RESTRICTING THE AMOUNT OF LIABILITIES

A slightly different type of device for influencing liabilities are measures designed not to control their liquidity but to restrict their amount. Liabilities to the public have sometimes been limited, by law or custom, to a certain ratio of the bank's capital. This was common practice with respect to the issue of bank notes. At one time the F.D.I.C. sought to establish the rule that deposits should not be in excess of ten times a bank's capital accounts, including Capital, Surplus and Undivided Profits. Again, as was mentioned in another connection, one of the most important functions of reserves is to serve as a check on the expansion of deposits. Bank reserves contribute to a solution of the fundamental banking problem in a twofold manner. By both limiting the expansion of liabilities and providing ready assets for an emergency, they help to assure that resources will be sufficient to cover liabilities.

THE CAPITAL ACCOUNTS

Still another approach to the problem of controlling liabilities has to do with the functions of the capital accounts. There are two principal ways in which these accounts operate to help in solving the fundamental banking problem. In the first place, since they represent the shareholders' stake in the business, it is assumed that the management

will be influenced to pursue a careful policy in order to safeguard this stake. An important reason for limiting deposits to a certain ratio of capital is so that the stockholders' stake in the success of the bank will be large enough to bear a significant relationship to the bank's liability to depositors.

In the second place, and still more important, the capital accounts are expected to serve as a buffer to protect depositors. In case of loss or liquidation the claims of depositors must be satisfied before those of the stockholders. Until the middle thirties it was customary for this safeguard to be reinforced by the double liability provision.[2] In case of failure each stockholder was liable for an assessment equal to the par value of the capital stock he owned. This provision failed to function effectively and was generally abandoned, though it is still retained in some of the state banking laws.[3]

While the desire to maintain a more or less constant ratio of capital to deposits helps to restrain the undue expansion of a bank's liabilities, it is by no means an absolute limitation upon them. The determination of the ratio is dependent upon the policy of the bank itself and rests upon custom rather than statute. It is within the power of the bank's officers to change the ratio if they see fit, and very substantial changes in the ratio have, in fact, occurred (see Chart VI and Table VI). Moreover, a wide variation is found in

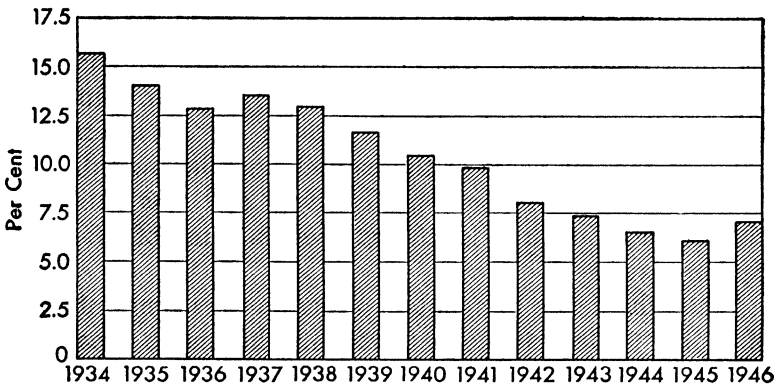
[2] See below p. 391.

[3] Collections under double liability from 1865 to 1935 averaged exactly one half the amount assessed on stock of failed national banks. The provision was evaded in various ways and was felt to operate as an undue penalty upon the more virtuous of a bank's stockholders. Its repeal was designed to render bank stock more attractive to investors at a time when bank capital was impaired and it was desired to facilitate the raising of additional capital. It was also argued that the introduction of the F.D.I.C. had rendered the protection afforded by the double liability provision less necessary than before.

the ratio of capital to deposit liabilities which is maintained by different banks.

The only absolute check on an expansion of deposits is the legal reserve ratio. At times when banks hold large excess reserves even this limitation is of potential rather than of practical application. If cash for legal reserves were derived

CHART VI. *Ratio of Total Capital Accounts to Total Deposits, Insured Banks, 1934–1946*



Source: *Annual Report* of the Federal Deposit Insurance Corporation for 1946, p. 11.

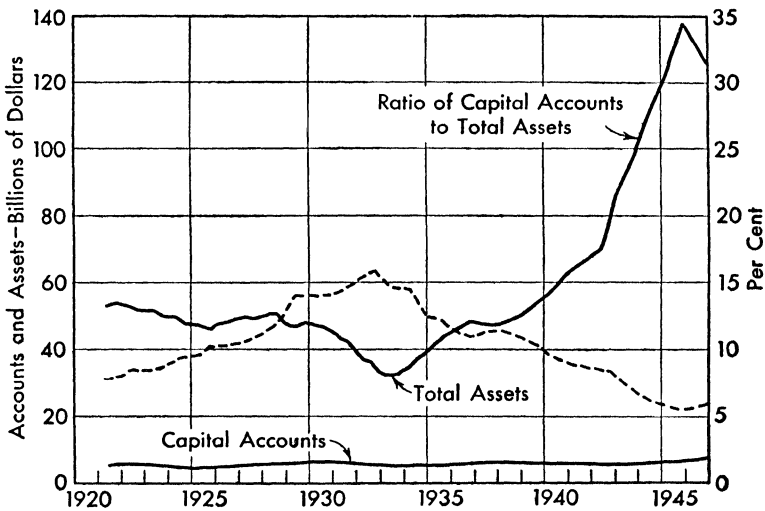
only from capital, the capital accounts would indirectly govern the possible amount of liabilities. In practice, however, cash for reserves is obtained to only a very limited extent from additional capital. It is obtained very largely from deposits themselves, and consequently reserves may rise independently of any change in the capital accounts.

The ratio of capital accounts to liabilities to the public has declined greatly over the past hundred years. The trend was particularly marked before the turn of the century, but has continued down to the present (Table VI).[4] The high

[4] Because of the sharp contraction of deposits the ratio of capital accounts to deposits rose appreciably during the early thirties.

ratio in earlier years is partially a reflection of the greater relative importance at that time of bank notes as compared with deposits. The great expansion in deposits, which have never been restricted as rigidly as bank notes, has been the governing factor in the decline in the ratio of capital accounts to liabilities. The fact that capital accounts are com-

CHART VII. *Capital Accounts and Total Assets of Member Banks, 1920–1945*



Source: Adapted from Charles R. Whittlesey, *Bank Liquidity and the War*, New York, National Bureau of Economic Research, 1945, p. 32.

paratively stable in amount has meant that at any time when deposits (and, therefore, total assets and liabilities) have changed rapidly, a marked alteration has occurred in the ratio of capital to deposits or to total assets (cf. Chart VII).

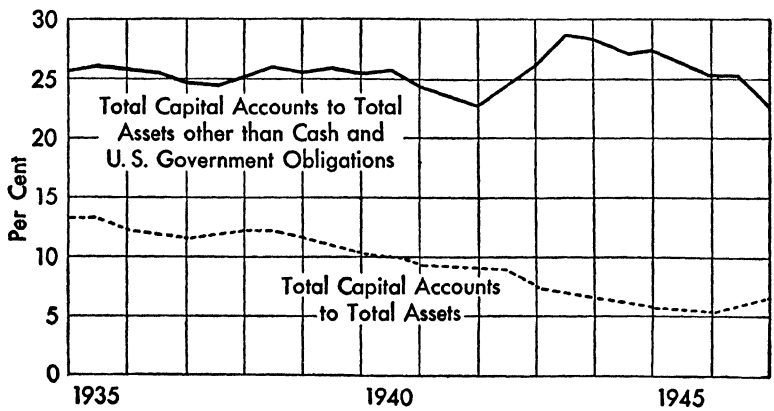
The evidence of Table VI is clearly that the importance of capital as a safeguard to deposits has greatly diminished. No undue significance is to be attached to this conclusion

TABLE VI. *Capital Accounts, Banknotes, and Deposits, 1840–1945*
(Values in millions of dollars)

	Capital	Surplus Undivided Profits and Reserve Accounts	Bank Notes	Total Deposits	Ratio of Total Capital Accounts to Notes and Deposits
1840	358		107	120	157.7%
1850	217		131	146	78.3
1860	422		207	309	81.8
1870	514	135	336	775	58.4
1880	565	260	318	2,222	32.1
1890	973	585	126	4,576	33.1
1900	1,025	882	265	8,513	21.7
1910	1,880	1,956	675	17,584	21.0
1920	2,703	3,251	688	41,725	14.0
1930	3,889	6,124	652	59,847	16.6
1940	3,092	5,233		71,153	11.7
1945	3,188	7,424		166,530	6.4

Source: Comptroller of the Currency, *Annual Reports.*

CHART VIII. *Ratios of Capital Accounts to Total and Risk Assets, Insured Commercial Banks, 1935–1946*



Source: Federal Deposit Insurance Corporation, *Assets and Liabilities,* Report No. 26, p. 7.

since other factors, among them changes in the character of earning assets, in type of deposits and in the proportion of cash holdings, may have outweighed the effect of changes in capital ratios. It has repeatedly happened that at times when the proportion of capital accounts to total bank assets was declining, their proportion to "risk assets," i.e., total assets other than cash and Treasury obligations, has remained relatively constant or even risen (Chart VIII).

The Maintenance of Assets

Basic as bank liabilities are to a solution of the fundamental banking problem, the most important aspect of the problem, and the one that concerns the banker most directly and continually, is that of maintaining the value of assets. If a bank were always to hold an amount of cash equal to its deposit liabilities it would be assured of being able to meet all demands for withdrawal. It is extremely doubtful, however, that such a bank would be able to cover its necessary expenses, let alone show a profit, which, after all, is the *raison d'etre* of a bank as it is of other business enterprises. On the other hand, if it were to put all available cash into high-yield, and therefore relatively illiquid, credit instruments, it could perhaps count on a liberal income but might find itself in a position where it could not meet its promises to pay cash when called upon to do so. Between those two extremes lies the path the successful banker must follow. As one writer has said, "the problem of a bank is to tie up enough cash to earn a profit without tying up so much that it gets tied up itself."

A bank, then, must concern itself with two primary objectives. It must, at any time, be able to meet all demands of depositors for cash and it must earn sufficient profits to stay in business. The first of these objectives must be achieved at all times and the second is essential if it is to remain a

going concern. Minor losses of a temporary character could be recouped if the operation of the bank were sufficiently successful at other times. But a major loss or continued small losses in the principal value of its assets would jeopardize the attainment of the two primary objectives.

The ideal type of asset for a bank would be a credit instrument which yields a high return yet could always be converted into as much cash as was paid for it. Such an instrument obviously does not exist. The bank will, therefore, be obliged to effect some sort of compromise. It may hold part of its assets in cash and part in income-yielding credit instruments which are not always fully convertible into cash. It may hold less cash, but try to have its earning assets distributed in such a manner that a constant stream of money is flowing in which can be retained, if occasion warrants, and used to supplement customary reserves. It may try to divide its earning assets into one group which will yield a relatively high income and another which will yield less but will be readily convertible through sale or borrowing. It may employ a combination of such policies.

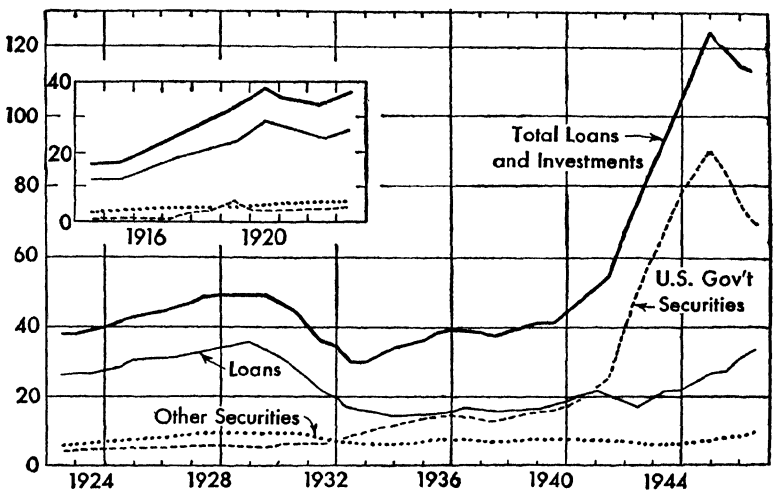
In determining both the policy to be followed and its success, much will depend upon the skill of the management in calculating the particular needs of the bank and in judging general financial conditions. It will also depend to a great degree upon the organization of the country's banking institutions and the extent to which the government cooperates in their orderly functioning. Important as these general considerations are, our chief concern is with particular policies of the individual banks which bear on the problem of maintaining the value of assets.

PORTFOLIO POLICY

The expression "portfolio policy" refers to the practice of banks with respect to the distribution of their earning assets.

Traditionally, commercial paper has been held in particularly high esteem. Of all forms of credit instruments it has been looked upon as coming closest to the ideal mentioned above. Its yield was relatively high and it was regarded as extremely safe. Because it was based on actual commercial transactions, the completion of which would presumably provide funds for discharging the obligation, its value was

CHART IX. *Loans and Investments of All Commercial Banks, 1914–1947*



Source: *Federal Reserve Charts.*

felt to be strongly buttressed. Even in the absence of facilities for disposing of it if cash was desired, the fact that it was of short maturity meant that simply by holding on to it its liquidation could presumably be counted upon within a short time. The feature of short maturity, also, signified that the bank's assets were automatically subject to frequent check-up, thus increasing the probability that no serious deterioration in their quality would occur.

Changes in the composition of bank portfolios. Short-term, self-liquidating commercial paper was at one time regarded as the backbone of the banking business. Its use seemed to demonstrate the social usefulness of banks since the services of banks in facilitating trade and in improving the quality of credit were self-evident. More important from the standpoint of the fundamental banking problem, it appeared to offer the best assurance that the desired ends of safety, profitability and liquidity would be attained.

In light of these considerations, it is of the utmost significance that the commercial loan has declined in relative importance (Chart IX). The change is highly significant even though it is to be viewed as constituting an alteration in the character of banking rather than a deterioration in the soundness of banks. Where once bank assets consisted predominantly of commercial paper, they are now largely in the form of investments, particularly government securities. The change was partly the result of an increase in the supply of these other types of securities, but it is also true that the supply of commercial paper declined very drastically. Despite a very substantial rise in commercial and industrial borrowing from banks in the period of reconversion after the Second World War, government securities continued to constitute by far the larger part (roughly two-thirds) of the earning assets of commercial banks. Various factors apart from the growth in federal debt contributed to the decrease in the relative volume of commercial loans. Structural changes in the organization of business made it easier for corporations to do their own financing without resort to the banks. Other methods of financing were introduced which more or less supplanted the commercial loan. In the period after 1929 the decrease in business activity reduced the volume of commercial paper and at the same time the at-

titude of supervising authorities encouraged the purchase of other types of banking assets.

One effect of these changes was to lengthen very materially the average maturity of assets held by banks. Data are not available to show changes in the average maturities of the earning assets of banks over a long period of years. The distribution of maturities of member bank investments in the middle of 1941, just before the tremendous wartime expansion in bank credit, is presented in Table VII. The predominance of securities of longer maturities is clearly seen from this table.[5] Loans, which are ordinarily of relatively short maturity, are not included among investments; as was just noted, however, they constitute a much smaller proportion of total earning assets than they did in the past. In addition, loans also are now granted for longer terms than was customary in the past. The so-called "term loan," which has become of increasing importance, is seldom for less than a year and is usually (to the extent of roughly three-fifths by dollar volume) for periods of five years or longer.

The resort to investments in long-term securities constitutes a long step away from the traditional policy of portfolio management. The certainty of ultimate payment may, of course, be as great for a long-term asset as for a short-term asset, but the element of a greater time period introduces an increased possibility that the market value may temporarily decline. This would be the normal consequence of a rise in the prevailing market rate of interest. While the possibility of such a decline in the market value of assets does not necessarily signify a weakening in the solvency of

[5] The distribution of maturities shown in Table VII would not, of course, be typical of all banks. In general, city banks hold a greater relative proportion of shorter maturities. It is worth observing that many government and corporate securities may be called for repayment in advance of the scheduled maturity date.

banks, it calls for certain modifications in the approach toward the fundamental banking problem. It is in itself a reflection of a change in portfolio policy, but in addition, it implies the necessity of accommodating the policies of both banks and supervising authorities to the changed situation. Some of these implications will be investigated later.

The commercial loan in operation. In evaluating the significance of the change which has occurred in portfolio policy it is important to note that *the commercial loan was never actually as ideal as the description* presented earlier may suggest, or, indeed, as many bankers and economists have been inclined to assume. The feature of short maturity was often deceptive, since loans were frequently made with the understanding that they would be renewed again and again. There are records of three to six month loans which were renewed continuously for a period of twenty-five years. Again, what were actually real estate loans or industrial loans were sometimes made under the guise of commercial loans.

Moreover, it is not entirely accurate to suggest that the self-liquidating feature of commercial loans was all that has been implied, a fact attested by the practice of more or less continuously renewing or replacing old loans. It could well happen that the completion of a trading operation would, as has been assumed, provide the means for liquidating a particular loan. But the merchant might be in a position where he must then make a new loan equal to the old if he desired to undertake another business transaction. To pay off the old loan and not replace it with a new one would compel him to suspend operations. This would indeed be a self-liquidating commercial loan, but it is a good deal like cutting down the tree to get the apples, or throwing out the baby with the bath. It signifies that the implications of self-liquidation are by no means as simple and painless as

TABLE VII. *Member Bank Investments, June 30, 1941*
(In millions of dollars)

United States Government obligations, direct and guaranteed.—Total			18,077
Direct obligations:		14,238	
Treasury Bills	1,127		
Treasury Notes	2,631		
Bonds maturing in 5 years or less	1,380		
Bonds maturing in 5 to 10 years	3,538		
Bonds maturing in 10 to 20 years	5,057		
Bonds maturing after 20 years	505		
Fully guaranteed obligations:		3,839	
Maturing in 5 years or less	2,591		
Maturing after 5 years	1,248		
United States Government Agencies, not guaranteed.—Total			528
Maturing in 5 years or less	404		
Maturing after 5 years	124		
State and local government securities.—Total			2,984
In default	4		
Without specific maturity	214		
Maturing in 5 years or less	1,731		
Maturing after 5 years	1,035		
Other securities.—Total			1,931
In default	46		
Maturing in 5 years or less	579		
Maturing after 5 years	1,306		
Total Investments			23,520
Maturing in 5 years or less			10,707
Maturing after 5 years			12,813

Source: *Member Bank Call Reports.*

is customarily assumed. In many situations, genuine liquidation would involve a destruction of credit and interruption of the processes of production and exchange. While it is quite possible that the bank would suffer no loss in the immediate transaction, the effect on businessmen and others might be very serious. And if the movement of net liquidation were widespread the individual bank could scarcely expect to escape its consequences.

In light of the shift that has occurred with respect to the composition of bank portfolios, it is useful to compare the actual experience with commercial loans with that of investments, even though the comparison leads to no clear conclusion. In the 1920-1922 depression, experience with commercial paper was less favorable than with investments, while during the depression following 1929 experience was just the opposite. The reason for the difference is primarily that the first period was distinguished by a sharp fall in commodity prices and the second by a serious drop in security prices. It reflects the fact that in the earlier period speculation was most active in commodity markets while in the later period it was most active in security markets.[6] It would seem that *prevailing conditions may be more important than the particular type of asset* in determining the outcome of portfolio policy.

The practice grew up in the thirties of holding considerably larger sums of cash than in the past. The expansion of cash holdings constituted an offset to such lessening of the liquidity of banks as may have resulted from the shift to assets of longer maturities. Chiefly, however, it reflected the failure of banks to find an opportunity to lend or invest cash at yields they were ready to consider in securities they were willing to own. It was probably not, to any significant extent, the result of increases in reserve requirements since these increases were the consequence rather than the cause of cash accumulation.

Criteria of portfolio policy. Our principal interest in portfolio policy attaches to the use that has been made of funds actually put to work. The resort to assets of longer maturities, particularly the growth of investments, and the decrease in lending reflect a fundamental change in the

[6] H. G. Moulton, *Financial Organization and the Economic System*, New York, McGraw Hill, 1938, pp. 320–21.

basis of determining portfolio policy. This change is probably not so much the result of conscious preference, however, as the accommodation of policy to the necessities of the existing credit situation as the banker sees them.

The criteria a banker must constantly consider in the acquisition of earning assets are liquidity, safety and profitability. The first of these, it will be recognized, is addressed primarily toward the short-run phase of the banking problem and the second toward the long-run phase. The difficulty in applying these criteria arises out of the fact that the attribute of profitability ordinarily varies inversely with the attributes of safety and liquidity. (Thus cash would be wholly liquid and safe but its profitability would be nil.) *The ideal portfolio policy consists,* therefore, *of attempting* to effect a proper balancing of these attributes, in short, *to secure assets which possess as high a degree of profitability as possible, but which are as safe and as liquid as the bank considers essential to its needs.*

The meaning of profitability is more or less obvious. Ordinarily it is measured by the interest the security yields, but it could also include an appreciation in the principal value of the asset between the time of purchase and the time of sale or redemption.[7] *Safety* refers to the full realization of all anticipated payments on account of interest and principal. The most important point to observe in connection with this attribute is that a security is not necessarily unsafe just because its market value may temporarily decline. If the promised payments on account of interest and principal are fully and faithfully made and if these payments are not in doubt, the security must be regarded as possessing the attribute of safety.

[7] In the case of a discounted note interest takes the form, in fact, of the difference between the price at which it is bought and the price at which it is sold or redeemed.

The quality of *liquidity* is rather more difficult to describe. While a great deal of refined analysis has been directed toward the question of liquidity in recent years, it is sufficient for our purposes to deal with liquidity in rather simplified, and perhaps somewhat arbitrary, terms. The expressions liquid and liquidity are figures of speech. In the figure, cash is treated as the analogue of a liquid. The closer an asset is to cash the more liquid it is: a government bond maturing tomorrow is highly liquid because it is only one day removed from being equivalent to cash; a bank's premises are illiquid because they probably could not,[8] and ordinarily would not, be sold immediately for what they cost. For an asset to be liquid it is not enough that it can be exchanged for cash. It must be convertible into cash without delay and without any sacrifice in its calculated value. While a substantial decline in the market value of a security would not necessarily destroy its safety it would gravely impair its liquidity.

From the standpoint of the present discussion it does not matter how liquidity is secured. The essential point is that cash can be obtained quickly and without loss. There are a number of methods of assuring the liquidity of banking assets. In the first place, the liquidity of so-called "self-liquidating" commercial paper arises out of the completion of the transaction that gave rise to it. Secondly, an asset is liquid, as the term is here used, if it can be sold or borrowed upon at its full book value. Liquidity of this second type is said to be based upon shiftability. Thirdly, an asset may become liquid through the simple expedient of holding it until it matures. This latter point is of especial interest and importance. A bond maturing ten years from now would

[8] It is perhaps unnecessary to add that the term liquid is also frequently applied to banks themselves. A bank is said to be liquid, or in a liquid position, if it has a high proportion of cash and liquid assets.

not be thought of as liquid, but the same bond on the day it matures is completely liquid. If a bank acquires such bonds at a regular rate, it will, in the course of time, have bonds evenly distributed as to maturities from the present up to a date ten years hence. The average maturity of the bonds is reduced by this process of "spacing" to five years. In this case liquidity of the bond portfolio may be said to depend upon a policy of spacing maturities.

Changed bases of portfolio policy. The effect of recent changes in portfolio policy has been to decrease the importance of liquidity of the first type and to increase that of the other two types. Shiftability has assumed particular importance because of the policy of the Federal Reserve in undertaking to support the market for government bonds when they show signs of weakening. Such action was taken at the time of the recession in 1937 and again at the outbreak of the European war in 1939. By agreeing to lend upon government bonds at par, as well as upon other good assets at their own discretion, the Federal Reserve authorities have gone far to assure the liquidity of these assets.

A further feature of recent portfolio policy has been an increase in the relative importance of safety as a guide to policy. Formerly a credit instrument was not regarded as suitable for purchase by a bank, no matter how certain it was of ultimate payment, if there was a serious possibility that its market value might show substantial depreciation during the period held, that is, if it was not very high in liquidity. There is today a growing feeling that banks should not be greatly concerned about current quotations but may invest with a view to holding the security until maturity. According to this conception, a security may be suitable for a bank to own even though its liquidity, on whatever basis determined, is not of the highest. It is not that safety was less important formerly than now but that

a credit instrument was once expected to possess *both* safety and liquidity. At the present time the latter quality has ceased to be an absolute requirement of particular banking assets.

This change in attitude has widened the variety of instruments regarded as suitable for acquisition by banks. The result is manifest in the presence in bank portfolios not only of assets of longer maturity but also of types and kinds, from personal loans to term loans for capital purposes, which would not have been admitted a few years ago.

There is every reason to believe that recent changes in portfolio policy, together with the support seemingly assured by the Federal Reserve, provide as much assurance of a successful handling of the fundamental banking problem and of the maintenance of the value of assets, as was afforded by the portfolio policies of former years. Important as a proper regard to spacing is, the principal safeguard of the liquidity of the banking system lies now in the ability and willingness of the government and the Federal Reserve System to assure the shiftability of bank assets when occasion requires.

Thus the responsibility for the short-run phase of the banking problem has passed, to a considerable extent, into the hands of the central authorities. Responsibility for the long-run phase still rests, nominally at least, with the banks' officers, presumably turning upon their acumen in determining the safety of the securities they acquire. But here also the freedom and independence of the banks' administration is considerably circumscribed. The Comptroller of the Currency has undertaken to specify the requirements a bond must meet in order to qualify for purchase by member banks. Bonds other than those qualifying would probably be viewed with considerable suspicion by examiners.

It would seem, therefore, that portfolio policies are con-

siderably more liberal than before, in the sense that the standards of what earning assets are suitable for banks to hold have been greatly broadened. At the same time, the part played by the central authorities, including the Treasury, the Federal Reserve, the Comptroller of the Currency and others, in the determination and working out of portfolio policies is much greater than it once was. Paradoxically, then, portfolio policies have become both more and less free than they were prior to 1933.

PROFITS AND THE FUNDAMENTAL BANKING PROBLEM

One of the most familiar proposals for safeguarding the quality of banking assets has been the introduction of measures to facilitate the earning of profits regarded as adequate by the banks. The defense of this proposal runs along the following lines. If banks have difficulty in earning reasonable profits they may be tempted, in order to maintain their reputation as successful banks, to place their funds in securities yielding a high rate of return. These securities will presumably be less safe, and the danger will be greater of a subsequent decline in their value. On the other hand, if banks are enabled to earn satisfactory profits in other ways, they will be content to hold only the soundest assets. There will be little danger of such securities declining seriously in value.[9]

While this argument seems highly reasonable, it is open

[9] The idea that banks should be allowed to earn liberal profits has been supported on other grounds as well. At the time when double liability was imposed on holders of bank stock it was contended that profits should be high enough to compensate for the risk imposed by this provision. Also it was frequently maintained that even when dividends paid on bank stocks were high the yield was only moderate since the price of stocks was also high. This argument, however, clearly involved circular reasoning: the market value reflected primarily the high actual and prospective earnings so that on the basis of this reasoning any height of profits would appear to be justified.

to considerable qualification. The argument assumes that a bank must earn approximately as high profits as are normal for other comparable banks in order to be thought to be as "sound." If this is true, an equally logical solution would appear to lie in the direction of a downward revision of what is regarded as the normal level of profits for banks. It would scarcely help matters to introduce measures that would enable one bank to earn higher profits if the result was also to increase the earnings of other banks and thereby to raise still further the level of profits the first bank considered essential to its standing in the community. The argument as it stands seems to embody a vicious principle of keeping up with the Joneses. Without suggesting that the argument was ever intended to be carried that far, it may be said that an attempt to justify *excessive* profits, whether for their own sake or in order to maintain appearances, is extremely dangerous. Moderation in the conception of what banks should earn is essential to conservative banking. Otherwise the way is always open to the acquisition of unsafe assets and the undue expansion of liabilities in a manner that would jeopardize a satisfactory solution of the fundamental banking problem.

Too grasping an attitude on the part of bankers would hardly be in their own best interest. Unless a reasonable solution is evolved, there is likely to be strong pressure on the part of the public and political leaders for some sort of remedial action. Such action might take the form of proposals for heavier taxation or of the advocacy of outright government ownership of banks. It is scarcely to be doubted that a serious decline in the safety or economy of the services provided by banks would play into the hands of those favoring major changes in our banking system, changes which would hold out the promise of furnishing adequate service without exacting undue profits from the community.

Furthermore, a possible inference that might be drawn from the alleged inability of banks to earn an adequate return is that either there are too many banks or they are overcapitalized. Bankers can hardly be expected to welcome a suggestion that profits should be lower than in the past. At the same time, there would likewise be great opposition to any proposal to reduce the number or capital structure of the banking institutions of the country.

If it is generally felt that the desire for higher profits than conditions warrant may lead bankers to acquire risky assets, support would be greatly strengthened for the direct regulation of bank assets. Action of this sort would seem to be more logical and more certain, granted the apparent assumption that bankers would be willing to sacrifice safety to profitability, than the policy of arbitrarily assuring high earnings. For the latter solution somewhat resembles a policy of paying people to be good.

It would be a mistake to conclude, from the discussion of the need for higher bank earnings, that the profits of banks are low relative to those of other forms of business enterprise. On the basis of share capital, which represents more nearly than any other figure the original investment in the business, profits of banks have been extremely good. The average for all state banks, which is fairly typical, was 12.1 per cent in 1936 and 15.0 per cent in 1940. It will be noted that this was before the war-induced rise in bank income. Inclusion of the surplus and undivided profits accounts in the base for computing percentages reduces these ratios very greatly, but it must be remembered that the largest part of these accounts were accumulated out of profits retained after the payment of generous dividends. Data are available for the earnings of approximately four hundred thousand business corporations. These figures may be compared with the earnings of Federal Reserve member

banks, which constitute by far the most important segment of American banks. In both cases profits are based on net worth, including capital, surplus and undivided profits. The data show that over the period 1927 to 1937 member banks earned average net profits of 3.26 per cent compared with 2.81 per cent earned by all corporations. In the years 1927, 1928 and 1936 member banks had higher net earnings than any of the other corporate groups. For the eleven year period average net earnings were higher for banks than for mining, quarrying, transportation, public utility, trade and service companies, while they were lower than those of companies engaged in manufacturing, production of chemicals and petroleum refining.

Whatever the merits of the case for high profits as a contribution to the safety of our banking system, it is a matter of record that in recent years official policy has supported the view that the assurance of adequate earnings contributes to the safety of banks. Various measures introduced in the past decade, notably the prohibition of interest on demand deposits and the restriction of interest on time deposits, were introduced with the primary purpose of improving the earnings position of banks. Other practices, such as the imposition of service charges by banks, have been given the stamp of official approval even though no formal action was involved.

MISCELLANEOUS

Concealed assets. It would scarcely be possible to enumerate all the other methods employed to maintain assets. A few of the more significant, however, may be briefly described. One of the most familiar is the practice of holding what are called concealed assets. For example, it is quite common for banks to write down the book value of the bank's premises to a value, sometimes as low as one

dollar, representing only a fraction of their actual worth. This is ordinarily effected gradually by charges against the undivided profits account. In case the value of earning assets declines it is then possible to write down their book value and balance this by writing up the book value of the premises. The same end may also be accomplished by setting up contingency reserve accounts which, in case of need, can be used to adjust the book value of loans and investments to a decline in their realizable value.

Commercial banks have resorted increasingly to what is known as "valuation allowances." [10] Instead of setting up separate reserve accounts, the values at which assets are carried on the books of a bank are currently written down by charges against earnings. Even assets of the highest quality may be written down in this way, though at a slower rate than lower-grade assets. The policy of making valuation allowances has been encouraged by examiners. It avoids disadvantages which attach to building up capital, surplus or reserve accounts, and assures that provision for losses will be made in good times as well as bad.

It might seem that such measures as these, the use of concealed assets or of reserve accounts, would be of little importance except to change appearances. If the depreciation of assets is adjusted in the ways referred to, the net worth of the bank is obviously not changed; all that has happened is to alter the way different values are entered on the books of the bank. While this criticism is valid, the practices described, nevertheless, serve a useful purpose. An adjustment for decline in asset values could as well be effected through the undivided profits account without the indirectness involved in these other methods. But the intermediate step of writing down premises or setting up reserve accounts re-

[10] Also referred to as "unallocated charge-offs," "valuation reserves," "depreciation and amortization allowances" and "reserve accounting."

moves the balance from the undivided profits account and by so doing reduces the danger that the sums it represents will be paid out in the form of unduly generous dividends. In this way it may help very greatly to retain values within the business and thus to maintain the total worth of assets. Otherwise its contribution to satisfying the banking problem is formal rather than fundamental. It is worth noting that capital and surplus accounts cannot be reduced without the approval of the supervisory authorities. Thus if funds are transferred to surplus they may not be sufficiently accessible; and if they are left in the undivided profits account they may be too accessible with the result that they are dispersed. The use of concealed assets or reserve accounts effectively avoids these two difficulties.

Segregation of assets. A somewhat different type of device is what is known as segregation of assets, which is provided for in one form or another in the laws of a dozen states. Segregation signifies the separation of assets held against time deposits from those held against demand deposits. Its purpose is to prevent the withdrawal of demand deposits from leading to the liquidation of the best assets with the result that time deposits are left with only inferior securities behind them. Such a safeguard would presumably become important at a time when banks found it necessary to exercise the right to require notice of withdrawal of time deposits. A further advantage of segregation is that it facilitates the policy of accommodating the type of assets held to the character of the deposit liabilities. Under such a scheme, assets against time deposits would probably be largely of the investment type while those held against demand deposits would be more liquid.

Segregation of assets constitutes a special adaptation to the fundamental banking problem. Instead of conceiving of a single problem of maintaining assets equal to liabilities,

it assumes two problems: the problems of assuring that assets against demand deposits cover demand deposits, and that assets against time deposits cover time deposits.

Specific restrictions. Banking laws customarily restrict the purchase of the securities of any one obligor to a specified percentage of the bank's capital and surplus. In the case of banks which are members of the Federal Reserve System, the limit is set at 10 per cent, while the laws of some states allow a somewhat higher percentage. Government obligations, however, are exempt from this restriction. The purpose of the requirement is primarily to compel banks to diversify and thereby to spread the risk of depreciation of assets. It is probably a protection to banks in other ways. Very large advances to a single borrower would be likely to jeopardize the independence of a bank. A bank which had lent excessive amounts to a particular borrower might well find itself very much at the latter's mercy. One of the most extreme examples of the way in which it was possible to abuse the credit of a bank when no such rule obtained came to light many years ago:

> The Farmers' Exchange Bank, of Gloucester, Rhode Island failed in 1809 with $86.50 in specie in its vaults, after having loaned $845,771 on the basis of $100,000 capital, on unendorsed notes reading: "I, Andrew Dexter, Junr., do promise the President, Directors, and Co. of the Farmers' Exchange Bank, to pay them or order, – dollars, in – years from this date, with interest at two per cent. per annum; it being, however, understood that the said Dexter shall not be called upon to make payment until he thinks proper, he being the principal Stockholder and best knowing when it will be proper to pay the same." [11]

This illustration appropriately introduces a somewhat similar limitation, namely, the restriction on loans to bank

[11] H. E. Miller, *Banking Theories in the United States before 1860*, Cambridge, Harvard University Press, 1922, p. 97.

officers. Member banks are prohibited from extending credit in excess of $2,500 to any of their own executive officers. A few states forbid any such loans, while all but two restrict them in one way or another. Limitations also apply with respect to the ownership of real estate and of stocks. The latter provisions are designed not so much to avoid undue concentration of funds as to discourage the acquisition of illiquid or speculative assets. These various limitations are part of a general policy designed to safeguard the value of assets.

Of the miscellaneous devices for maintaining assets the first, concealed assets and reserve accounts, are dependent upon the internal policy of the bank, while the others are of a statutory character. The mixture of law and custom is thus a feature of these miscellaneous devices as it is of the principal approaches to the fundamental banking problem, such as limitation of liabilities and portfolio policy, which were discussed earlier.

9 General Principles of Credit in Relation to Banking and Money

Bankers have been described both as "dealers in debts" and as "dealers in credit." The two expressions are really identical, since debt and credit are simply two different ways of viewing the same thing. A government bond, for example, may be thought of either as a debt or as a credit according to whether we take the position of the debtor, i.e., the government, or the creditor, i.e., the person who has given cash for the bond. In examining the nature of credit it is necessary to distinguish clearly between three closely related concepts, purchasing power, money and credit. Some of the most serious difficulties in the study of money and banking arise out of a confusion of these three ideas.

Meanings of the Term Purchasing Power

In the final analysis, total purchasing power is determined by the goods and services which are available to be purchased. It is obvious that more cannot be purchased than the total of all the values available for purchases—though the same physical objects may, of course, be bought and sold many times. It is more significant that ultimately it is

goods and services that purchase goods and services. This reciprocal character of supply and demand has long been recognized.[1] The supply of wheat or wool constitutes the basis of the demand for the food, clothing and machinery which farmers or woolgrowers will buy with the proceeds of their sales of wheat and wool. By the same token, other goods and services are the final determinants of the power to purchase wheat or wool.

Purchasing power is more commonly spoken of, however, as consisting of money. It is interesting to observe that the term most frequently used to describe money, namely, "medium of exchange," contradicts the view that money is purchasing power in any ultimate sense. This term is a reminder that, in essence, exchange is nothing more or less than the purchase of goods and services with goods and services, and that money is simply a means of facilitating this process. The use of the term "medium of exchange" in no way disparages the critical importance of money in many situations, but it emphasizes in a unique way the fact that the ultimate source of purchasing power lies in what there is to be purchased.

The same point can be illustrated by considering what would be the effect on total purchasing power if the quantity of money were to be greatly increased, as happened, for example, in Germany after 1920. The power of each monetary unit to purchase would decline as the total number of units rose, and total purchasing power would probably not be increased greatly if at all. Only as the sum of

[1] It is generally referred to as Say's Law, after the French economist, J. B. Say, who first clearly formulated the principle early in the 19th century. While it would be out of place to discuss the matter in detail at this time, it may be remarked that the reciprocal character of the demand for and supply of goods and services is fully operative only in the long run. Changes in the size of cash holdings—hoarding or dis-hoarding—may, for example, interrupt for a considerable period of time the tendency for demand and supply of goods and services to balance out.

values to be purchased, i.e., the total of goods and services exchanged, was altered would purchasing power be changed. Under certain conditions, an increase in the quantity of money might lead to an increase in the total of goods and services. Advocates of monetary expansion in times of depression contend that such measures will add to total demand, increase profit expectations, stimulate business activity and lead to larger output. If this view were substantiated it could then be truthfully said that an increase in the quantity of money had brought about an increase in total purchasing power. The increase in purchasing power would still rest, however, on the increase of goods and services resulting from the larger volume of money, and not on the added money itself. Similarly, if all money were to disappear and goods and services remained, there would still be purchasing power. The purchasing power would merely have to find expression directly by means of barter rather than indirectly through money. But if all goods and services were to disappear and money remained there would be no purchasing power since there would be nothing to purchase.

The term purchasing power is used in still another sense. When it is said, for example, that the purchasing power of money has gone up or gone down, what is meant is that prices, which express the ratio of goods to money, have changed from what they were. In this sense, the term purchasing power refers to the relationship of goods and services to money.

The expression purchasing power, then, is currently applied to three distinct concepts. It may refer to:

a. That which is purchased, i.e., goods and services;
b. That which customarily purchases, i.e., money;
c. The ratio between "a" and "b," i.e., the value of money.

It would be futile to attempt to establish agreement upon a

single meaning for the term purchasing power. At all times, terminology is largely governed by individual preferences. It is more important to recognize that different usages exist than to attempt to adhere rigidly to a single one of them.

Money

The importance of money lies in the fact that it is a device for expressing values and facilitating exchange and not in its being, in any ultimate sense, purchasing power. The most important characteristic of money is that is confers upon its owner the right to make transfers. This is precisely the quality that enables it to serve as a medium of exchange. It is important to remember that the value possessed by money, its power to serve as a purchase medium, is a reflection of the value of the goods and services for which it exchanges. As long as money circulates it will have as much value as the goods for which it is exchanged; this is so whether it is made of paper or gold. If money is based upon gold, that fact may, conceivably, influence the willingness of the public to accept it in exchange for goods and services. But its value is derived from that for which it exchanges and not from the gold itself.

The reason it is so necessary to recognize the distinction between rights to purchasing power and purchasing power itself lies partly in the danger of confusing money and wealth. At a time when money consisted of full weight gold and silver coins there may have been some excuse for such a confusion. At the present time when money is almost exclusively debt money, it is entirely without foundation.

Much of the confusion concerning the difference between money and wealth arises from the viewpoint of the individual being applied to the problem of society as a whole. To the individual, the money he possesses is ordinarily regarded as part of his wealth, and the distinction between

the two may not be of great importance to him. While money is only a claim on wealth, the individual knows that in practice his purchasing power, or lack of it, involves his ability or inability to get money. Also, if he gets more money than he had previously, without losing other assets, he is sure that he is wealthier.

When we consider society as a whole, however, the distinction between money and wealth becomes important. The wealth of society consists of such things as goods and capital equipment. An increase in the number of monetary units would not of itself represent the slightest change in either the total purchasing power or the total wealth of a community; it would merely add to the total claims upon that wealth. To the extent that there were additional claims upon the same total wealth it could only mean that previous claims had been impaired. The value possessed by the new monetary claims would be equal, assuming the total wealth to be unchanged, to the value lost by the older monetary claims. While such an exact balancing out would probably never occur, a decline in the value of existing monetary claims is precisely what happens during inflation. That is the very reason that inflation is so dreaded by institutional investors and receivers of fixed incomes. It is apparent to them that while the added money supply may have increased the ability of certain fortunate individuals to purchase, it has lowered their own power to do so. The amount of money they have to spend may be the same as it was before, but their ability to command goods and services is less. It is worth saying again that for the nation *more money does not necessarily mean more purchasing power.* It may merely mean more claims on approximately the same total of goods and services. And new rights cannot be piled up indefinitely without impairing similar rights that existed earlier.

Credit

THE NATURE OF CREDIT AND CREDIT OPERATIONS

The preceding discussion is basic to an analysis of credit operations. Just as money is a means for transferring the right to wealth, so credit instruments—other than those, such as checks and bank notes, which may be regarded as themselves money—are a device for transferring the right to money. This feature is discernible in any credit operation, though in some transactions the transfer is direct and immediate while in others it is delayed or deferred. Thus a government bond is ordinarily an instrument whereby, in the initial stage, a sum of money is transferred from a lender to the government. The government receives money as a result of this transaction, but what the lender, i.e., the purchaser of the bond, gets is the right to receive money in the future. If the bond changes hands later, what is exchanged is the right to specific amounts of money at interest dates and at the date the bond matures. When a store sells goods on credit, as by charging them to a customer's account, the store really barters its wares for the right, indicated by the charge account, to receive money from the customer at some future time. If the store is unwilling or unable to wait as long as suits the customer, it may transfer the claim to a bank or other lending institution in exchange for cash or for a credit instrument of shorter maturity.

Much the same principles apply with respect to installment credit. An auto or refrigerator sold on the installment plan is, in effect, exchanged against rights to future payments from the purchaser. These rights are more precisely and formally specified than in the case of open book accounts. For this reason it is easier to discount such credits with other lenders if the original seller of the merchandise does not wish to carry them. Probably the most significant

feature of installment credit is the ease with which rights to future money may be created or transferred through this medium. In the past a good deal of attention has been directed toward the possibility that this might result in an expansion of installment credit beyond a point that was in the best interest of the borrowers. During the war it was feared that an increase in the volume of installment credit would serve to aggravate inflationary price tendencies. This fear was based on the fact that an expansion in these rights to future money might increase the current demand for certain types of goods, such as automobiles, electrical goods and jewelry. It largely explains why the authorities undertook to restrict installment credit as a move to combat inflation. A corollary is that the use of installment credit reduces demand at some time in the future. The restriction of installment credit during the Second World War was intended to limit demand for consumption goods at that time, and also to assure a greater demand for such goods in the post-emergency period.

In real estate transactions real property is usually exchanged for a certain amount of cash plus a mortgage or mortgage bond. Such a transaction represents a combination cash and barter operation. The property is exchanged for a stipulated amount of cash available at once plus the right to further amounts of cash which will be made available at specified times in the future. Perpetual annuities such as the Consols of the British government are an unusual and interesting form of credit instrument. They consist of interest-bearing obligations with no date of maturity. These securities, like all the others, represent claims to money in the future but the peculiar feature about them is that there is no provision for the repayment of a principal sum. Instead they represent rights to a perpetual series of interest payments. Likewise, the various forms of commer-

cial paper such as notes, drafts and acceptances differ with respect to details of origin, maturity and safeguards, but they share one feature in common; all represent rights to money in the future.

BANK CREDIT

The same considerations apply also to demand deposits, though these are distinguished by certain unique features. From the standpoint of the bank, demand deposits represent its debts to the public, but from the standpoint of the public they represent the rights of depositors to demand currency not at specified future times, but at any time, present or future, that they choose. There are great advantages to the public in having credit in so convenient a form as demand deposits. Because of these advantages, banks are able to do a profitable business in providing credit of this type, usually in exchange for credit of other and less available types. The differences in the characteristics of various types of credit instruments are responsible for the fact that a bank is able to charge interest on the debts of others which it acquires, and does not have to pay interest on its own debts in the form of demand deposits. This is made possible by the exceptional advantages of bank credit.

Differences in the actual or anticipated availability of money are reflected in the various types of credit instruments. Availability depends primarily upon two factors, the time of payment and the certainty of payment. The less immediate or certain the right, the less, presumably, will the credit instrument be desired and the higher will be the rate of interest that must be offered to induce an individual or a bank to accept the instrument in exchange for some other type of credit instrument or for cash. Generally speaking, differences in the price of credit are determined by anticipated differences in liquidity, embracing within this

term both the scheduled time of payment and the reliability of the debtor.

The profits earned by banks primarily depend, as in the case of other middlemen, upon differences between the buying and selling prices of that with which they deal. This idea is an essential part of the analogy of describing bankers as dealers in debts. The analogy is incomplete since, as was brought out in Chapter 6, banks are manufacturers of credit as well as dealers in it. Our present analysis has indicated a further shortcoming in the analogy. The credit sold by banks is not identical, even superficially, with the credit bought by them; the elements of liquidity are substantially different in the two instances. The quality of the credit which banks sell is different from, and presumably superior in a market sense to, that of the credit they buy from private borrowers.

CHANGES IN THE VOLUME OF CREDIT

The significance of an increase in the quantity of money was referred to above. The significance of an increase in the volume of credit is not unlike that of an increase in supply of money. The creation of additional credit may have little or no effect on the total wealth of a community though it is bound—and this is its essential purpose—to have a very material effect upon its distribution. When a farmer places a mortgage on his property, the total wealth of the community is not by that act increased. Rather, the farmer has transferred a part of his property rights to the mortgagee. Likewise a great expansion of government debt in time of war or depression does not directly change the total of the nation's wealth. The growth in debt may be related—as when it is used to finance public works or a war—to a substantial increase or decrease in the total wealth of the country, but it is by no means identical therewith. In much

the same way, as has been pointed out, an increase in the money supply may lead to an increase in wealth but is not the same thing as an increase in wealth.

The institution of credit, then, is to be regarded primarily as permitting the transfer of rights to money, just as money is a device for transferring the right to wealth. The presumption is that an expansion in the volume of credit is motivated by economic considerations and that it may be expected to contribute to the end of increasing the total of economic goods and services. Nevertheless, a change in the volume of credit in itself proves nothing, any more than does a change in the quantity of money. If a dozen men in a room were to lend a ten dollar bill successively from one to another all round the room, the total debt (and credit) at the end of the process would have grown by $120, but the total quantity of money and wealth would be the same as before. A change in the volume of credit must be judged, as will be explained presently, according to the purposes and consequences of the change.

A final and highly significant aspect of credit operations remains to be noted. Every credit instrument embodies a right to future money. In cases where a credit instrument is exchanged against cash, the person who acquires the instrument presumably values future money more than he does present money. The person who gives the credit instrument, on the other hand, evidently values present money more than future. The individual who gets the cash presumably does so because he expects to use it. The one who gives it up is probably in less urgent need of cash and might perhaps have left it idle for a certain period of time. There is a clear presumption, therefore, that the tendency of credit operations is to make money circulate more actively by facilitating its transfer into the hands of those who will use it rather than allow it to remain idle. This is probably an

important reason why periods of credit expansion are characterized by active business.

The results of credit operations may be extraordinarily great for good or for ill. Credit has made possible the development of our highly complex and highly productive capitalistic economy. It has also made possible endless abuses, from the South Sea Bubble to the excesses of 1929. The swings of the business cycle are probably largely conditioned upon a faulty functioning of the credit system. A major objective of economic policy must always be to promote the benefits of credit while curbing its potentialities for harm.

The Circularity of Credit

The essence of debt is a promise to pay (and of credit, a promise to be paid). By and large, fulfillment of the promise is contingent on realization of the expectations which gave rise to the credit agreement in the first place. In the case of promises made by a bank, the first of the basic expectations is that not all the rights of depositors to demand payment by banks will be exercised at any one time. It is apparent that banks assume a commitment to pay to depositors on demand a total sum far in excess of all currency in existence. It is a physical impossibility, therefore, for all deposits to be paid on demand at a given time. Nevertheless, banks can safely assume such a commitment because they are able to count on only a relatively small porportion of these claims being presented for redemption in currency at any given time. A corollary of this expectation is that payments are effected throughout the economy by the use of checks to transfer these rights to currency, rather than by the actual cashing of the rights and the transfer of the currency itself. In the case of other types of credit, the credit may be extended beyond the time originally stipulated, or the paying

off of one loan may be closely followed by the granting of a new loan.

The second basic expectation is that obligors will be able to fulfill their promises to others because the debts which are owed to them will be paid. Behind the debts of banks to the public in the form of deposits, for example, are the debts of the public to the banks in the form of notes, discounts, bonds and the like. In an involved economic society such as ours, the system of credit consists of a series of contractual arrangements in which the different members appear as both debtor and creditor. For that reason the ability of the individual businessman to pay what he owes may be largely determined by his ability to collect what he is owed. This is likely to be true not only of the banker but also of the manufacturer, the merchant, the farmer and possibly even of the wage earner who owes a grocer or has bought durable goods on the installment plan.

In short, credit may continue in existence rather than, necessarily, being liquidated at the time indicated in the loan contract and the obligation of one debtor may have behind it the debt of someone else. These constitute two of the principal features of credit in the modern economy. They are the essence of what may be termed the "circularity of credit." This expression signifies that credit as a whole is to be regarded as a continuously circulating, interrelated body of contractual engagements and not as a collection of independent loan agreements. The liquidity of credit that results from maintaining the fulfillment of outstanding loan contracts without a significant contraction in the total volume of credit may be termed "circular liquidity." It is not that an old loan is necessarily extended or replaced by another, but the essence of the credit process is that someone else steps into the role of lender as another steps out of it. Circular liquidity is to be contrasted with "terminal

liquidity." In the case of terminal liquidity a debt is paid off without a new one, at that point or elsewhere in the system, being made, so that a net contraction in the total volume of credit in the community occurs.

It is too much to say, as one economist has done, that from the standpoint of society there is no such thing as liquidity in the terminal sense. This is true only in respect to the total of all credit outstanding in the community. A certain amount of net contraction of credit (liquidation) may signify nothing more than a readjustment in the manner of conducting business as when, for example, a merchant shifts over from holding large inventories to a policy of hand-to-mouth buying. A wholesale attempt at net contraction of credit, however, would have very disturbing consequences. It would involve a reduction in the current demand for goods and services at the existing level of prices and would interfere with the fulfillment of outstanding loan contracts. The economic stagnation of the early thirties is an example of the consequences of a serious impairment of circular liquidity and a widespread attempt to achieve terminal liquidity.

The secret of successful credit administration at the level of the individual business is likely to be an accurate diagnosis of the expectations of others and of their prospect for fulfillment. The secret of wise credit administration at the level of central bank operations and of public policy in general is the pursuit of policies that help to preserve the circularity of credit and the avoidance of policies which would contribute to frustration of the legitimate expectations of individuals and business enterprises. It proceeds from a presumption of the liquidity of the parts, within the illiquidity of the whole. As will be seen later, the distinguishing feature of central bank policy during the Second World War and after was the Federal Reserve Banks' prac-

tice of supporting the market for Treasury obligations. This policy involved, in substance, an undertaking on the part of the Reserve authorities to assist in maintaining circular liquidity.

Effects of Credit Operations

VOLUME AND PATTERN OF DEMAND

Credit instruments, as was said earlier, constitute claims to money or, in the case of demand deposits, money itself. The effects of credit operations are those which are contingent upon a shifting of the title to money or changes in the quantity of money. In general, the effects turn on the use made of money after the credit operation compared with the use that would have been made of it in the absence of the credit operation. One of the principal possibilities is a change in the *volume* of total effective demand for all goods and services, such has might result, for example, from an increase in the quantity of money or transfer of the use of existing money from less active to more active users of money. The other principal possibility is a shift in the *pattern* of total effective demand, such as might result, for example, from a transfer of money from consumers to producers.

EFFECTS AT TIME OF CREDIT EXPANSION

The effects of credit expansion which are consequent upon altering either the magnitude or the direction of monetary demand are suggested in most instances by the particular circumstances of the credit operation. The flotation of war savings bonds served, for the most part, to transfer money from consumers to the government, thereby reducing the demand for consumption goods and implementing the government's demand for munitions and other material of

war. Its tendency to reduce the volume of money in the hands of consumers and thereby to lessen the upward pressure on prices of consumer goods was an important reason for the emphasis placed on war savings bonds as an anti-inflationary device. At another time it might occur that funds received by the Treasury from the sale of bonds were transferred to veterans by means of loans to finance new houses. The net effect then would be to reduce demand for consumer goods and to increase the demand for building materials.

When the Treasury finances its requirements by borrowing from commercial banks and the banks place newly created demand deposits to the government's credit, the effect is to expand the government's ability to pay for goods and services without any reduction in the amount of money at the disposal of others. What the Treasury receives is a net addition to the volume of money available for spending. It is for this reason—namely, because the power of the government to spend money rises without that of the rest of the community decreasing—that financing through borrowing from the banks is regarded as more inflationary than most other types of government financing.

On the other hand, the obtaining of working capital for business through sale of commercial paper to banks has long been regarded as among the most desirable uses of credit. Where the bank acts in the capacity of an intermediary and there is a simple transfer of funds, it is usually assumed that the transfer will be from passive to active users and particularly to users who will apply the funds productively. Where the effect of borrowing from banks is to create additional demand deposits, it is generally assumed that the productive uses to which the money is put will expand the supply of goods and services along with the expansion in circulating medium.

EFFECTS AT THE TIME OF REPAYMENT

When a debt is repaid there is again a transfer of funds, this time in the reverse direction from that which occurred when the debt was originally incurred. In the case of repayment of a debt at a bank, there may be a reduction in the supply of circulating medium. The key to the effects of repayment lies in the use made of the money repaid compared with what would have happened in the absence of the transfer. To the extent that we are able to generalize concerning the spending habits of the groups which, respectively, give up and receive money or concerning the consequences of a contraction in the volume of deposits, we are in a position to describe the probable effects of repayment of debt.

When, for example, war savings bonds are paid off by the government additional funds over and above those available out of current income are placed at the disposal of persons owning the bonds. A rather high proportion of war savings bonds are held by groups in the lower income brackets. Consumption expenditures are greater, relative to income received, for individuals in these groups than among those having higher incomes. The tendency, therefore, would probably be to stimulate the demand for consumer goods, and this tendency would be further strengthened if the funds for retiring the war savings bonds were obtained from taxes levied on the wealthy who devote a smaller proportion of income to consumption expenditures. If funds raised by taxation are used to retire debts held by banks, the tendency is to bring about a contraction of demand deposits. This could result in a decrease in total monetary expenditures, thereby helping to counteract inflationary pressures or, in a different phase of the business cycle, contributing to a deflationary movement.

Credit and the Money Supply: The Banking and Currency Principles

In discussing the traditional theory of commercial banking in Chapter VI, it was noted that demand deposits were expected to expand and contract in accordance with the volume of commercial paper. This idea involves the integration of the theory of credit with the regulation of the supply of circulating medium. It embodies the so-called "banking principle" for the issue of money in contrast to the "currency principle." Under the currency principle, circulating medium was to be issued only in exchange for additional basic reserve money.

The contrast between the currency and banking principles may best be shown by referring to the equation of exchange, $P = \frac{MV}{T}$. The currency principle assumed, implicitly at least, that an expansion in trade (T) would reduce prices (P). Lower prices would alter the balance of exports and imports and lead to an inflow of gold. The additional gold would cause an expansion in circulating medium, this adjusting M to the expanded T. The banking principle, on the other hand, rested on the assumption that with an increase in trade there would be an increase in the volume of commercial paper and correspondingly more commercial paper would be discounted by banks. The increase in commercial paper held by banks would expand circulating medium in the form of demand deposits (formerly also bank notes), thus adjusting M to the expanded T.

In substance, both the currency principle and the banking principle were models of proposed methods for adjusting the quantity of money to the volume of trade. From a theoretical standpoint, the most interesting distinction between them is that the currency principle called for an

accommodation of the money supply to an expansion of trade only *as a result of prices having been depressed* because of an expansion in trade, while the banking principle called for adjusting the money supply to changes in trade *with no antecedent disturbance of the price level.* While neither the currency principle nor the banking principle has ever been applied in pure form, both have exerted great influence in this country and abroad. Their importance has declined in recent decades as monetary management and central bank policy have come to occupy a greater place in the regulation of the money supply.

C ~ Historical Background of Modern Monetary and Banking Developments

10 The Currency History of the United States

The basis of an understanding of the monetary history of the United States lies in a recognition of the meaning and significance of Gresham's Law. This familiar but frequently misunderstood principle underlay the functioning of bimetallism while that was the legal standard of the country, but its importance was by no means confined to the period of legal bimetallism. Indeed, the history of money in the United States from 1792 to 1893 is in effect the history of the operation of Gresham's Law.

Gresham's Law in American Monetary History

The usual statement of Gresham's Law is that "bad money drives out good." This formulation of the principle possesses the qualities of epigram and paradox; but it is far from precise or clear and has probably led to more confusion than clarification. The disadvantages of this way of stating the principle are easily illustrated. For example, it fails to explain, except with the aid of a great deal of interpreting, why paper drives out gold and silver at one time and not at another; or why coins once driven out may later reappear in circulation. And it leaves unresolved such apparent con-

tradictions of the law as the continued circulation of gold alongside of greenbacks in California during and after the War Between the States; or the flow of gold, dollars and other "good" currencies into circulation in Germany in 1923 at a time when the mark was reaching the extremity of depreciation, i.e., of "badness." As will be seen, all these situations can be explained in terms of Gresham's Law, but the familiar statement of the law is an obstacle rather than an aid to the explanation. The difficulty arises out of the highly arbitrary use of the words "good" and "bad." The connotation of these terms is relative and requires detailed explanation before the law, in this form, has any meaning.

Since we cannot very well dispense with the concept, and since the usual formulation is misleading and inadequate, the solution is to restate the law in a more exact form. In doing so the original epigrammatic brevity is lost, but this sacrifice is necessary in the interest of precision. An accurate statement of Gresham's Law, and one which is applicable to all situations, is as follows: *Money that has value in a non-monetary use* (including use as money in another country) *will tend to move, if it is free to do so, to the use* (monetary or non-monetary) *in which its value is the higher.* It need scarcely be added that if the value in the two uses is the same there is no tendency for a shift to occur in either direction.

This formulation of the principle is cumbersome but clear. In this form it provides an answer to the apparent inconsistencies noted above. The reason silver coins are not driven out by paper at the present time is simply that the silver in coins is more valuable as money than as metal. Again, silver coins reappeared in circulation in the 1870's, after having been driven out by the greenbacks, because a rise in the value of money and a fall in the value of silver

bullion made them more valuable as money than as a commodity. Gold was able to remain in circulation in California during the greenback period because it circulated as money at a higher value than the greenbacks; that is, *the premium on gold coins kept their money value as high as or higher than their bullion value.* Likewise, American and other foreign coins and notes entered circulation in Germany when the premium on their use for this purpose rose to such a point that they were more valuable as money in Germany than as money at home. They were not driven out of use in Germany by the all-but-worthless marks, and the reason they were not was that their money value remained high while that of the reichsmark declined.

It should be evident that Gresham's Law is simply a particular expression of the well-known Principle of Substitution. This principle embodies the idea that an economic good will be applied to that use where its value, relative to its value in other uses, is the highest. Where possible, a good that can be obtained more cheaply will be substituted for a good which, because of its use elsewhere, is more expensive.

Gresham's Law is not to be thought of as an abstract principle of merely academic importance. Like other theoretical concepts, its significance lies in the contribution it offers to an understanding of practical affairs. It is one of the basic guides to monetary policy and is derived not from abstract reasoning but from a careful investigation of historical events. As the subsequent discussion will show, a knowledge of Gresham's Law is essential to a clear comprehension of the monetary history of the United States. Moreover, a knowledge of the currency history of this country serves to strengthen one's understanding of the principle itself.

A Summary of the Currency History of the United States

Before proceeding to a detailed account of the monetary history of the United States, and as a point of reference for later discussion, it will prove helpful to examine Table VIII. This summary shows that the legal standard of the United States was bimetallism from 1792 to 1873, gold from 1873 to 1933, then paper, and since 1934 gold. The law of the land did not always determine, however, what was in fact the monetary standard. For the larger part of our history the effective monetary standard of the United States has been different from that which was provided for by law. This signifies that the operation of economic forces and particularly Gresham's Law was often more powerful than legislation in determining the monetary standard. Where actual and legal standards were the same this was not because statutes overcame economic forces but because legislation worked with them rather than against them.

TABLE VIII. *Changes in the Legal and Actual Monetary Standards of the United States*

	Legal	Actual
1792	Bimetallism	Silver
1834	"	Gold
1861	"	Paper
1873	Gold	"
1879	"	Gold
1933	Paper	Paper
1934	Gold (Modified)	Gold (Modified)

The form of presentation employed in Table VIII tends to exaggerate the sharpness of transitions and to obscure certain fairly important developments. These will be taken up below, but it may be noted in passing that silver was not instantaneously displaced by gold in 1834 as might be in-

ferred from the table. Nevertheless, that date marks the beginning of the shift from a silver to a gold basis. Similarly, on strict interpretation it could be challenged whether we were on the gold standard from 1917 to 1919 or from 1934 onward. In spite of these defects, the table is helpful as indicating the major changes that occurred. Moreover, it emphasizes the important fact that throughout most of our history the question of standard was determined by more fundamental influences than legislation. These more fundamental influences are, in a word, the forces summarized in Gresham's Law.

The First Period of Legal Bimetallism, 1792-1834

A bimetallic currency system must be sharply distinguished from a "dual" or "parallel" standard. Under a dual system two metals are standard money, but no attempt is made to keep their values constant in terms of one another. This type of standard has been known since ancient times. There have also been instances where more than two metals were standard money, giving the country a "multiple" standard. The essential feature of bimetallism is the legal provision for a fixed ratio between the two standard metals. It is because of the introduction of this feature in our currency law of 1792 that the United States is generally credited with having originated legal bimetallism.

Unfortunately, a serious blunder was made in connection with the legal ratio which was established at that time. The ratio of 15:1 represented an overvaluation of silver as compared with the price prevailing in the market, a discrepancy which had increased still further by the end of the century. The monetary demand of the United States was too small a factor at the time to cause the market ratio between the two metals to conform to the legal ratio. Moreover, a few years later (1803) France adopted bimetallism at a ratio

of 15½:1. This was considerably closer to the market ratio than was our own. Since the monetary influence of France was so much greater than that of the United States, the ratio set by France rather than the ratio provided in this country tended to dominate. The French ratio served, therefore, to strengthen the market ratio and to offset any tendency for it to conform to the American ratio. The result was to confirm and perpetuate the discrepancy which existed between our legal ratio and the ratio prevailing in the market.

Since our ratio overvalued silver, relatively little gold was brought to the mint to be coined; the cheaper metal, in other words, was substituted for the dearer in the monetary use. At the same time and more surprisingly, new silver dollars gradually disappeared from circulation. While this was also a manifestation of Gresham's Law, the reasons for it require more explanation. Since these dollars were accepted in the West Indies as the equivalent of Spanish dollars they were sent there, exchanged for slightly heavier Spanish or Mexican dollars, and the silver from these coins was then shipped to the United States to be recoined into American money. It was largely as a result of this situation that Jefferson in 1806 directed the mint to cease coining silver dollars. From then on the principal coin minted was the silver half dollar, but many of these were also exported and of the remainder a considerable part did not circulate but were held as bank reserves.

By the Law of 1792 foreign coins continued as legal money in the United States. In fact, it was not until 1857 that the last of the foreign coins were legally deprived of their status as circulating medium in this country. While the legal position of certain types of foreign coins during the intervening period is somewhat obscure, they were regarded by the public as legal tender and were so treated.

The supply of currency for minor transactions was extremely inadequate. The need was partially met by the circulation of clipped, lightweight foreign coins, most of them silver but some gold. No satisfactory machinery existed for administering the monetary circulation, and the necessity of having at least some sort of money for small trade enabled these coins to continue in circulation despite their defective character. Both the exportation of full-weight American dollars and half dollars and the importation of lightweight foreign coins illustrated the operation of Gresham's Law. Lightweight foreign coins entered into circulation here because their value as money was above their bullion value. The exportation of full-weight American silver coins represented a movement of these coins into monetary use in the West Indies. There they displaced local coins which had the same money value but a higher commodity value, some of the displaced local coin being melted down and sold as bullion at the United States mint. Where this occurred, the money, in accordance with Gresham's Law, moved into the commodity use because of the higher value as bullion than as money in the West Indies.

Thus the American monetary system was dominated in two principal ways by the operation of Gresham's Law. In the first place, the discrepancy between the mint ratio and the market ratio made it cheaper to use silver than gold for coinage purposes. Consequently, silver rather than gold was brought to the mint to be coined. Secondly, it was cheaper to use lightweight foreign coins than full-weight domestic coins. Consequently, the former were used extensively while the latter were not.

The net result of these developments was that during these years the United States was on a *de facto* silver standard with a monetary circulation made up of the following elements:

a. American fractional coins, especially fifty-cent pieces. Some of these were also driven out, though the trouble and expense involved in sending small coins abroad tended to keep them in circulation to a much greater extent than the American silver dollars.
b. Lightweight foreign coins.
c. Bank notes, often of dubious worth. These contributed to the expulsion of the heavier coins to the extent that their issue helped to reduce the money value of the coins below their commodity value. Bank notes were commonly issued in fractional denominations, though this practice was later restricted by state laws.

The Second Period of Legal Bimetallism, 1834-1873

It is apparent that bimetallism failed to operate in the United States during the period just discussed. It is equally clear that the basic trouble lay with the legal ratio, which had the effect of placing us on a monometallic silver basis. To remedy this situation the ratio was changed in 1834. The net result of changes introduced at that time and shortly thereafter was to fix the ratio at 16:1. The ratio in France was still 15½:1 so that, where the previous ratio had overvalued silver, the new ratio simply reversed the situation by overvaluing gold.

Far from giving the United States actual bimetallism, the change in ratio had as its principal consequence the establishment of a *de facto* monometallic gold standard. Some time was required for the shift from a *de facto* silver to a *de facto* gold standard to be completed and in the intervening period, say down to 1845, the mixture of gold and silver coins gave somewhat the outward appearance, and somewhat the inward character, of bimetallism.

The most serious consequence of the shift from a silver to a gold basis did not become fully apparent until about

1850. Following the change in ratio and as a result of the premium this placed on silver, individuals suffered a slight loss in bringing silver to the mint for coinage. This disadvantage was partially offset, however, by improvements in minting procedure which greatly reduced delay and eliminated certain costs to which the public had been subject. Moreover, merchants and others were willing to suffer a small loss in order to secure newly minted small coins. Silver continued to be exported to Europe and the West Indies, but this was more than offset by the inflow of the metal consequent upon a great expansion in the output of silver in Mexico. As a result of all these factors, relatively large quantities of small silver coins were issued during the decade following the change in ratio. While full-weight silver coins of larger denominations were exported to a considerable extent, the expense connected with assembling and shipping small coins made it possible for them to remain in circulation.

Despite the unfortunate choice of a mint ratio, therefore, the coinage situation was on the whole considerably better after 1834 than it had been before. From 1844 on, the position with respect to silver became less favorable to the maintenance of silver coins in circulation. And it was rendered much worse by the opening up of new sources of gold production a little later. The effect of the great expansion in the output of gold in California and Australia was to depress the value of gold relative to that of silver. By 1851 the silver in coins having a monetary value of one dollar was worth $1.03½ in the market. The premium on silver was so large that the exportation of coins was greatly stimulated while at the same time the minting of new silver coins practically ceased. As a consequence, the problem of maintaining an adequate supply of small coins, which had been present all along, was seriously aggravated.

Conditions in retail trade had become chaotic. Trade was being carried on with gold dollars, 3 cent pieces, underweight dimes and half-dimes, and badly worn Spanish reals and medios (nominally worth 12½¢ and 6½¢). The gold dollars were too small in size and too large in value. The dimes and half-dimes were the few survivors of a systematic culling out of good weight coins. The Spanish fractions were a motley collection of underweight coins. The adverse ratio had long since stopped the importation of Spanish coins of good condition, but badly worn pieces were still brought in. Sumner says that the whole world was ransacked for Spanish coins that had been discarded as unfit for circulation. Ordinary business was hampered and retarded by the state of the currency. No United States or Spanish silver coin could circulate unless it was reduced by wear as much as 3 per cent. The average depreciation was much larger, possibly as great as 15 per cent. . . . The total fractional coin currency of all kinds was quite inadequate. . . . A Philadelphia paper refers derisively to shopkeepers scooping up 3 cent pieces with a ladle to make change for a $5 bank note.[1]

The basis of the difficulty with respect to small currency lay in the prevailing attitude toward issuing coins of less than the legal metallic content. The view that a reduction of the metallic content of coins is debasement and a fraud upon the public is still widely held as relates to standard unit money. But at that time the same prejudice existed with respect to lowering the commodity value of fractional money, including halves, dimes and even pennies, below their monetary value.

Since silver was undervalued it was not brought to the mint to be coined into fractional pieces, and even if it had been the coins would promptly have been withdrawn from use as money. Gold, the overvalued metal, was brought in for minting but it was obviously impossible to coin dimes and quarters, much less pennies, out of this metal. The net

[1] Neil Carothers, *Fractional Money*, New York, Wiley, 1930, pp. 110–11.

result was that, by demanding that each coin should be "good" in the narrow commodity sense, we made it inevitable that the coinage system as a whole should be exceedingly bad. The government was faced with the dilemma of either cheating itself or being thought to be cheating the public. If it had undertaken to coin full-weight fractional coins on its own initiative, it would have experienced a continuing financial loss, a sort of reverse seigniorage. On the other hand, it hesitated to issue lightweight coins, such as we have today, because of the fear of being accused of debasing the currency.

The attitude just described played an important part in the history of silver as a monetary metal. Silver is particularly adapted for use in full-weight coins of small denominations: gold coins would be too small and copper coins would be too large and heavy. So long as the view prevailed that fractional coins must be full weight, there was no practical alternative to the use of silver as a standard. The prestige enjoyed by silver as a monetary metal was to a considerable extent based upon this fact. It contributed to the attempt to maintain bimetallism in this country and abroad and helps to explain the survival of the silver standard in China and elsewhere down to recent years.

Perhaps the most interesting development during the period when small coins were such a problem in the United States was the use of postage stamps for small change. No one stopped to think how absurd it was to object to the issue of lightweight coins as being partly fiduciary, while accepting the circulation of postage stamps which were wholly fiduciary!

At last, after having endured the inconveniences of an unsatisfactory coinage system for years, a law was passed in 1853 authorizing the issue of lightweight coins on government account, on the same basis, that is, that small coins are

issued today. The effect of this law was twofold. First, the government began the issue of small coins because it could do so without financial sacrifice. Secondly, the coins remained in circulation since they were more valuable as money than as metal.

Thus simply—by taking advantage of the operation of Gresham's Law rather than opposing it—was the vexed question of fractional currency finally settled. A few lessons had to be learned about administering the law before it was discovered that the quantity of fractional money could be easily and automatically regulated through interconvertibility with unit money (i.e., dollars or multiples thereof). Nevertheless, the solution of the problem of subsidiary coins dates from the law of 1853. Thanks mainly to the advance made at that time, it was no longer necessary to depend upon foreign coins for small change. Accordingly, foreign coins were demonetized in 1857. Thus we achieved monetary independence, if the term may be used, over 80 years after we declared our political independence and 65 years after the enactment of our original monetary law.

Notwithstanding the length of time it required and the simplicity of the final solution, this represents one of the major developments in the history of money, at least so far as this country is concerned. It may be mentioned that England solved the same problem by similar means in 1816. Though we waited nearly 40 years, we were still the second country to find the solution. Few discoveries have contributed as much to the successful functioning of the monetary mechanism. It is probably not too much to say that this discovery made possible the rise of the international gold standard by demonstrating that a satisfactory system of subsidiary currency was possible without depending upon either a silver or a bimetallic standard.

As has been seen, legal bimetallism in the United States

passed through two stages; in the first the standard was actually silver and in the second, gold. The period of legal bimetallism was to close with still a third stage, that of a paper standard.

Early in the War Between the States, the difficulties of war finance led to the issue of paper money, the so-called greenbacks. In 1862 redemption in gold was suspended and the actual monetary standard of the country became paper greenbacks.

Exaggerated ideas are held as to the extent of inflation that occurred from 1861 to 1865. The value of greenbacks fell at one time to 38¢ in terms of gold, but this does not measure the degree of inflation that took place. The maximum level of wholesale prices, reached in 1865, was approximately double that which prevailed when gold payments were suspended. Inflation at this time, that is, resulted in a 50¢ dollar measured by its purchasing power, a negligible degree of inflation compared with that which occurred in various countries after the First and Second World Wars. More surprising still, the inflation that occurred under the greenbacks was considerably less than existed in the United States in 1919 and 1920. In the latter year, the dollar was worth only about 40¢ as compared with 1914. Expressed in percentages of the base years, prices reached 200 in 1865 while in 1920 they rose above 240.

One consequence of the depreciation of the greenbacks was to bring to the fore again the problem of fractional money. Gold coins were almost immediately driven out of circulation except on the Pacific coast where, as has been noted, they circulated at a premium relative to paper. It was not long before the issue of greenbacks drove the money value of fractional coins below the commodity value of the metal they contained. As a result they were withdrawn from circulation, leaving a great dearth of small change.

The obvious solution would have been to issue other coins of sufficiently low metallic content so that their money value would always have been more than their commodity value, but this was not done. The need was very inadequately met by the issue of shinplasters, i.e., paper money of small denominations, and postage stamps.

An interesting sequel to the withdrawal of fractional coins was their reappearance in circulation, particularly in the year 1877. By that time the value of the dollar had risen fairly near to its old level. Changes in the supply of and demand for silver had led to a considerable lowering of its value. The point was reached where the commodity value of the silver in the fractional coins fell below its money value. To everyone's surprise, the coins which had not been seen in circulation in this country for years again returned to use. Such a development should have been no cause for surprise. It was a normal manifestation of the operation of Gresham's Law. The coins returned to their money use simply because they were more valuable as money than as a commodity. This reverse application of the more usual operation of Gresham's Law was an equally clear illustration of the principle.

The Period of the Legal Gold Standard

"THE CRIME OF '73"

The period of the legal gold standard in the United States was ushered in by a law which attracted little attention at the time but which was to be the object of as prolonged and bitter controversy as has ever been directed against any law in our history. The Coinage Act of 1873 included the gold dollar as legal money but omitted mention of the silver dollar. This omission seemed relatively unimportant at the time and aroused only moderate opposition. After all,

neither gold nor silver was then current, and silver dollars had not been minted in appreciable quantities for many years. Some debate on the question was engendered but the passage of the bill was quite perfunctory.

Hardly had the bill passed into law when the price of silver, which had been almost constant for centuries, began to decline relative to gold. The abandonment of bimetallism by a number of European countries and the adoption of a monometallic gold standard served to reduce the demand for silver and to increase the demand for gold. The supply of silver was expanded by the opening of rich deposits of the metal in the West, the most famous of them being the Comstock lode in Nevada. The result of these developments was to depress the value of silver and to raise the value of gold.

With the shift in the ratio of gold and silver, the silver mining interests suddenly realized that in closing the mints to the free coinage of silver the Act of 1873 had deprived them of a sure market which would have prevented a fall in the price of their product. They immediately attacked the law, alleging that it had been enacted by stealth and demanding that it be repealed. They were joined by the debtor classes, especially farmers, who were conscious of the burden of falling prices and desired the cheaper money unit which they believed silver would provide.

Thus was conjured up in the minds of disappointed miners and depressed debtors the idea of a "Crime of '73."

THE CURIOUS EPISODE OF THE TRADE DOLLAR

The Act of 1873 contained another provision whose consequences are of unusual monetary and political interest. This was the authorization of a silver dollar, to be known as the Trade Dollar, designed to be used in the Orient. For many years Spanish and Mexican dollars had enjoyed a

wide circulation in the Far East; indeed, the "Dollar Mex" was the standard money of China until recent years. It was hoped that the new Trade Dollars would compete with these other dollars and provide beneficial advertising for the United States as well as create an outlet for American silver. To put this new dollar on a par with the Mexican dollar, it was given a silver content slightly greater than that of the old American dollar.

It was provided that the Trade Dollar should have the right of free coinage and should be legal tender up to five dollars for payments in the United States. The first provision was a routine device to facilitate issue of the Trade Dollars; the second was expected to make the coin more acceptable abroad by giving it legal standing in this country. No one ever supposed that it would actually enter into domestic circulation. After all, the traditional silver dollar which was of lower silver content had been virtually unknown to the public since 1806. At the time, the *de facto* standard money of the country consisted of greenbacks.

By a strange coincidence, the passage of the law coincided with developments which were to upset these expectations. Factors already mentioned, the increased production of silver in this country and its demonetization abroad, resulted in a drop in its value relative to that of gold. Greenbacks, meanwhile, had risen much closer to a parity with gold. By 1876 a point had been reached where the Trade Dollars were worth more as money in the United States than as a commodity. To the extent that they circulated at all in the Orient, they did so at their commodity value. The result was that Trade Dollars were coined for use in this country and began to appear in circulation in increasing amounts. This also was a normal manifestation of the operation of Gresham's Law: the coins were simply flowing into the use where their value was the highest.

Such a result was entirely contrary to the intentions of those responsible for the legislation. Accordingly, the legal tender provision was removed in 1876 and a little later, foreign demand for the Trade Dollar having proved disappointing, its issue was entirely discontinued. This action was taken without concerted opposition, and neither then nor since has it attracted any particular comment.

This is the more remarkable since at the time strong pressure was being brought to secure the remonetization of silver. The provisions relating to the Trade Dollar (free coinage and legal tender) were themselves tantamount to the monetization of silver. They were enough to make silver a standard money in the United States. If they had been continued we should shortly have been on either a straight silver standard or a bimetallic standard at a ratio of approximately 16⅔:1. The slightly higher ratio is a reflection of the fact that the Trade Dollar was a little heavier than the traditional silver dollar.

The net effect of the 1873 law, then, was to create for these few years a legal bimetallic standard at the ratio of 16⅔:1.[2] If these provisions had remained in force, the price of silver could never have fallen below $1.27 an ounce. While these ratios are slightly less favorable to silver than 16:1 and a price of $1.29 an ounce, they are to be compared with the market ratios and prices that have prevailed since, with ratios above 100:1 and prices for silver below 24¢ an ounce.

The absence of any serious effort to block the repeal of the Trade Dollar is not to be explained on the ground that the prospect seemed bright for a still more advantageous ratio of silver to gold. It can only be that the silver interests

[2] While this statement is strictly correct, it has seemed best to adhere in the table on page 3 to the more generally recognized date of 1873 as the year when gold was adopted as the legal standard.

failed to comprehend the meaning of the law or to realize that legal bimetallism was already on the books. The action of 1876 repealing the legal tender provision was far more of a crime against silver, if one wishes to use the term, than that of 1873 for by that time it was open for all to see, as it had not been earlier, that the underlying position of silver had drastically altered. Whether events would have been different if its meaning had been grasped is impossible to say. Nevertheless, it would probably have been tactically easier to prevent the repeal of an existing law than to secure the passage of a new law.

The actual importance of the Trade Dollar was very slight; it is chiefly significant as a reminder of the lack of economic understanding on the part of the silver interests.

THE RESUMPTION OF SPECIE PAYMENTS

By legislation passed almost four years earlier, convertibility of currency into gold was restored on the first of January 1879. For years the greenback had been rising toward parity with gold. This was because the supply of circulating medium failed to increase as rapidly as the volume of business transacted. The country was "growing up to its money supply." As the resumption date approached, the premium on gold gradually disappeared, and the transition to gold parity was effected without incident. Thereafter gold coins were able to remain in circulation since they were as valuable in that use as they would have been in the commodity use. In essence, resumption was merely a matter of accommodation to the forces of Gresham's Law.

It is worth mentioning in passing that the Specie Resumption Act of 1875 and the Coinage Act of 1853 represent two different, but equally logical approaches to the problem of maintaining desired types of money in circulation.

From Gresham's Law it is clear that the one condition essential to a particular type of money remaining in circulation is that it should be more valuable, or at least not less valuable, as money than in any other use. The 1853 law brought this about for fractional coins by lowering their commodity value; the reduction in the silver content of these coins rendered them less valuable in the commodity than in the monetary use. Accordingly, they remained in circulation. The Resumption Act turned on the effectiveness of another factor in the relationship. It involved waiting for the money value of the dollar to rise to a point where a gold dollar was worth as much as money as it was as bullion. Thereafter gold coins were able to circulate.

THE SILVER PURCHASE ACTS OF 1878 AND 1890

The Bland-Allison Act (1878) and the Sherman Silver Purchase Act (1890) were the tangible fruits of silver agitation following 1873. They were designed to effect minor concessions to the friends of silver while avoiding more radical action such as was being demanded. Both provided for the purchase of silver and both entailed the issue of coins or currency arbitrarily rather than (through the automatic operation of the gold standard) as a result of an expansion in the need for circulating medium.

There can be little doubt that the law of 1890 contributed to the Panic of 1893. The passage of the law seems to have hastened the withdrawal of foreign funds in this market with a resulting drain on gold reserves and further impairment of public confidence.[3]

[3] The most interesting feature of this episode is that the Sherman Silver Purchase Act was Republican legislation, supported by, among others, William McKinley. It helped to bring on the Panic of 1893 which broke, however, after a Democratic president had assumed office. It was partly responsible for establishing the view that the election of a Democrat makes for hard times, a belief which the Republican supporters of the silver legislation, it need hardly be said, did nothing to dispel.

The direct consequence of the laws of 1878 and 1890 was that the country acquired roughly 570,000,000 silver dollars. From a monetary standpoint, the most interesting question is why the arbitrary addition of this sum of money failed either to raise prices or to drive existing standard money out of circulation in substantial amounts. The principal reason seems to be that expanding trade created a place for the new money as rapidly as it was introduced.[4]

The fact that, for the most part, gold was not directly driven out may be explained on the ground that expanding business tended to raise the value of money while the issues resulting from the silver acts tended to lower it. Since the first influence was fully as strong as the second, the money value of the gold coins did not fall below their commodity value, and there was thus no reason for them to be driven out. This also represents the functioning of Gresham's Law, the chief difference being that the active factor was the volume of business rather than the volume of money.[5]

The so-called Gold Standard Act of 1900 specifically affirmed adherence by this country to the international gold

[4] During part of the period, also, the silver and silver-backed money took the place of National Bank notes which had been retired. The amount of silver acquired by the Treasury under the Sherman Silver Purchase Act was only a little more than the amount of gold exported during the same years. This loss of gold was less because of the operation of Gresham's Law than because of the psychological consequences of the legislation, particularly as these affected foreign holders of American securities. It weakened confidence in our financial policies and contributed to a liquidation of foreign investments in this country. The withdrawal of these funds was largely responsible for the export of gold. In the absence of the silver purchase acts the money supply would probably have been increased, over the period as a whole, almost as much by the minting of additional gold. One may think of the silver money as having largely displaced gold that would have been coined rather than gold already in the system.

[5] A more familiar, though less fundamentally significant, illustration of the operation of Gresham's Law during this period was the so-called "endless chain." This was the name given to the withdrawal of gold from the Treasury in 1892–93 in exchange for silver and paper as rapidly as its reserves of gold were replenished.

standard and provided the Secretary of the Treasury with more adequate powers for maintaining convertibility between the dollar and gold. It is sometimes regarded as for the first time having established the United States firmly on the gold standard. It is chiefly important as marking the end of a long period of monetary controversy and political maneuvering over the issue of the standard.

Conclusion

The feature that stands out most clearly in the foregoing discussion is the extent to which the monetary difficulties of the 19th century sprang from the commodity aspect of our money. The perplexing problem of fractional coinage was quickly and easily solved by making it fiduciary in character, that is, by rendering the commodity of which the coins were made no longer a determinant of their value. While it might seem that the evil inflationary effects of the greenback issues show the dangers of fiduciary money, it must be remembered that the purchasing power of our currency declined even more during the First World War, when the dollar remained convertible into gold. Still others of the monetary difficulties of the first hundred years of our history were also closely related to the commodity aspect of money.

One of the most troublesome monetary questions of recent years has been the problem of gold. This also relates to the commodity aspect of money. It may be queried whether the solution for this problem likewise is to abandon definitively the commodity relationship. Looking backward, our struggle with subsidiary coins and with bimetallism seems entirely unnecessary. Both the basis of the trouble and the solution now seem thoroughly obvious. Will the solution of present monetary problems seem as obvious a century hence?

11 ~ Historical Background of the Federal Reserve System

In the early history of this country, banking functions of a rudimentary character were performed by private money lenders, colonial governments and groups of merchants who followed the practice of lending to one another at times when they had funds temporarily available. Out of this pooling of resources developed the first bank established in this country, The Bank of North America founded in 1782. This bank was later absorbed into the banking institution which now operates under the name of the Pennsylvania Company for Banking and Trusts.

Banking Developments before 1860

The early banks that sprang up in centers along the Atlantic seaboard specialized in short-term, self-liquidating commercial paper. As banks were established farther to the interior where economic activity was chiefly agricultural and the demand was more largely for longer term credit, commercial paper came to occupy a relatively less important place in bank portfolios. For all banks, however, the extension of bank credit took the form chiefly of circulating

bank notes rather than deposits subject to checks. It was not until after the middle of the 19th century that the volume of bank deposits reached an amount equal to that of bank notes. Accordingly, the principal banking problems of the day were those associated with the issue of bank notes and this was the problem with which legislation was chiefly concerned.

THE FIRST BANK OF THE UNITED STATES, 1791-1811

Acting on the recommendations of Alexander Hamilton, Congress chartered the Bank of the United States in 1791. In addition to acting as fiscal agent for the Treasury, the Bank was organized by the government and part of the capital was provided out of federal funds. Its operations, however, were similar to those of the other banks of the country, from which it was distinguished chiefly by its greater size and larger number of branches. The Bank engaged in ordinary business lending and issued bank notes totaling on the average about five million dollars or approximately a fifth of the entire bank note circulation of the country. In addition, the Bank followed the practice, partly for its own protection, of presenting promptly for redemption in species the notes of state chartered banks which came to it in the course of business. The effect of this policy was to compel these other banks to maintain the quality of their notes.

Both because it adhered to high standards itself and because it forced high standards upon other banks, the Bank of the United States was a very wholesome influence on banking affairs of the young country. But its methods, competing with the state banks and forcing them to maintain redemption of notes, provoked bitter antagonism with the result that when the Bank's charter expired at the end of twenty years, it was not renewed.

THE SECOND BANK OF THE UNITED STATES, 1816-1836

There followed an interim of five years during which the number of state chartered banks rapidly increased, bank notes expanded and depreciation of notes and bank failure became common. The financial difficulties of the times were aggravated by the War of 1812 and the low state of Treasury finances. The fact, however, that they were further complicated by the absence of a strong banking institution became generally apparent, and in 1816 the second Bank of the United States was chartered. This bank was considerably larger than its predecessor but in general pattern and policies it followed the lines already laid down.

Despite serious difficulties and charges of mismanagement in its early years, the second Bank of the United States helped to bring about a considerable improvement in banking conditions. Again the effect was to arouse the strenuous opposition of state banks and the opposition was strengthened as a result of the liquidation of credit which the Bank's methods caused in certain areas. In the course of time, the management of the bank became involved with President Jackson in the famous "Bank War." Election of Jackson in 1832, partly on the basis of the stand he had taken against the bank, sealed the fate of the institution and its charter was allowed to run out in 1836.[1] There followed an increase in the number of banks, an expansion of bank

[1] Thereupon the Bank attempted to carry on under a state charter granted by Pennsylvania. It became heavily involved in investments in public improvements and in the cotton trade. Foreseeing that it would be compelled to suspend specie payments, officials of the Bank, by intricate financial manipulations, tried to force suspension upon New York banks. This colorful story, which had as its sequel the failure of the Bank in 1841 and the undisputed "passing of financial primacy from Chestnut Street to Wall Street," is recounted in Sister M. Grace Madeleine, *Monetary and Banking Theories of Jacksonian Democracy*, Philadelphia, Dolphin Press, 1943, Chapter V, and Bray Hammond, "The Chestnut Street Raid on Wall Street," *Quarterly Journal of Economics*, August 1947, pp. 605–18.

credit and, during the financial panic of 1837, widespread suspension of redemption in specie and frequent failures. In many parts of the country, banking conditions continued in a rather chaotic state until after the establishment of the National Banking System.

THE SUFFOLK BANKING SYSTEM, 1824

Certain of the stronger banks in Boston found themselves at a disadvantage because of the tendency for their notes to be driven out of circulation by the depreciated notes of outlying banks. Accordingly, a voluntary arrangement was introduced whereby the Suffolk Bank of Boston agreed to hold deposits of stipulated amounts for other banks, particularly outlying country banks, and in return to redeem all notes of these banks at par. Banks which failed to participate were subject to the threat that the Suffolk Bank might accumulate their notes and present them for redemption in substantial volume. In substance, this amounted to bringing pressure on other banks by confronting them with the possibility of a sudden drain of reserves if they refused to cooperate in maintaining satisfactory banking standards. The system functioned with great success for many years, with the result that the notes of New England banks circulated generally at par value.

THE NEW YORK SAFETY FUND SYSTEM, 1829

The Safety Fund Act passed in New York in 1829 created a guarantee fund, maintained by obligatory contributions from member banks, to assist in meeting the liabilities of banks that failed. Early experience with the Fund was far from successful, but the major defects were remedied by subsequent amendments. Thereafter, protection was confined to bank notes and certain types of banks were excluded from membership. The Fund continued in existence for forty

years and may be said to have been an early precursor of the Federal Deposit Insurance Corporation which introduced the guarantee of bank deposits on a national scale in 1933.

THE FREE BANKING SYSTEM, 1838

The New York Free Banking Act passed in 1838 has been called America's most distinctive contribution to the development of banking organization and a landmark in the banking history of the United States. Theretofore, the organization of banks had been dependent on the grant of special charters by state legislatures. This practice savored of monopoly, was contrary to the democratic conceptions of the expanding West and lent itself to serious political abuse. It erred in being too restrictive of powers in the original establishment of banks and often too liberal in the powers possessed by banks once they had been created.

The Free Banking Act proceeded on a new principle. It sought to rely on specific legislative requirements in the organization of banks and in the exercise of banking powers after organization. It assumed that by setting these requirements sufficiently high, banking could be safely made "a business open to all." The grant of a charter to engage in banking was made contingent upon compliance with certain legal stipulations which were open and uniform for everyone. The issue of notes was governed by the pledge of securities of specified types with the state comptroller. Securities held as collateral could be sold to redeem notes in case a bank failed. The principal features of the Free Banking Act were incorporated later in the National Banking Act.

The Free Banking System of New York was copied in the laws of several other states.[2] Experience in the different

[2] A similar law was adopted in Michigan a year earlier than in New York, but was actually based on the New York plan.

states varied from good to very bad, depending upon the provisions of the particular acts and the character of the banking standards which they embodied. Even in New York it was found necessary to amend the law and limit much more narrowly the types of securities which would be accepted as collateral for the issue of notes.

The National Banking System

Despite the many expedients which were introduced to control banks and with the notable exception of a few states, banking conditions were generally chaotic in the years between the Second Bank of the United States and the passage of the National Banking Act. This was the day of the bank note reporter and counterfeit detector, periodicals issued at frequent intervals to provide information on the different kinds of money in circulation, indicating what notes were to be accepted at par, what notes were worthless, and the rates of discount on others. A single issue of one of these publications listed 5,400 separate descriptions of bank notes, all of them counterfeit, altered or spurious. Included were thirty different counterfeits of the notes of a single bank.[3] At the outbreak of the War Between the States about 7,000 kinds of genuine bank notes, including the various denominations, were in circulation, in addition to 5,500 different kinds of fraudulent notes. The notes of three-quarters of the banks which issued bank notes had been altered or counterfeited.[4]

ORIGIN OF THE NATIONAL BANKING SYSTEM

In his Annual Report for the year 1875 the Comptroller of the Currency declared that:

[3] Horace White, *Money and Banking,* New Edition, Boston, Ginn, 1936, p. 458.

[4] C. W. Collins, *Rural Bank Reform,* New York, Macmillan, 1931, p. 16.

The opportunity occasioned by a great war was seized upon, in the interest of the Government, to get rid of the burden of a circulation issued by authority of many different States, which had been, almost from the beginning of the Government, a grievous tax upon the business and the commerce of the country.

Although there had been more or less active agitation for reform for a good many years, the law establishing the National Banking System was not enacted until early in 1863.

Two primary objects were in the minds of those responsible for the passage of the law. In the first place, there was a desire to provide—in place of the complex and multitudinous variety of notes, which ranged all the way from par value to no value at all—a uniform bank note issue that would be of high quality. The second consideration, and the one that chiefly explains the introduction of the reform at this particular time, was to strengthen support for the government during the war. Increased demand for government bonds was to be assured by compelling the banks chartered under the new law to purchase them in substantial volume. In addition, it was expected, apparently on the principle that where one's treasure is there will his heart be also, that investment in government bonds would increase the loyalty of northern financial interests to the Union cause.

Delay in getting the new system in operation prevented the expectations of the Treasury regarding the sale of bonds from being fully realized. At the conclusion of hostilities bonds held by national banks amounted to less than 4 per cent of total government issues outstanding.[5] By the 1880's the government was buying up Treasury bonds for the purpose of retiring them out of surplus revenues. The demand for government bonds by national banks helped to

[5] F. Cyril James, *The Economies of Money, Credit and Banking,* New York, Ronald Press, 1940, p. 193.

force up the price of government bonds at that time, with the result that the Treasury paid a premium of as much as 25 per cent on its own obligations.

EARLY DEVELOPMENT

Partly because of flaws in the legislation, which made necessary a general revision of the law, it was some time before the system could be set in operation on any significant scale. The National Banking System, as we know it, may be said to date from the passage of the revised National Banking Act in 1864. Progress under this act was much more rapid than under the preceding, but even so was considerably less satisfactory than had been hoped. In many cases, it was still possible for state banks to issue their notes under less stringent requirements than those imposed upon the national banks. To meet this difficulty a law was passed the following year placing a tax of 10 per cent on all state bank notes paid out after July 1, 1866. It is of interest that as early as 1831 Gallatin, then Secretary of the Treasury, had recommended this means of driving the notes of state banks out of existence. He showed that Congress had the power to do so and that such action, moreover, would be in conformity with:

> express provisions of the Constitution which vest in Congress exclusively the control over the monetary system of the United States, and more particularly those which imply the necessity of a uniform currency.[6]

The effectiveness of these provisions was attested by developments that followed. Since the issue of notes was a major feature of banking operations at that time, the vast majority of state banks promptly applied for national charters. State bank notes made their last appearance in the

[6] *Annual Report of the Comptroller of the Currency* for 1876, p. 34.

Treasury Reports on July 1, 1876, when the amount in circulation was given as $1,047,335, but this figure probably represented notes that had been lost, destroyed or retained in museum collections. State banks had ceased to issue notes after 1865. As the following figures show, the number of national banks rose sharply and the number of state banks rapidly declined.

	National Banks	State Banks and Trust Companies
1863	66	1,466
1864	467	1,089
1865	1,294	349
1866	1,634	297
1867	1,636	272
1868	1,640	247
1869	1,619	259
1870	1,612	325
1871	1,723	452

With the rapid expansion of checking deposits after 1870, banks again found it profitable to take out state charters. From then on the steady growth of the national banking system is to be explained principally by the growth of the country and the development of trade and production rather than by a shift of banks from state to federal incorporation. It was not until 1887 that the number of state banks came to exceed the number of national banks. The total capitalization of banks in the national system, though not the total of deposits, remained greater than that of banks outside until the period of the First World War.

PROVISIONS OF THE NATIONAL BANKING ACT

Organization. The National Banking Act created the office of Comptroller of the Currency under the Treasury Department. Following the general plan of the Free Banking System of New York, it was provided that five or more persons might organize an association and apply to the

Comptroller for authority to engage in the banking business under conditions laid down in the Act. The Comptroller was required to satisfy himself that the purposes of the association were those stipulated in the law, but not that the individuals were qualified to engage in banking, that the added banking facilities were needed or that the bank was likely to succeed. The public interest with respect to these considerations was presumably to be safeguarded by the other requirements of the law and by the self-interest of those concerned.

Minimum capitalization of national banks was determined on the basis of the population of the cities where they were situated, as follows:

Not over 6,000	$ 50,000
From 6,000 to 50,000	100,000
Over 50,000	200,000

By a later amendment it was provided that in a town with a population of 3,000 or less a national bank might be chartered with a capital of only $25,000, but this provision was repealed in 1933. Stock of national banks was subject to double liability, i.e., in case of failure stockholders could be assessed up to the amount of the par value of stock owned. This provision was also removed by the 1933 legislation. The Comptroller of the Currency was placed in charge of administering these and other provisions of the Act, including examination of the banks at frequent intervals.

Note issue. Since the principal purpose of the National Banking Act was the reform of the bank note circulation, particular importance attaches to the provisions governing the issue of circulating notes. As amended, the law authorized national banks to issue notes up to the face value of United States government bonds deposited with the

Comptroller of the Currency. The amount of notes any bank might issue was limited to the total paid in capital of the bank, and the bank must maintain a proportional deposit against notes outstanding in the 5 per cent gold redemption fund administered by the Treasury.[7] National bank notes were guaranteed by the United States government and were backed by the Treasury bonds which had been deposited with the Comptroller of the Currency for use as collateral in case a bank failed. In addition, they were a first lien against the assets of the issuing banks. The notes were not legal tender (until 1933) but were receivable at par in payment of federal taxes.

Reserve requirements. Under the original act, the same reserves were required against both notes and deposits, but in 1874 notes were exempted from the reserve requirements. National banks in *central reserve cities were* required to hold reserves of 25 per cent in lawful money. Banks in *reserve cities* also had to keep reserves of 25 per cent but half could be in the form of deposits with national banks in central reserve cities. Other national banks, the so-called *country banks,* were required to keep reserves of 15 per cent but three-fifths could be in the form of deposits with national banks in reserve and central reserve cities. The effect of the reserve provisions was a considerable degree of pyramiding whereby a part of the reserves of country banks consisted of deposits with reserve city banks and part of these in turn were redeposited with central reserve city banks. At first New York was the only central reserve city but later Chicago, and for a time St. Louis, assumed this status. The number of reserve cities, originally sixteen, stood at 49 in 1913.

[7] Funds held in the redemption fund could be counted as part of the reserves which banks were required to hold against deposits (Cf. next paragraph).

Other provisions. In the beginning every national bank was required to purchase government bonds totaling one-third its capital stock unless this would amount to more than $50,000. The proportion was later reduced to one-fourth but the figure of $50,000 as a maximum requirement was retained. Shortly after the entry of the United States into the First World War, national banks were relieved of the necessity of holding government bonds except as backing for notes. National banks were prohibited from lending more than 10 per cent of capital (later capital and surplus) to any one borrower. Banks were subject to other restrictions of a rather exacting character. Some of these restrictions were relaxed by subsequent amendments. Thus national banks were given permission to qualify for carrying on trust business and were authorized to grant a limited amount of real estate loans.

Despite the enactment of sixty amendments between 1864 and 1913 the fundamental character of the National Banking System remained unaltered. The changes which were introduced dealt chiefly with details and for the most part merely served to patch up the existing system in those spots where it had demonstrated weakness.

LATER HISTORY OF THE NATIONAL BANKING SYSTEM

The number of state banks grew more rapidly than that of national banks after about 1870, even though the number and capital of both were increasing at a rapid rate. The reason for the expansion of both groups of institutions is not hard to discover. The country was growing with phenomenal rapidity and during the course of that development the mechanism of checks and bank deposits came to replace the older forms of common money as the typical means of payment. Where in 1865 the deposits of national banks did not greatly exceed the amount of the note issue,

by 1907 deposits were eight times more important than notes. Bank deposits and bank notes constitute alternative forms of bank obligations. The ease with which deposits could be expanded rendered banking a very profitable enterprise during this period, even though banks could no longer freely issue their notes. It is possible that the expansion in the use of checks would have been less rapid at this time if the issue of bank notes had not been so restricted.

Throughout this period of credit evolution, the national banking system was concerned chiefly with questions regarding the regulation of note issue; little attention was paid to regulation of deposits. This was a reflection of the failure of legislators, which has survived to a considerable extent to the present day, to understand the real nature and significance of demand deposits. In the case of the state banks, relatively little attention was given to regulation of demand deposits. Since state laws were generally more liberal than those of the federal government, many banks preferred to operate under state charters that hampered them less in performing whatever operations they desired to undertake.

The fact that demand deposits came to be by far the most important feature of the circulating medium of the country is of importance in forming any judgment as to the effectiveness of the National Banking Act in accomplishing a permanent reform of our banking system. It signifies that even if the Act had perfectly solved the problem of bank note issue—which, in fact, it did not—there would still have been room for the emergence of other serious banking problems, frequently of a character that could not have been foreseen at the time the National Banking System was created.

ACCOMPLISHMENTS OF THE NATIONAL BANKING SYSTEM

The foremost achievement of the National Banking System was to realize the primary object of its inception,

namely, the *establishment of a safe and uniform bank note issue.* From the time when the notes of state banks were driven out until 1914 when notes began to be issued under the authority of the Federal Reserve Act, the only bank notes circulating in this country were those issued by national banks. Various other types of money were, of course, issued during this period by the Federal government; the feature of uniformity applies not to all currency or note issues but only to bank notes.

The National Banking System also performed a service for American banking somewhat similar to that rendered by the First and Second United States Banks; it set standards of banking requirements and practice which were generally higher than those in force elsewhere in the country. The effect of competition between the systems of national and state banks may at times have seemed to operate toward lowering the status of the former instead of raising that of the latter. There can be no doubt, however, that the National Banking Act served to improve banking conditions in the country as a whole and helped to maintain them on a higher plane than otherwise would have been likely. In general, the banks that remained outside the National Banking System were smaller than those with national charters. In 1913, for example, the average capitalization of national banks was over $140,000 while that of state banks and trust companies was about $56,000, and this in spite of the fact that some of the state banks were of very large size. The record of the national banks with respect to failures, though far from perfect, was considerably better than that of banks outside the system.

As it later turned out, one of the reasons for the introduction of the Federal Reserve System was to *reduce the costs of transferring funds* within the country. It is interesting to observe that a similar reduction had earlier been one

of the accomplishments of the National Banking System. According to the Comptroller of the Currency:

> The cost to the people for domestic exchange between the commercial points and the remote districts was annually many times greater than the amount of interest now paid to the national banks upon the bonds deposited as security for their circulation, the average rate of exchange between the Eastern and Western States having been from six to twelve and sometimes twenty times the rates prevailing under the national system.[8]

The same source also informs us that the establishment of the system of national banks "was not advocated in the interest of any political party, and from its authorization to the present day it had been free from the control of partisan or sectional influence, its benefits being . . . open to all who may desire to organize banking institutions, subject only to the restrictions which are alike imposed upon all." [9] It is well to add that the system maintained this record for remaining *free of corruption and political entanglement.* Such charges of favoritism as involved it were directed against the Secretary of the Treasury rather than against the system itself or those charged with its conduct.

Judged in the light of the banking conditions it was intended to improve, the National Banking System must be considered a pronounced success. It accomplished the purpose of providing both a safe and a uniform bank note issue, and it established a banking system subject to better standards of regulation and supervision than had existed theretofore. This is not to imply that the new banking system continued to meet the needs of our changing economy, or that grave defects did not become apparent at a later date. Those defects, however, were not the im-

[8] *Annual Report* for 1875, p. 36.
[9] *Ibid.*

mediate problems which the law originally sought to correct, nor were they in all probability of very great significance at the time the system was established.

The Act creating national banks added little, it is true, to what was already commonly known. It consisted largely of piecing together the better features of other banking laws and practices. Indeed, the National Banking System has sometimes been referred to as a "synthesis of earlier banking systems." But this act of synthesis was itself no small accomplishment, and the National Banking Act must stand, along with the Federal Reserve Act and the Banking Act of 1935 as one of the three major legislative achievements in the history of banking in this country.

Central Banking Functions Prior to the Federal Reserve System [10]

A central bank, as will be seen later, is usually an official or semi-official banking institution which helps to improve the operation of the banking system of the country. Its principal function ordinarily is to assist in the administration of basic monetary reserves and to create and absorb reserves in accordance with changes in the public's "need" for credit and currency. It provides services for banks roughly similar to those performed by banks for their customers, and it ordinarily undertakes to promote economic stability, maintain banking standards and act as fiscal agent for the government. No central bank existed in the United States until the establishment of the Federal Reserve System. Nevertheless, ways were found to accomplish some of the purposes of a central bank. Certain of these substitutes were very much in the nature of makeshift arrangements

[10] This section is based largely on Bray Hammond, "Historical Introduction," published in *Banking Studies*, Washington, Federal Reserve, 1939, pp. 17–25.

and none of them succeeded in compensating for the absence of a genuine central bank. The most that can be said is that they helped to make the lack of a central bank somewhat less burdensome than it might otherwise have been.

INDEPENDENT TREASURY SYSTEM

In 1846 Congress established the Independent Treasury System which was to continue in existence until 1920 when its duties were transferred to the Federal Reserve Bank. It consisted of subtreasuries located throughout the country and was designed to render the Treasury independent of banks. It was inspired in part by official distrust of and hostility toward the state banks of the day and in part by the desire to avoid the risk of political involvement with the banks.

It was apparent from the first that the operations of the Treasury could not be divorced from the banks and the financial system as a whole. The mere taking in and paying out of public funds had their inevitable effect on the supply of money and bank reserves available in the market. While policies varied widely with different administrations, under certain Secretaries of the Treasury these effects were employed deliberately to promote stable financial conditions.

The way in which the Treasury operations were used, after the manner of open market operations by a central bank, to check an overexpansion of credit, was described in the annual report for 1856 of the Secretary of the Treasury:

> The independent treasury, when overtrading takes place, gradually fills its vaults, withdraws the deposits, and, pressing the banks, the merchants and the dealers, exercises that temperate and timely control which serves to secure the fortunes of individuals and preserve the general prosperity.[11]

[11] Quoted in *Banking Studies*, p. 23.

At other times the operations of the Treasury were used to expand bank reserves and promote easier banking conditions. Some Secretaries, by way of contrast, attempted to revert to the original spirit of the 1846 Act and divorce Treasury operations as far as possible from banking. However helpful the actions of the Secretary of the Treasury may have been upon occasion, the lack of consistency and continuity of policy greatly interfered with the exercise of central banking functions by the Treasury.

BANKING SUBSTITUTES FOR CENTRAL BANK FUNCTIONS

As was noted earlier, the First and Second Banks of the United States acted in the capacity of fiscal agent for the government, helped to improve the quality of bank note circulation and in general served to maintain banking standards at a relatively high level. In addition, the Second Bank of the United States entered into an agreement with the state banks to discount for them when called upon to do so. The Suffolk Bank received from member banks deposits which formed part of their reserves, and by its activities helped to maintain banking standards in its area. In addition, it could lend to the member banks for the purpose of replenishing their balances, and it used its power of providing or refusing credit to promote stable and healthy credit conditions.

The first clearinghouse in the United States was established in New York in 1853. While the purpose of clearinghouses is primarily that of facilitating settlement between banks through the offsetting of balancing debits and credits, they have operated since as long ago as 1860 as a source of emergency funds in time of crises. In every major financial crisis down to 1907, clearinghouses issued certificates which could be used to settle balances due the clearinghouse. In some instances these certificates circulated as currency.

Even though clearinghouse certificates were not reserves, their use, whether as currency or to settle balances with the clearinghouse, released a corresponding amount of legal reserve money for other uses.

A characteristic feature of American banking practice is the holding of deposits of correspondent banks. One large New York bank is said to have nearly four thousand correspondent accounts comprising deposits of banks in every state of the Union. For banks with deposits of a hundred million or more, interbank deposits in 1947 constituted 15 per cent of the total. For some banks interbank deposits amounted to from a fifth to a fourth of all deposits. Formerly national banks other than those in central Reserve cities were allowed to count deposits with city correspondents as part of their legal reserves, and some state banks are still permitted to do so. In the holding of legal reserves of other banks and even more in lending to supplement these reserves when they became reduced, city correspondents assumed an important part of the role of central banks.

The great flaw in the correspondent arrangement was that, while correspondent banks could give mobility to existing reserves, whenever, as at the harvest season, many banks drew on their reserve balances at the same time, the result was to place a heavy strain on city banks, particularly in New York. It interfered with their ability to provide for their regular customers and sometimes embarrassed them in meeting the demands of other country correspondents. In time of financial crisis, the situation was even more acute. Reserves became almost completely frozen as banks held on to them in a frantic effort to prevent failure.

It was this sort of situation in an aggravated form that produced a general paralysis of the banking system in 1907. The effect of that experience was to call attention anew to the urgent need for effective central banking machinery,

and the inadequacy of existing substitutes. The result was stopgap legislation in the form of the Aldrich-Vreeland Act passed in 1908, and ultimately the passage of the Federal Reserve Act in 1913.

D ~ The Federal Reserve System and Relations of Government to Banking

12 Structure and Operation of the Federal Reserve System

The Federal Reserve System was inaugurated in 1914 under the terms of an act designed, according to the preamble: "To furnish an elastic currency, to afford means of rediscounting commercial paper, to establish a more effective supervision of banking in the United States, and for other purposes." This act may be said to have given the United States its first central bank, inasmuch as earlier banking systems in this country, the First and Second United States Banks and the National Banking System, lacked the essential features of central banks. The Federal Reserve Act drew heavily on experience with central banking abroad, notably that of the Bank of England which had stood since 1694 as the leading exemplar of central banking. The Federal Reserve System embodied distinctive features of its own, however, and in its turn has been extensively copied in the organization of other central banks, particularly in Latin America.

The most conspicuous contrast between the Federal Reserve System and earlier central banks is that it comprises not one but twelve separate central banks. Instead of establishing one bank with branches suitably located

throughout the United States, the country was divided into twelve districts differing considerably in population and volume of business and widely in geographical extent (Figure I). A Federal Reserve Bank, sometimes with and sometimes without branches, was placed at the head of each

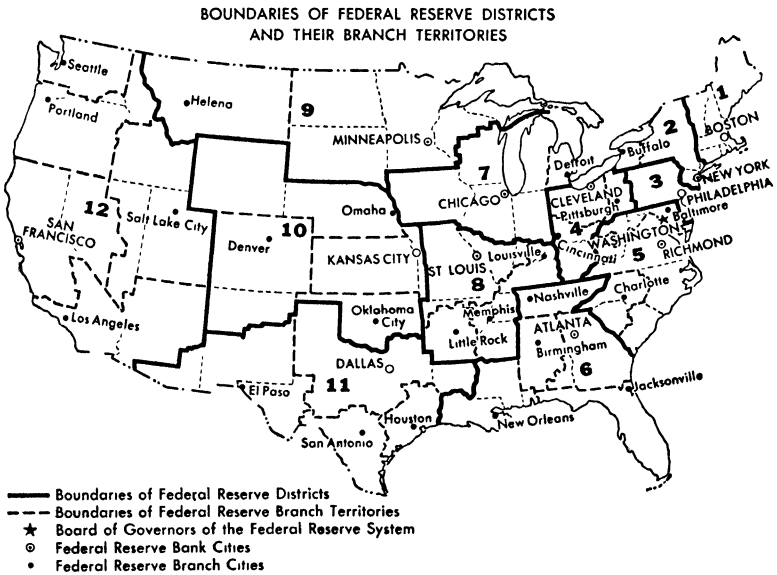


FIGURE I

Source: *Federal Reserve Bulletin.*

Federal Reserve District. This arrangement was largely a result of inability to agree on any single city as the headquarters of a central bank and of the desire to satisfy local pride by the establishment of a Reserve Bank in a number of different cities. Thanks to the co-ordination worked out among the different Banks, the multiform structure of the Federal Reserve System, while it served no particularly useful purpose, has not constituted a serious handicap.

Major Functions of the Federal Reserve Banks

BANKERS' BANKS

A graphic but very incomplete description of the Federal Reserve Banks is that they are bankers' banks. This signifies that they provide for the thousands of individual banks which are members of the System the same sort of services that these banks provide for their customers. Member banks hold deposits with the Reserve Banks—deposits which constitute the legal reserve of the member banks. Debits and credits to these deposit accounts are the means of transferring balances among banks, just as checking accounts permit funds to be transferred among individuals. The Reserve Banks provide facilities for conveniently clearing and collecting checks and other cash items. Where an individual might go to his bank to arrange a loan or liquidate quick assets, so a member bank requiring additional cash may obtain it by borrowing from the Federal Reserve Bank of its district or through the sale of commercial paper or Treasury obligations to the Reserve Bank.

The Federal Reserve Banks are bankers' banks in yet another and very literal sense. The capital stock of each Federal Reserve Bank is wholly owned by the member banks of its district. Thus the Reserve Banks are bankers' banks in that they are owned by the banks that are members of the Federal Reserve System.

BANKS FOR THE GOVERNMENT

The Federal Reserve Banks act as fiscal agents for the Treasury. In this capacity they carry on a multitude of duties involved in the issue and retirement of public debt, in the supervision of currency including the storage, issue and withdrawal of coins and notes, and in the transfer of funds between the United States government and other countries.

The Reserve Banks are allowed compensation for some of the services they perform for the government, but the compensation received has seldom covered the cost in full; at times, as during the war periods, the net cost to the Banks of their contribution to the fiscal operations of the Treasury has amounted to many millions of dollars.

During the Second World War and just after, the Federal Reserve Banks acted as intermediaries in arranging the so-called V, VT and T loans to contractors engaged in working for the Government. Guarantees for repayment of sums borrowed were given by the Army, Navy and Maritime Commission, but the funds were actually supplied by banks and other private lenders.

The Reserve Banks constitute an important but by no means the sole depository of cash balances of the United States Treasury. The proportion as well as the absolute amount of Treasury balances held with the Reserve Banks have varied widely. In June 1939, total deposits of the United States Treasury amounted to $1,798 million, of which $1,022 million or 57 per cent was held with Federal Reserve Banks and the remainder with recognized depository banks throughout the country. In the period of heavy war financing, Treasury deposits reached extraordinary heights, ranging during 1944, for example, between $7,708 million and $21,596 million. The great bulk of the expanded Treasury deposits were held with depository banks. The peak of Treasury cash, $25,718 million, was reached in December 1945 at the end of the final war loan campaign. At that time only 6 per cent of the deposits of the Treasury were with Federal Reserve Banks.

Deposits with the Federal Reserve Banks constitute the Treasury's only active checking accounts. The only time checks are drawn against deposits with other banks is when it is desired to transfer funds to the Reserve Banks. Dis-

bursements to the public—for salaries, materials, supplies, contracts, payments on the national debt and so on—are invariably effected out of Treasury deposits with the Reserve Banks. Treasury deposits with banks other than the Reserve Banks are held in what are called War Loan Accounts. This official term, which was introduced during the First World War, was employed throughout the entire interwar period to designate deposits of this type. During both wars deposits in War Loan Accounts were exempted from the usual legal reserve requirements

REGULATION AND SUPERVISION

The twelve Federal Reserve Banks are charged with supervision of the banks which hold membership in the Federal Reserve System, though part of the task of supervision, as will be seen later, is shared with the Comptroller of the Currency. The number of banks in the Federal Reserve System totalled nearly 7,000 in 1947. While this number represented less than half of the commercial banks in the country, it embraced about 85 per cent of the earning assets of all commercial banks. It is part of the responsibility of the Federal Reserve Banks to make certain that the requirements prescribed for membership in the Federal Reserve System are fully met. To this end each Federal Reserve Bank maintains a bank examination department staffed with expert auditors and accountants.

The role of the Reserve Banks, however, is by no means exclusively that of policeman and inspector; they serve also in the capacity of mentor and guide. Research departments in the various Banks and at the Board of Governors of the Federal Reserve System in Washington provide the most complete and reliable banking and monetary statistics available anywhere in the world. Officials of the Reserve Banks offer free consultation, sponsor group discussions of signifi-

cant problems and have gone so far as to inaugurate costly programs of recruiting and training future bank officers, programs which are carried through at Reserve Bank expense.

CONTROL OF CREDIT AND STABILIZATION OF BUSINESS CONDITIONS

The most distinctively central bank function of all is that of contributing to a state of economic conditions favorable to the healthy carrying out of business activities. To this end the Reserve Banks are custodians of the legal reserves of member banks and act as "lenders of last resort." Their extensive powers for the control of credit will be analyzed later in full detail.

MISCELLANEOUS

In the framing of the Federal Reserve Act, the Reserve Banks were carefully precluded from dealing directly with the general public. Aside from the fact that such activities are not a necessary feature of central banks (even though they are a regular part of the operations of many foreign central banks), it was felt that the opposition of the banking community to the introduction of the Federal Reserve System would be much keener if the Reserve Banks appeared as potential competitors. While the tradition of not competing with private banking institutions has been carefully maintained, provisions were introduced during the depression for limited dealings with the public. As part of the recovery program, Reserve Banks were authorized to make loans having maturities up to five years in cases where borrowers had been refused accommodation by other lending institutions. In addition, "commitments" may be made whereby, in return for a charge ranging from ½ per cent to

1¼ per cent per annum, the Reserve Bank agrees to lend up to a specified amount if called upon to do so. Both loans and commitments may be shared with other lending institutions.

The volume of these so-called "industrial loans"[1] has remained small: the highest year-end total was $32,500,000 in 1935 for all twelve Federal Reserve Banks, while the total at the end of 1947 was under $2,000,000. The significance of these loans lies not in their absolute amount but in their extension of the original concept of the Federal Reserve System and in the precedent they established for possible use in future emergencies. They afforded concrete evidence of the willingness of the Reserve Banks to aid in improving the availability of credit for businesses which were unable to secure accommodation elsewhere on practicable terms. At the same time the Federal Reserve insisted that borrowers demonstrate reasonable prospects of ability to repay.

The very nature of the Reserve Banks in the financial organization of the economy gives them a position of leadership in their respective districts. The services they provide are too numerous and varied to permit classification. Moreover, these services extend far beyond the banks which hold membership in the System, ranging all the way from consulting with the heads of great insurance companies on the probable future of government finance to assisting an educator in the preparation of a commencement address.

Organization of the Federal Reserve System

The organization of the Federal Reserve System comprises five main divisions: The Board of Governors, the Federal Advisory Council, the Open Market Committee, the twelve

[1] Also known as 13-b loans after the amendment to the Federal Reserve Act which authorized them.

Federal Reserve Banks and, finally, the thousands of banks which have taken out membership in the Federal Reserve System. Each of these divisions will be examined in detail.

BOARD OF GOVERNORS

The highest administrative division of the Federal Reserve System is the Board of Governors. It consists of seven members, each appointed by the President of the United States for a term of fourteen years subject to confirmation by the Senate.[2] The President designates one of the members to serve as Chairman and another as Vice-Chairman, each for a period of four years. The Chairman is the principal executive officer of the Board and at times has played a particularly dominant part in the affairs of the System. Compensation of all members of the Board is at the rate of $15,000 a year.

Appointments to the Board of Governors are spaced so that the term of one of the members expires every other year. A member who has served a full term is not eligible for reappointment. In the selection of members of the Board, the President may choose no more than one from a single Federal Reserve District, and must attempt to secure a suitable representation of different parts of the country and of different economic interests including agriculture, industry, commerce and finance. No member may have any connection with a bank or trust company during his term of service, whether as employee, officer, director or stockholder. If a member of the Board resigns before the expiration of his term, he shall not hold any position with a member bank within a period of two years from the date of his retirement.

The powers of the Board of Governors extend to virtually all phases of the Federal Reserve System's activities. The

[2] Subject also to removal for cause by the President.

Board is responsible for the issuance of general rules and regulations; thus Regulation W for the control of consumer credit was inaugurated at the instance of the Board. It is charged with supervision of the Reserve Banks and it has power to suspend or remove any officer or director of a Federal Reserve Bank. It may permit or compel the establishment of Federal Reserve branches in the respective districts, and may authorize branches, agencies and correspondents of Reserve Banks abroad or in our insular possessions. Powers of the Board of Governors over member banks include the authorization of branches, removal of officers and directors for continued violations of the law or for unsafe banking practices, and regulation of interlocking relationships between member banks and nonmember banks or security dealers. Through membership on the Open Market Committee, as well as through its own operations, the Board plays an important part in policy decisions and actions of the Federal Reserve.

FEDERAL ADVISORY COUNCIL

The Federal Advisory Council consists of twelve members, one appointed by each of the Federal Reserve Banks. Members are usually leading bankers of the district from which they are chosen. They serve for one year but are customarily reappointed year after year. At least four meetings are held each year in Washington and additional meetings there or elsewhere may be called by the Board of Governors or by the Council itself. As its name suggests, the functions of the Council are advisory and consultative only. It is authorized to call for information and to present recommendations on matters relating to the operation of the Federal Reserve System, including particularly such questions as credit policy, gold transactions, note issues and relations with foreign central banks. The Council does not

appear to have exerted a great deal of influence on the conduct of the Federal Reserve System, though the indirect and intangible effects of its activities are not easy to determine. The primary importance of the Council is that it affords a means whereby the operating member bankers of the System are able to make their views known directly to the Board of Governors.

THE OPEN MARKET COMMITTEE

The Open Market Committee was not part of the original plan of the Federal Reserve System. The Federal Reserve Banks learned through experience that their operations in the open market were capable of playing an important part in Federal Reserve policy and that in order to be sure of achieving desired results (as well as of avoiding undesirable effects) a considerable degree of coordination was absolutely essential. A committee consisting of the heads of four (later five) of the Federal Reserve Banks was created to effect purchases and sales in the open market in an orderly and systematic way. The initiative for this step came from the Treasury and subsequently the Board brought the work of the Committee under its supervision and formulated principles for its guidance. Changes in the conduct and composition of the Committee, some of them designed to limit the dominant influence exerted by the Federal Reserve Bank of New York, were introduced from time to time. The Committee was given legal status by the emergency banking legislation of 1933, and in the Banking Act of 1935 assumed approximately its present form.

The Open Market Committee consists of the seven members of the Board of Governors, plus five members chosen from the Reserve Banks. Of this group of five, one is from the Reserve Bank of New York, one from the Boston, Philadelphia and Richmond Banks, one from the Atlanta, Dallas

and St. Louis Banks, one from the Chicago and Cleveland Banks, and one from the Banks of Minneapolis, Kansas City and San Francisco. The Federal Reserve Bank of New York acts as the agent of the Open Market Committee and an officer of that Bank serves as Manager of the so-called "System Account" through which purchases and sales are conducted. The Open Market Committee as now constituted is effectively organized to carry on open market operations harmoniously and with a maximum of skill and authority. Because of the liaison it affords, it is of major importance in working out and carrying through coordinated policies not only in the open market but in the entire range of Federal Reserve credit operations.

THE FEDERAL RESERVE BANKS

Each Federal Reserve Bank holds a federal charter which was originally for twenty years but by later amendment was made indeterminate.

Capital accounts and distribution of earnings. The capital stock of the Federal Reserve Banks was obtained by requiring each member bank to subscribe to the capital of the Federal Reserve Bank of its district to an amount equal to 6 per cent of its own capital and surplus. Only 3 per cent, or half of the subscribed amount, was required to be paid in and it seems doubtful that the member banks will ever be called upon to pay the remainder. As member banks expand their own capital and surplus, they must add proportionately to their stock in the Federal Reserve Banks and, similarly, the capital stock of the Reserve Banks is reduced when member banks withdraw or their capital accounts are cut down. Member banks are allowed a 6 per cent cumulative dividend on paid-in capital stock. Earnings in excess of the 6 per cent dividend are assigned to surplus. Paid-in capital of the twelve Federal Reserve Banks stood at ap-

proximately $100 million at the end of 1920, $170 million ten years later and $139 million at the end of 1940. At the end of 1946, paid-in capital of all Reserve Banks was $186 million with surplus of more than double that amount or $386 million. On that date the paid-in capital of the Federal Reserve Bank of New York, at nearly $65 million, was over a third of the total for the System and it held more than a quarter of all Federal Reserve Bank assets. Next in order of size of paid-in capital were the Banks of Chicago, San Francisco and Philadelphia, while the smallest was the Minneapolis Bank with a little over $4 million.

Directors and officers. The Board of Directors of each Federal Reserve Bank consists of nine members comprising three groups known as A, B and C directors. Each group is chosen on a distinctive and predetermined basis designed to provide the desired degree of democratic representation and responsibility. Both A and B directors are chosen by member banks, A directors from the ranks of bankers and B directors from nonbanking pursuits such as industry, trade and agriculture. In the election of directors, member banks are divided into three size categories according to whether they are large, medium size or small, and each size group elects one A and one B director. Each bank has one vote, except that where more than one bank in the same District is controlled by the same holding company, only one vote is allowed for the group of banks.

Class C directors are appointed by the Board of Governors which also designates one of them as the Chairman of the Board and Federal Reserve Agent and another as Deputy Chairman. The Chairman must be a man of "tested banking experience," but this requirement is interpreted somewhat freely. All directors serve for periods of three years and their terms are so arranged that one director of each class is elected or appointed each year.

For many years after the establishment of the Federal Reserve System, Class C directors were drawn almost exclusively from among businessmen. In the latter thirties it became increasingly common to appoint men from academic posts, and particularly from the ranks of economists. In the middle forties, two of the C directors of the Federal Reserve Bank of New York were university deans and another, the chairman, was a former professor. At the Federal Reserve Bank of Chicago, the chairman was a college professor and another C director was a newspaper editor. The Philadelphia Bank had a university dean as a C director and a former dean as president. University professors and former professors held posts of C director or chairman in other Reserve Banks and branches. These contacts with professional economists were not an entirely new departure since one of the first members of the Board of Governors, who served for twenty-two years, was a professor of economics prior to his appointment to the Federal Reserve.[3]

At one time the chairman of the board of directors of each Federal Reserve Bank was required to devote full time to his duties as chairman and Federal Reserve agent. Today much of the work of the Federal Reserve agents is delegated to assistants appointed by the agents. While the chairman of the board and Federal Reserve agent is the official representative of the Board of Governors, the actual administration of the Bank's affairs is the responsibility of the president. The president is appointed by the Board of Directors for a five-year term, subject to approval by the Board of Governors. The effect of the provisions governing the appointment of the president, which were instituted by

[3] The fourteen year limit referred to earlier did not apply until after 1935 and then only in the case of continuous service in the same appointed term of office as governor.

the Act of 1935, was to give the Board of Governors greater power over the top administrative personnel of the individual Reserve Banks; the names of the president and first vice-president (who is appointed on a similar basis) automatically come up for approval or disapproval by the Board of Governors every five years.

Conference of presidents. At least four times a year the presidents of the twelve Federal Reserve Banks meet together to discuss problems of mutual concern. Like the meetings which gave rise to the Open Market Committee, these conferences originated spontaneously out of the need for some means of sharing knowledge and coordinating policies. Unlike that committee, however, the Conference of Presidents has not been accorded formal status in law. While the Conference has neither legal standing nor specific powers, it nevertheless wields great influence. It enables the presidents to keep posted on what is happening in other parts of the System and to exchange ideas concerning the conduct of a central banking system. Plans and projects for future development are studied and the work of carrying them forward may be assigned to subcommittees or to special groups made up of officers and employees of the various Banks. The meetings promote coordination of the work of the twelve Reserve Banks and at the same time facilitate the formulation of an informed and collective point of view in relations between the Federal Reserve Banks and the Board of Governors. The Conferences of Presidents, informal though they are, constitute one of the most effective instruments for carrying out the work of the Federal Reserve at the highest policy levels.

The administrative organization of the Federal Reserve System discloses a significant blending of the characteristics of a private and a governmental institution. It is private

in that ownership resides not in the government but in the member banks. A majority of the directors of the twelve Federal Reserve Banks are elected by the member banks and the methods of election are framed to provide full assurance of democratic representation and to prevent any group of members from gaining disproportionate power. On the other hand, the central authority for the System is lodged in the Board of Governors whose members are appointed by the President subject to Senate approval. The feature of centralization also applies in a significant degree to the administration of the Federal Reserve Banks: even though only a minority of the directors are appointed from Washington, the influence that minority holds is very great.

MEMBER BANKS

Composition of membership in the Federal Reserve System. The Federal Reserve Act required all national banks to join the Federal Reserve System. This was one of the means employed to assure that the Federal Reserve System would rest on a broad, strong base comprising an important segment of the commercial banks of the country. In addition, membership was made available to state banks which chose to enter the System and were able to meet the stipulated requirements. With the exception of the period of the depression when deposits of the Federal Reserve System shared the general shrinkage that affected practically all banks, total deposits in the Federal Reserve System have grown continuously with the passage of time (Table IX). The growth of member bank deposits relative to deposits of commercial banks as a whole has come from several directions: the proportion of national banks in the bank structure of the United States has risen relative to state banks; an increasing proportion of state commercial banks have voluntarily elected to join the Federal Reserve System; other

TABLE IX. *Number and Deposits of Commercial Banks in the United States, 1915–1945*

End of Year	Numbers				Deposits (in millions of dollars)			
	TOTAL	FEDERAL RESERVE		NON-MEMBER	TOTAL	FEDERAL RESERVE		NON-MEMBER
		National	*State*			*National*	*State*	
1915	25,875	7,598	17	18,260	17,993	8,817	77	9,099
1920	29,087	8,025	1,374	19,688	36,114	17,159	8,242	10,713
1925	27,858	8,066	1,472	18,320	44,552	19,912	12,546	12,095
1930	23,251	7,247	1,068	14,936	50,711	23,235	14,834	12,642
1935	15,478	5,425	985	9,068	41,319	22,477	12,461	6,381
1940	14,404	5,164	1,234	8,006	60,139	33,014	18,715	8,410
1945	14,000	5,015	1,825	7,160	136,607	76,533	41,844	18,242

Sources: *Banking and Monetary Statistics* and *Federal Reserve Bulletin.*

banking institutions such as trust companies, mutual savings banks and Morris Plan banks have become members.

Throughout its history the Federal Reserve System has comprised a minority of the banks of the country by number but has embraced a majority of banking assets, another way of saying that the banks which stayed out of the System were on the average of smaller size than those in the System. The average size of state member banks is larger than that of the national banks, since all national banks, large and small, are in the Federal Reserve System, while the state banks which joined were generally the larger ones. At the end of its first decade of existence, the Federal Reserve System embraced 34 per cent of all commercial banks of the United States and 73 per cent of total deposits in commercial banks; ten years later the proportions were 41 per cent and 85 per cent respectively, and at the end of thirty years 49 per cent and 87 per cent.

The proportion of total banks and banking assets which are within the Federal Reserve System varies substantially from Federal Reserve district to district and from state to state. The relatively small size of many of the banks in the South

and Middle West helps to account for the fact that the highest proportion of nonmember banks are situated there. At one extreme are such states as Mississippi with an eighth and South Carolina with a fifth of their commercial banks members of the Federal Reserve System, and at the other extreme Massachusetts and New York with over three-quarters of all commercial banks members of the system.[4]

Member banks are divided into the three categories of central reserve city banks, reserve city banks and country banks, a classification which was taken over from the national banking system. The first category includes banks in the two central reserve cities of New York and Chicago. The second category of banks are situated in the reserve cities, which number between fifty and sixty. The country banks are all those not included in the other two categories. The designation of banks is not determined solely by location; banks in outlying sections of central reserve and reserve cities may be granted a lower classification if they so desire and the character of their business justifies. They are then subject to the rules and requirements imposed upon that category of banks. The relative magnitude and something of the character of business of the different classes of member banks is indicated by the fact that on a recent date country banks held nearly one-third of the System's demand deposits and over half of the time deposits; reserve city banks held well over one-third of the demand deposits and two-fifths of the time deposits, and a relatively small number of central reserve city banks held over a quarter of the demand deposits but only a small fraction of time deposits.

Conditions of membership in the Federal Reserve System. The standards established for membership in the Federal Reserve System are roughly similar to those of the

[4] Even higher ratios prevail in Nevada and New Hampshire, but the total number of banks in those states is small.

national banking system. Minimum capital requirements are set at $50,000, $100,000 and $200,000, according to the size of the community in which they are situated. Limitations imposed on types of loans and investments, on loans to individual borrowers and officers, and on the establishment of branches are somewhat more strict than those set by the laws of most states. In addition to requirements directed primarily toward the maintenance of a high level of banking standards, members are subject to certain provisions related to the operation of the Federal Reserve System. One of these is the obligation to subscribe to stock in the respective Federal Reserve Banks. Another requires member banks to hold all legal reserves behind their own deposits in the form of deposits at the Federal Reserve Bank of the district in which the member bank is situated. A further important requirement is to redeem at par all checks properly drawn upon them and to clear at par checks which are processed through the System for collection.

Privileges of membership in the Federal Reserve System. The advantages of membership in the Federal Reserve System are principally those implied in the characterization of the Reserve Banks as bankers' banks. Members enjoy the privileges that go with having their own bank, corresponding generally to the privileges an individual gains from being a customer in good standing of a commercial bank. Member banks are afforded the services of the Reserve Banks in facilitating the transfer of funds, collecting sums due them, obtaining information and consulting with responsible experts on special and routine banking problems. They can turn to their respective Reserve Banks and obtain needed funds through borrowing, discount of commercial paper or sale of investment securities. Through the relations of one Reserve Bank with another, a member bank, if necessary, can enlist indirectly the resources of the entire Federal

Reserve System. Finally, on the stock of the Reserve Bank which the member bank is required to own, it is assured of a return of 6 per cent, which makes the stock one of the most profitable assets the bank owns.

Some of the privileges afforded member banks are also available to banks outside the System. A nonmember bank, if it maintains correspondent relationship with a member, is able to utilize indirectly most of the facilities of the Federal Reserve System. By depositing checks with a member bank, it can participate in the benefits of the same system of clearing and collection. By discount of paper with a correspondent bank which is a member, it may make use indirectly of the credit facilities of a Reserve Bank. Moreover, the participation of nonmember banks in the operation of the Federal Reserve System has been formalized to the extent of creating a special category of institutions known as clearing banks, which are given the right, upon compliance with certain regulations, to clear directly through the Federal Reserve System in the same way as member banks.

Deterrents to membership in Federal Reserve System. Banks tend to be kept from joining the Federal System by certain positive and negative considerations. Among the positive deterrents are the capital requirements which are higher than for most state jurisdictions, and restrictions on lending practices, which are generally narrower than those imposed by state authorities. State banks may be subject to lower reserve requirements and may be permitted to count as legal reserves both vault cash and deposits with correspondent banks. At one time the obligation to purchase stock in the Reserve Banks was regarded as a disadvantage of membership. For a large group of banks the most serious obstacle to membership is the par-clearance provision which prohibits a member bank from levying a charge on checks drawn against itself for the payment of

cash at some distant point. Since the imposition of such charges was a long established practice and involved total income running into many thousands of dollars, some banks were unwilling to surrender it. By negative deterrents to membership is meant that many of the benefits of the Federal Reserve System are available to banks whether they join or not.

Non-Policy Operations of the Federal Reserve System

The organization of the Federal Reserve System provides the framework for two important results which were conspicuously absent in the American banking system before 1914. In the first place, it involves a considerable degree of centralized administration and control and makes possible more unified banking policies for the country as a whole. It contributed to greater uniformity in rates, practices and procedures and toward the general elevation of banking standards. In the second place, the establishment of the Federal Reserve System facilitated the integration and coordination of the banks and the banking resources of the country. It did what had never been done before in this country; it created a genuine *system* of banks in the sense that it established interrelationships among the individual banks, relationships which increased their efficiency and economy of operations and added to their individual and collective strength. Beneficial relationships were also provided between the individual member bank and its Reserve Bank and among the Reserve Banks themselves. A variety of provisions exist to facilitate the effective operation of the banking system thus created.

RESERVE PROVISIONS

As was noted earlier, member banks are required to hold all legal reserves in the form of deposits with their respective

Federal Reserve Banks. The basic reserve requirements are 3 per cent against time deposits regardless of location, and against demand deposits 7 per cent for country banks, 10 per cent for reserve city banks and 13 per cent for central reserve city banks. Reserve requirements may be increased to double the basic ratios. Maximum requirements were enforced for the two periods, May 1937 to April 1938 and November 1941 to August 1942. The reserve requirement against time deposits remained at 6 per cent for all banks and requirements against demand deposits at 14 per cent for country banks and at 20 per cent for reserve city banks. In order to facilitate war financing, the requirement for central reserve city banks was lowered to 20 per cent in October 1942. It remained at that point until 1948 when it was increased to 22 per cent. The current level of member bank reserve requirements, together with similar information, is reported each month in the *Federal Reserve Bulletin.* (The same source may be consulted for other current developments, national and international, which affect banks and the monetary system.)

The Federal Reserve Banks are required to hold reserves of 25 per cent against deposits and Federal Reserve notes outstanding. These reserves must be in the form of gold certificates. Gold certificates are issued by the Treasury against gold which it owns and holds, chiefly in Fort Knox, and their only use is as Federal Reserve Bank reserves. The reserve requirements imposed on the Federal Reserve Banks have not always stood at their present level. As a result chiefly of the expansion in volume of deposits and notes during the Second World War, the Federal Reserve Bank reserve ratio declined toward the legal limit. Congress thereupon reduced the requirement to the present level and by so doing extended considerably the power of the Reserve Banks to discharge their essential central banking function

of creating (and absorbing) member bank reserves as conditions render desirable.

CLEARING AND COLLECTION

In addition to serving the usual purposes of bank reserves, the deposits of member banks with the Federal Reserve Banks provide the means whereby balances are settled between member banks. The great bulk of checks drawn on banks within the same city are settled through the operations of local clearinghouses. In a somewhat similar manner the Federal Reserve Banks and their branches constitute the center of a simple, efficient and economical clearing mechanism for the member banks of their respective districts. A large proportion of checks drawn on out-of-town banks pass through the Federal Reserve Banks where they are credited and debited to the appropriate deposit accounts, with the result that the reserves of individual member banks rise or fall daily by the net balance of incoming and outgoing checks.

A nonmember bank may collect checks through the system indirectly by handling them through a correspondent bank which is a member, or directly by entering into special clearing arrangements with the Reserve Bank of the district in which it is situated and agreeing to maintain a deposit account with the Reserve Bank sufficient to permit direct debiting and crediting of checks. Not all checks on out-of-town banks are cleared in this way, since banks frequently find it more convenient to collect checks through a correspondent bank in the city where the paying bank is located. In the case of banks situated near the boundaries of different Federal Reserve Districts, considerable time and trouble may be saved by collecting checks directly instead of transmitting them by a more roundabout route through the respective Federal Reserve Banks.

The collection through Federal Reserve Banks of checks drawn on banks in another Federal Reserve district brings into play another feature of the Federal Reserve mechanism, namely, the Interdistrict Settlement Fund. Let us suppose that a check drawn on a Philadelphia member bank is deposited at a member bank in Sacramento. The Sacramento bank would send the check to the Federal Reserve Bank of San Francisco and would receive credit in its reserve account.[5] From the San Francisco Bank the check would be mailed to the Federal Reserve Bank of Philadelphia and from the Philadelphia Bank to the bank against which it was drawn, the Philadelphia Bank debiting that bank's reserve account for the amount of the check.

The operations just described would take care of the two member banks, but it is still necessary to explain how the Reserve Bank of San Francisco is reimbursed by the Reserve Bank of Philadelphia. This is accomplished through the Interdistrict Settlement Fund. At the conclusion of each day's business every Federal Reserve Bank communicates to the Board of Governors in Washington the amount owed to each of the other eleven Federal Reserve Banks on that day's transactions. The Board of Governors computes the totals of all sums due to and due from the various Reserve Banks. Each Bank is then debited or credited in the Interdistrict Settlement Fund for the amount of its net balance for that day. The Fund itself is held in the vaults of the Treasury in Washington and comprises a large proportion of the legal reserves of the Federal Reserve Banks.[6] Thus the effect of transfers through the Interdistrict Settlement Fund is to raise or lower the reserves of the re-

[5] Credit for out-of-town checks is accorded on the basis of a time schedule, based originally on the time required to effect collection. The maximum delay in receiving credit is now three days.

[6] On a recent date 30 per cent of the gold certificates constituting Federal Reserve Bank reserves were allocated to the Interdistrict Settlement Fund.

spective Reserve Banks. The shifting of balances in the Fund constitutes an "internal drain" of reserves among the Federal Reserve Banks.

As a result of the centralization of member bank reserves, the requirement of par collection of checks and the operations of the Interdistrict Settlement Fund, the cumbersomeness of earlier methods of clearing and collecting checks within the United States has been corrected.

NOTE ISSUE

The power of the Reserve Banks to issue so-called Federal Reserve Bank notes, which were similar to the old National Bank notes, was terminated in 1945. Today the only type of circulating notes issued by banks in the United States are Federal Reserve notes. In recent years these notes have constituted a predominant part of the paper currency of the United States, representing in 1947 over 85 per cent of all paper money in circulation (Table X).

TABLE X. *Federal Reserve Notes and Total Currency in Circulation in United States, 1915–1947*
(Quantities in Millions)

End of June	Total Currency	Federal Reserve Notes	Ratio of Notes to Total
1915	$ 3,033	$ 71	2%
1920	5,181	3,065	60
1925	4,524	1,636	36
1930	4,235	1,402	33
1935	5,568	3,223	59
1940	7,848	5,163	66
1941	9,612	6,684	70
1942	12,383	9,310	77
1943	17,421	13,747	79
1944	22,504	18,750	83
1945	26,746	22,867	85
1946	28,245	23,973	85
1947	28,297	23,999	85

Sources: *Banking and Monetary Statistics* and *Federal Reserve Bulletin.*

Federal Reserve notes are not only the main element in the country's currency system but are also the principal liability of the Federal Reserve Banks. In 1947 Federal Reserve notes comprised 58 per cent of the combined note and deposit liabilities of all Federal Reserve Banks. In recent years the assets behind Federal Reserve notes have consisted chiefly of Treasury obligations, but they may also include eligible paper and gold certificates. The reserves which Federal Reserve Banks must hold against notes are the same as those required against deposits, namely, 25 per cent in the form of gold certificates.

Other non-policy operations of the Federal Reserve have either been mentioned earlier, as in the case of the handling of routine currency and public debt transactions for the Treasury, or are of a minor character. Operations involving major questions of policy will be discussed in the following chapter.

13 ~ The Instruments of Federal Reserve Credit Control

Important as are the more or less mechanical, generally routine operations of the Federal Reserve System, major interest attaches to those directed toward controlling the volume and use of credit. The purpose of these controls is to promote the orderly and efficient functioning of the economic system. To this end they may seek, in the first place, to exert a stabilizing influence by facilitating an expansion of credit at one time and resisting it at another. In the second place, they may try to direct financial resources into channels regarded as particularly desirable from the standpoint of the economy as a whole. This may be done by such means as discriminating against the use of credit in stock market speculation and discriminating in favor of credit used in industry and agriculture.

Credit control by the central bank is designed to make the economic system function better than it would under purely laissez faire conditions. It is predicated on the implicit assumption that credit cannot be relied upon to operate in a satisfactory manner when left alone. Policy decisions on the control of credit by the Federal Reserve require an interpretation of the state of economic activity,

an analysis of current tendencies with respect to the behavior of credit, and a consideration of the methods that may be used to influence credit. The responsibility for making decisions on matters of credit control rests with officers and directors of the Federal Reserve Banks and with the Board of Governors. Responsibility for carrying their decisions into effect rests mainly with the Open Market Committee and the twelve Federal Reserve Banks. The various instruments which have gradually been developed for exercising control over credit may be classified alternatively as direct and indirect, passive and active, and quantitative and qualitative. Each of these classifications, while embracing the same control devices, is directed toward clarifying important differences in the character and conduct of the instruments under consideration.

Direct and Indirect Credit Controls

The indirect credit controls are designed to influence the volume of credit by altering the amount of reserves which member banks are free to use for expanding deposit credit. They are indirect in that they focus not on bank credit itself but on the member bank reserves on which bank credit is based. They rest on the underlying assumption that the volume of bank credit will bear a proportional relationship to the quantity of member bank reserves. They attempt to control the volume of bank credit by controlling the volume of bank reserves.

THE INSTRUMENTS OF INDIRECT CREDIT CONTROL

The instruments of credit control classified on the basis of whether the control is exercised directly or indirectly are as follows:

1. Indirect controls.
   a. Discounting, and changes in the discount rate.
   b. Advances.
   c. Open market operations.
   d. Changes in reserve requirements.
   e. Purchase of Treasury bills at a fixed rate of discount.[1]
2. Direct controls.
   a. Establishment of margin requirements on loans against securities.
   b. Regulation of the terms of consumer credit.[1]

Discounting and changes in the discount rate. The only instrument for credit control which was embodied in the original Federal Reserve Act was the provision for discounting commercial paper presented to the Reserve Banks by member banks. It was intended that a bank needing additional reserves would simply turn to its Federal Reserve Bank and sell some of its assets in exchange for the desired reserves. Each Reserve Bank would thus play the role of banker for the member banks of its district.

To be eligible for discount at a Federal Reserve Bank, paper had to be in the form of promissory notes or bills of exchange which had been used to provide working capital for business or agriculture. Bills of exchange must have arisen out of the sale of goods and must have been drawn against the buyer, in the case of a trade acceptance, or against a bank, in the case of a bank acceptance. Paper used to provide fixed capital or funds for speculative purposes or to deal in other securities, such as stocks and bonds, was specifically excluded. Commercial and industrial paper must have a maturity at time of discount of not more than ninety days, except in the case of certain types of paper which might run six months if secured by readily marketable

[1] In force from 1942 to 1947.

staples. Agricultural paper must have a maturity at time of discount of not more than nine months. As will be seen later, strict reliance on eligibility requirements was subsequently abandoned.

The rate at which Reserve Banks discount eligible paper may be changed as conditions warrant, but changes in the discount rate must be approved by the Board of Governors and approval is subject to review every two weeks. The purpose of changes in the discount rate is to encourage or discourage the extension of credit by member banks by decreasing or increasing the cost of acquiring reserves.

Advances to member banks. The Federal Reserve Act was amended in 1916 to enable member banks to obtain reserves by borrowing from the Reserve Banks on their own promissory notes. These advances are generally secured by Treasury obligations, run for fifteen days with the privilege of renewal and carry interest at the prevailing discount rate.[2] Following the introduction in the early thirties of various temporary measures to broaden the basis of advances, the Banking Act of 1935 granted permanent authority to the Federal Reserve Banks to make advances for periods up to four months on promissory notes secured by any assets acceptable to the Reserve Bank. These advances must be at rates no less than ½ per cent above the current discount rate. Under this provision a member bank may be able, if the Reserve Bank is favorably disposed, to obtain credit on mortgages, bonds and security loans, all of them types of assets which were excluded from the privilege of discounting by the terms of the original Federal Reserve Act. Thus the Amendment of 1935 greatly extended the power of the Reserve Bank to provide reserves for member

[2] During the Second World War, advances secured by short-term Treasury obligations were given a preferential rate equal to half the official discount rate.

banks. It was primarily intended, however, to enable the Reserve Banks to cope with the problem of bank liquidity in time of emergency. In the ordinary course of operations, advances to member banks are generally made only against the pledge of Treasury obligations.

Since the early thirties, resort to member bank borrowing from the Reserve Banks has been held to small proportions by the so-called "tradition against borrowing." The attitude of preferring not to go into debt at the Reserve Bank or, if already in debt, not to remain so, is a check on undue reliance on borrowing from the Reserve Banks. It provides a factor over and above the interest charge which tends to hasten the automatic contraction of such borrowing, once the occasion for it has passed. However, the tradition against borrowing has sometimes interfered with the ability of the Reserve Banks to discharge the reserve creating functions for which they were designed.

Open market operations. While the Federal Reserve Act gave the Reserve Banks the power to buy and sell certain types of securities in the open market, the original expectation was that this power would be used merely to enable the Reserve Banks to acquire sufficient earnings assets to pay their necessary expenses at times when there was little discounting by member banks. The effect of open market operations on the reserve position of member banks, and therefore their possible effectiveness as a method of controlling credit, was discovered only gradually and then more or less by chance. Since 1923, however, open market operations have come to be regarded as perhaps the most important of all the instruments of credit control.

The nature of open market operations as a device for controlling credit is seen by observing their effect on member bank reserves. When the Federal Reserve Banks, through their Open Market Committee, purchase securities in the

open market, payment is made in the form of drafts on the Reserve Banks. Whether the seller of the securities is a bank or a customer of a bank, proceeds of the sale of securities to the Reserve Banks are eventually placed to the credit of member banks' deposit accounts at the Federal Reserve Banks. The net effect of the operation is thus to increase the reserves of member banks. The opposite happens when the Reserve Banks sell securities in the open market. Checks drawn to pay for the securities are presented for collection by the Reserve Banks, with the result that member bank deposits at the Reserve Banks, i.e., their legal reserves, are reduced by the amount of net debits to these accounts. The effect of open market operations, then, is to expand or contract the reserves of member banks, and by this means to extend or restrict the power of member banks to provide credit for the banks' customers.

Changes in Reserve Requirements. As early as 1916 the Federal Reserve Board suggested that it be given power to raise the reserve requirements of member banks, on the ground that this would enable the Federal Reserve to "check any tendency toward . . . undue extension of credit." [3] It was not until 1933, however, that the provision for changing reserve requirements was finally enacted into law. It was given permanent instead of emergency status by the Banking Act of 1935. The period when this law was passed was characterized by a large volume of excess reserves and a heavy movement of gold to this country, conditions closely resembling those that had given rise many years before to the original suggestion for changing reserve requirements. By the Act of 1935 the Board of Governors was authorized, on the affirmative vote of four members, to raise or lower reserve requirements of member banks within the range of from one to two times the amount of reserves

[3] Annual Report of the Federal Reserve Board for 1916, p. 28.

required at the time of the enactment of the law.[4] Requirements may be altered for all member banks or for any of the three categories of banks separately.

The essence of this method of credit control is that by decreasing or increasing reserve requirements, the Board of Governors expands or contracts the proportion of total member bank reserves which are classified as *excess* reserves. Since excess reserves constitute the legal basis for an expansion of bank credit by member banks, an increase or decrease in the amount of excess reserves tends to bring about a corresponding change in the volume of credit.

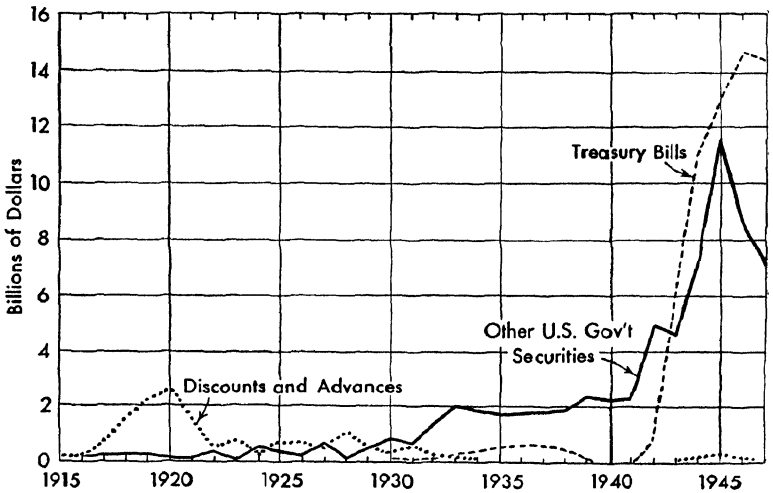
Purchase and resale of Treasury Bills. Soon after the start of heavy war financing, it became evident that large amounts of additional Reserve Bank credit would have to be provided. At that time the tradition against borrowing interfered with the use of advances and the limited supply of eligible paper made discounting infeasible. Accordingly, the Reserve Banks introduced the policy of buying Treasury bills (federal obligations which ran ninety days and bore interest at ⅜ per cent per annum), whenever member banks presented them, at a fixed rate of ⅜ per cent, and a little later provided that member banks could buy bills back again whenever they desired at the same guaranteed rate of discount amounting to ⅜ per cent a year. The net result of these provisions was to render Treasury bills completely liquid. They became practically equivalent to excess reserves, except that they carried interest at ⅜ per cent, and were so called and so treated by many bankers. Legally, of course, they were not reserves at all.[5]

[4] The basic requirements are 7, 10 and 13 per cent against demand deposits for country, reserve city and central reserve city banks, respectively, and 3 per cent against time deposits.

[5] Treasury bill policy is discussed at length in C. R. Whittlesey, *Bank Liquidity and the War*, New York, National Bureau of Economic Research, 1945, pp. 66–84.

The Treasury bill policy with its provision for purchase and resale at a fixed rate facilitated, as was intended, a reduction in the volume of excess reserves held by member banks. It was the principal means of acquiring additional member bank reserves as they were needed during the Second World War. After the war member banks reduced their holdings of Treasury bills in favor of higher yield se-

CHART X. *Principal Items in Reserve Bank Credit, 1915–1947*



Source: Adapted from *Federal Reserve Charts.*

curities to such an extent that Treasury bills ceased to be of much importance as a device for adjusting their reserve position. The guaranteed rate was abandoned in 1947 and consequently the Treasury bill policy ceased to be operative.

Viewing the various instruments of indirect control of credit historically, open market operations are seen to have been of the greatest continuing importance. The principal forms in which Federal Reserve credit has been extended are shown in Chart X. Of the three periods of substantial

credit expansion, discounts were the most important vehicle from 1918 to 1921, United States Government securities in the thirties, and Treasury bills after 1942. Discounting practically ceased as a result of the relative scarcity of eligible paper, and the use of advances dwindled as a result of the tradition against borrowing. Changes in reserve requirements were used to effect certain major adjustments in the volume of excess reserves, and the Treasury bill policy was a major instrument only during the period of the Second World War.

THEORY OF THE INDIRECT CONTROL OF CREDIT

The fundamental feature of the indirect instruments of credit control is the effect they have on total member bank reserves or, in the case of changes in reserve requirements, on that part of the total which is in excess of legal requirements. The terms used to identify the various instruments of credit control are somewhat misleading. What is important about open market operations, for example, is not the purchase or sale of *securities* by the Federal Reserve authorities, but the sale or purchase of *reserves* which is thereby accomplished. Securities are the medium (and the open market the place of payment) for the purchase or sale of member bank reserves by the Federal Reserve authorities. The essence of the Treasury bill policy was the maintenance of a fixed rate at which reserves were bought or sold in exchange for Treasury bills. The discount rate, in turn, represents the price at which the Reserve Banks stand ready to sell or lend reserves to member banks in exchange for eligible paper or for a bank's promissory note backed by satisfactory collateral. A change in the discount rate means, in simplest terms, that the Reserve authorities have raised or lowered the price at which they are prepared to sell or lend reserves to member banks, the function of the

change in price of reserves being similar to a change in any other price, namely, to restrict or stimulate demand.

The aim of each of these instruments of credit policy is to influence the total quantity of reserves and thereby the amount of free (i.e., excess) reserves.[6] A change in reserve requirements, on the other hand, alters the volume of free reserves directly. While total reserves remain unchanged, the quantity available for deposit expansion or other purposes is increased or decreased by the simple expedient of declaring that a smaller or larger share of the total must be counted as required reserves. Where the other two methods are designed to bring about an actual quantitative change in *total legal reserves* and thereby in free reserves, a change in reserve requirements serves to create or destroy *excess reserves* by a stroke of the pen. The effect of such a change extends beyond the volume of reserves thereby impounded or made available. It also governs the amount of deposits that can be created on the basis of each dollar of reserves then and in the future.

Changing reserve requirements is subject to limitations that do not apply in the case of other instruments of indirect credit control. This is because a change in reserve requirements is not, in every situation, equivalent to a change in the absolute amount of reserves. A need for liquid balances is the result, ordinarily, of either an increase in required reserves resulting from a growth of deposits or an expansion of currency in circulation. Currency expansion involves the physical withdrawal of cash from the banking system, however, while a rise in required reserves does not. Reducing reserve requirements could conceivably meet a demand for reserves arising out of a growth in deposits no

[6] They may also serve other purposes, as in the use of open market purchases to preserve a pattern of rates or otherwise to support the price of securities.

matter how large the increase, but it is quite possible that it could not meet a demand arising out of currency expansion. If cash were needed to permit the paying out of currency—the effect of this being to reduce member bank reserves dollar for dollar—a point might be reached where reserves were completely gone (assuming that this were allowed to happen). No reduction of reserve requirements would then be of any avail. The only recourse would be the creation of more reserves.

DIRECT INSTRUMENTS OF CREDIT CONTROL

The Federal Reserve also has or has had certain methods of control which act on credit directly rather than on the reserves of member banks on which credit persumably is based. These controls are aimed, moveover, at particular types of credit, namely, credit used for the purchase of securities and credit to finance the purchase of consumer goods. Because of this specific character they are often called "selective" credit controls. They apply to the particular type of credit, regardless of the lender, and are not, as in the case of the other types of credit control, limited to the operations of commercial banks. Since they rest on official regulations and prohibitions issued by the Board of Governors, they are much more authoritarian in character than the indirect controls which rely upon the pressure resulting from the stringency or ease of legal reserves.

Margin requirements. The Securities Exchange Act of 1934 gave the Board of Governors the power to prescribe the margin which must be required on loans for purchasing or carrying securities. It applies to all margin transactions in securities on registered security exchanges, and also to bank loans for the purpose of trading or carrying any security traded on such exchanges. At one time the margin requirement was set at 100 per cent which was equivalent to pro-

hibiting the use of credit in transactions of this character.

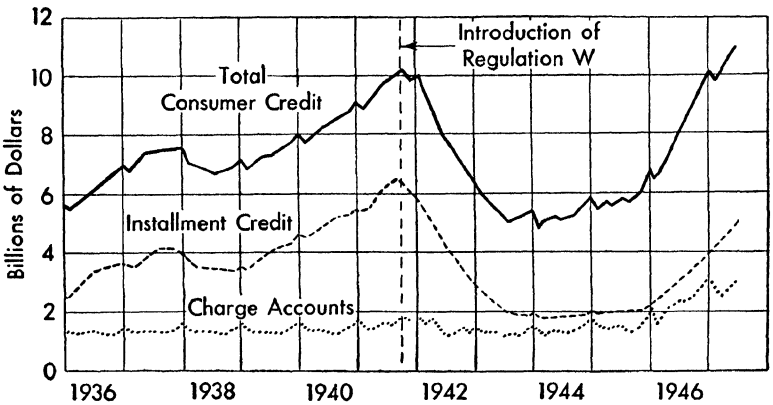
Since security prices at times have continued to rise even in the face of drastic increases in margin requirements, considerable dispute has arisen as to the effectiveness of this particular device. The uncertaintly of the course security prices would have followed in the absence of the measures taken renders final conclusions impossible. However, the underlying principle of the provision is that the restriction of the use of credit for stock market purposes will serve to reduce demand at a time of rising security prices, and likewise that it will lessen the probability of a dumping of securities in a situation where falling security prices encroach on established margins. Since banks are presumably able to safeguard themselves by the margins they are willing to accept, the purpose of the provision is not to protect the banks, other than in the sense that the preservation of healthy, stable conditions in the security markets is also in the best interests of banks.

Control of consumer credit (Regulation W). Not long before the entry of the United States into the Second World War, the Board of Governors was authorized to prescribe the minimum size of down payments and the maximum time to maturity of contracts for purchases on the installment plan. It was maintained that the effect of the measure would be, in the first place, to reduce the inflationary danger during the war by restricting the demand for consumer goods and, in the second place, to maintain consumer purchases in the postwar period by postponing demand to a later time. The power to control credit terms was subsequently extended to cover charge accounts and personal loans to consumers.

While the volume of consumer credit declined substantially after the introduction of Regulation W (see Chart XI) it is impossible to say how much of the contraction

was the result of the restrictions imposed under its terms and how much to the unavailability of types of durable consumer goods for which this type of credit had been used. The vigor with which a continuance of the controls was opposed by many retail sales organizations indicates that

CHART XI. *Consumer Credit Outstanding, Principal Items, 1936–1947*



Source: Adapted from *Federal Reserve Charts.*

these groups at least believed that the device was capable of having an appreciable effect on consumer purchases. Regulation W was abrogated toward the end of 1947.

Passive and Active Credit Controls

A second classification of the instruments of Federal Reserve credit control is based on whether the initiative in carrying policies into effect rests with the member banks or with the Reserve authorities. The chief significance of the distinction lies in the fact that reliance on passive credit controls, i.e., those in which the action influencing the volume of credit originates with the member banks, was

originally expected to provide a system which would function automatically and with a minimum of interference by Federal Reserve authorities. On this basis the instruments of cerdit control may be listed as follows:

1. Passive (initiative with the member banks).
   a. Discounting.
   b. Advances.
   c. Purchase and sale of Treasury bills.
2. Active (initiative with the Federal Reserve Banks).
   a. Open market operations.
   b. Changing reserve requirements.
   c. Changing margin requirements.
   d. Control of consumer credit.

THE PASSIVE POWERS

Discounting. The eligibility requirements were designed to confine the discounting by member banks at the Federal Reserve Banks to self-liquidating commercial paper. With an expansion in business activity, it was assumed that there would be an increase in the volume of commercial paper brought to the banks for discounting. If the expansion in bank credit called for additional bank reserves, reserves could then be obtained by the member banks discounting at the Reserve Banks some of the eligible commercial paper which they had received from their customers. With a contraction in the volume of business, a reduction in the volume of commercial paper would bring about a contraction in outstanding Reserve Bank credit and, therefore, in the volume of member bank reserves. Thus changes in the volume of business activity were expected, through the discounting of eligible commercial paper, to provide an automatic regulation of the volume of credit. The Federal Reserve authorities might influence adjustments by raising

or lowering the discount rate, but even then the Federal Reserve was passive since the change in the discount rate would become effective only when member banks, on their own initiative, came to the Reserve Banks to discount eligible paper.

By 1923 the Federal Reserve Board had established the principle of *acceptability* by declaring that discounting by member banks was a privilege of membership and not a right. They announced that even though a member bank presented paper which fully met the tests of eligibility, it might be refused if the Reserve authorities found it in the public interest to do so. The reason for refusing was to be clearly indicated. The effect of substituting acceptability based on the will of the Reserve authorities for eligibility based on formal rules constituted a significant step in retreating from the conception of an automatic banking system.

Advances. Authorization for extending Federal Reserve credit by means of advances likewise involved a departure from the original conception of automatism. Although the initiative remained with the member bank, the extension of credit by the Reserve Banks was no longer restricted to self-liquidating commercial paper. It might include Treasury obligations, whose volume could in no way be assumed to vary directly with the volume of business activity. When the provision governing advances was extended to permit the pledging of any asset acceptable to the Federal Reserve authorities, the element of automatic regulation of the volume of credit was still further attenuated. The initiative still rested with the member banks, except to the extent that their willingness to borrow may have been influenced by changes in the discount rate.

Treasury bill policy. The introduction of the Treasury bill policy soon after our entry into the Second World

War provided an effective mechanism for enabling the Federal Reserve Banks to put additional funds into the market. Inasmuch as the initiative in effecting changes in the volume of cash rested with the individual member bank, the flow of cash was more or less automatically adjusted with respect to amount, place and time. Moreover, the mechanism of the Treasury bill policy facilitated, though it did not assure, the automatic contraction of reserve balances whenever and wherever they became excessive. The purchase and sale of Treasury bills permitted more precise adjustments than ordinary open market operations, just as these permit finer adjustments than are possible by means of changes in reserve requirements. In short, the Treasury bill instrument of credit policy was highly sensitive to changes in the liquidity of business.

The Treasury bill technique had the further advantage that it did not necessitate administrative decisions on the part of the Reserve Bank officials. In the features of the initiative resting with the member banks and the automatic adjustment to varying requirements of particular banks, the Treasury bill policy resembled ordinary discounting operations. At the time of its introduction the great advantage of Treasury bill policy over discount policy in meeting the liquidity requirements arising out of the war was that it had no popular prejudice with which to contend. Its superiority lay not so much in its technical provisions as in the manner in which it circumvented the tradition against borrowing.

In the course of time, Treasury certificates and other Treasury obligations of still longer maturity also came to perform something of the function of an adjusting medium. In terms of ideal operation as a regulator of the quantity of member bank reserves, it might have been expected that changes in the volume of Treasury bills offered for sale

through the Reserve Banks would reflect changes in the banks' needs for currency and reserves. Alternatively, a sustained increase in Federal Reserve holdings of bills might have been taken to indicate that this particular type of security had been issued in excess of demand for it by banks and the public, and served to guide the Treasury in cutting down on future flotations of Treasury bills. In practice, however, no such automatic operation of the purchase and sale of Treasury bills was achieved. At times increased offerings of bills at the Federal Reserve Banks reflected not so much a change in the credit needs of member banks as their desire to substitute higher yield securities for the low yield Treasury bills.

THE ACTIVE POWERS

In the case of the active powers of credit control, all semblance of an automatic system of credit control is absent. The adoption of measures which allow the Federal Reserve authorities to take the initiative was an acknowledgment of the belief that in order to make credit control effective, a central bank must be able to act positively and without delay. While the element of monetary management is present even in the passive instruments of central bank policy, it is carried to much greater lengths in the active instruments.

The development of the active powers of control, moreover, shows a widening conception of the fundamental bases of credit control. It will be noted that all of the passive instruments of credit control are of the more or less conventional indirect type. In the case of the direct controls, that is true only of open market operations. Changes in reserve requirements are also indirect, i.e., they act through reserves, but they represented a unique departure in that instead of relying on an alteration in the volume of total

reserves, they turn on administrative changes in the regulations for classifying legal reserves. Changes in margin requirements constitute a still greater departure from precedent in that they operate on credit directly, rather than through the reserves of member banks, and that they go beyond the attempt to control bank credit alone, and embrace another type of credit, regardless of who the lender may be. The same was also true of Regulation W.

Qualitative and Quantitative Credit Control

The division of Federal Reserve credit controls into the two classes, qualitative and quantitative, turns on whether they are intended to influence the use to which the credit is put or the volume of credit, more or less irrespective of use. This basis of classification does not lend itself to a division of the different instruments of credit control into one or the other type. Most of the instruments are capable of being adapted to either or both purposes and therefore could be classified, according to the circumstances of their application, under either heading. Where the distinction between direct and indirect and between active and passive credit control relates to the *method* of controlling credit, the distinction between qualitative and quantitative turns on the *purpose* of the control.

QUALITATIVE CREDIT CONTROL

Qualitative credit control refers not so much to quality of credit in an absolute sense (i.e., goodness as indicated by the risk of loss) as to the purpose for which credit is extended. The purposes for which credit is designed are usually indicated by descriptive designations; thus we speak of commercial, agricultural and installment credit and of stock market loans. In practice, *qualitative credit control consists of discriminating in favor of certain types of credit*

and against others. Discrimination may be exercised in a variety of ways: the Federal Reserve Banks accord a favorable discount rate to bankers' acceptances; advances on security of Treasury obligations are made at the official discount rate and on other assets at ½ per cent above; certain types of credit instruments, such as those arising out of stock exchange operations, are ineligible for rediscount. Or the methods employed in exercising qualitative credit control may be even more direct, as when Federal Reserve authorities bring pressure upon particular banks to persuade them to refrain from further extension of credit if it is regarded as contrary to the public interest.

Qualitative credit control was originally intended as part of the mechanism for *automatically* adjusting the volume of credit to "the needs of business." An expansion of trade was expected to lead to a proportionate increase in the volume of commercial paper and this to a corresponding increase in bank credit. Qualitative credit control was synonymous with *eligibility* and was designed merely to see that banks confined their business to loans of a commercial character. The rest was expected to be automatic. Indeed, the term "control" in this connection is somewhat misleading, since the control exercised amounted to little more than the establishment of credit standards which thereafter would govern the operations of banks. This line of reasoning, in effect, embodied the traditional theory of commercial banking which was outlined earlier. A considerable part of the appeal of qualitative credit control lay in the promise that it would provide the basis of a system which for the most part would operate automatically.

In recent years qualitative credit control of this type has come to occupy a less prominent place in both the discussion and the practice of central banking. The reason lies partly, no doubt, in the dwindling importance of commer-

cial paper in present day business operations. It may rest partly upon growing skepticism as to the validity of the basic assumptions of qualitative credit control. But the idea of qualitative control has by no means been entirely discarded. Certain types of credit, such as commercial and agricultural paper, are still accorded favored treatment, while other types, such as stock exchange paper, are discriminated against. Meanwhile, selective controls in the form of regulation of consumer credit and margin requirements have played their parts as instruments of policy. While the later versions of qualitative credit control likewise turn on the use to which credit is put, the automatic element, which was the central feature of the earlier types of qualitative control, is foreign to them.

QUANTITATIVE CREDIT CONTROL

Quantitative credit control consists, strictly speaking, of the attempt to influence the absolute amount of credit without regard to the direction of its use. In the case of the controls of margin requirements, the qualitative aspect exists alongside the quantitative and, as we have seen, discount policy also sought to combine the qualitative and quantitative features. Typically, however, we may think of quantitative credit control as referring simply to increasing or decreasing the volume of demand deposits on the books of member banks. It is this type of credit control that has traditionally constituted the most distinctive feature of central bank policy and does so today. Demand deposits occupy the central position not only because deposit credit is the most important category of credit but also because most other types of credit are largely dependent upon it.

Psychological Means of Controlling Credit

In addition to the specific instruments of credit control which have been described, the psychological effects of Federal Reserve policy may also be a factor in the credit operations of member banks. The mere fact that the Federal Reserve authorities saw fit to raise the discount rate or take other steps to restrict credit has at times been interpreted as an indication, from a particularly well informed source, that business conditions had reached a point where banks would be wise to exercise increased caution in their lending activities. The psychological effect of Federal Reserve action, in fact, has sometimes been greater than its tangible effect on member bank reserves. "Moral suasion" has often been exercised by Federal Reserve officials to induce member banks to follow desired courses of action. While the Federal Reserve Board has the power to expel members from the System, it is seldom if ever necessary to threaten reprisals of any sort. Appeals to patriotism, banker responsibility or simple reason, or, alternatively, the realization that unfavorable publicity might result from persisting in practices of which the Reserve authorities disapprove, are likely to be sufficient. Moral suasion has proved least effective in periods of great confidence and great pessimism. Central bankers, therefore, prefer to place their trust in methods of a more positive character. Nevertheless, its accomplishments have been by no means insignificant.

Appendix

As has been shown, the principal factor in the behavior of bank credit (and through bank credit, of credit in general) is bank reserves. It is not to be supposed from what has been said that the position of member bank reserves is entirely dependent on credit policies of the Federal Reserve.

Reserves are subject to a constant ebb and flow, resulting from market action and central bank operations, some of which tend to expand and some to contract the volume of reserves. The factors operating to alter the reserves of member banks are reported each week and these reports are published in newspapers and elsewhere. For the informed they provide a convenient summary of the principal factors influencing basic credit conditions.

In interpreting reports of the factors affecting member bank reserves, and through them the ease or stringency of credit conditions generally, it is well to bear in mind that the volume of member bank reserves, i.e., the deposits of member banks with the Federal Reserve Banks, tends to vary *directly* with changes in:

a. *The volume of Reserve Bank credit outstanding.* Alterations in the volume of Treasury securities held by Reserve Banks, in the total of loans, discounts and advances, and in certain other items tend to cause a corresponding change in member bank reserves.

b. *The size of the country's gold holdings.* Additions to the stock of gold in the country, entering the banking system as primary deposits, expand the reserves of member banks. Reductions in the gold stock, through export of the metal or otherwise, have the opposite effect.

c. *Treasury currency.* This consists of the total of outstanding currency issued by the United States government, e.g., coins, United States notes (greenbacks) and silver certificates. An addition to the supply of such currency would ordinarily increase the amount of money available for use in circulation or increase the reserves of member banks by being deposited with them. A reduction in Treasury currency, similarly, would tend to lessen member bank reserves.

The volume of member bank reserves tends to vary *inversely* with changes in:

a. *Currency in circulation.* An increase in the public's demand for currency is ordinarily met by the cashing of checks at banks. Currency to supply this demand or to replenish the banks' vault cash is obtained from the Reserve Banks. This process, referred to above as external drain, reduces the reserves of member banks. Similarly, a return flow of currency from circulation builds up member bank reserves.

b. *Treasury deposits with the Federal Reserve Banks.* When Treasury deposits at the Reserve Banks rise it probably means that funds have been transferred from Treasury accounts with member banks or from the accounts of individuals or corporations held with member banks. In either case member bank reserves are reduced. In the same way, a reduction in Treasury balances at the Reserve Banks may be expected to increase the reserves of member banks.

c. *Treasury cash,* i.e., the volume of coins and other types of currency (not including the metallic reserves behind gold and silver certificates) held by the Treasury. When currency is added to Treasury holdings it clearly is not available for circulation or for deposit at the banks. If, on the other hand, the Treasury were to cut down on its holdings of silver certificates, for example, a substantial proportion of them could be expected to enter the banks as a primary deposit.

d. *Nonmember deposits and other Federal Reserve accounts.* Assuming a given volume of Federal Reserve deposits, any increase or decrease in the amount of deposits held by others than member banks, e.g., nonmember banks, government agencies and corporations

and the International Monetary Fund, implies a compensating change in the volume of member bank deposits at the Reserve Banks.

Of the seven factors listed above, the first two in each group are ordinarily the most important in determining the volume of reserves. The operation of these various influences is illustrated by the following table which is adapted from an actual report of the factors affecting member bank reserves in given periods (millions of dollars):

	Change from Week before	Change from Year before
Reserve Bank credit		
U. S. government securities	− 67	− 1,632
Loans, discounts and advances	+ 225	+ 33
Other	− 109	− 277
Total Reserve Bank credit	+ 49	− 1,876
Gold Stock	+ 106	+ 2,022
Treasury currency	− 1	+ 2
Currency in circulation	+ 74	− 52
Treasury deposits with Reserve Banks	+ 298	+ 647
Treasury cash	+ 4	− 966
Nonmember deposits and other Federal Reserve accounts	+ 28	− 61
Member bank reserves	− 250	+ 580

The *excess* reserves of member banks tend to be affected in the same manner as *total* reserves by the factors listed above. In addition, however, excess reserves are inversely affected by changes in the amount of required reserves. A rise in the volume of required reserves, as through an increase in the volume of deposits requiring reserves or the raising of the required reserve ratio, tends to reduce excess reserves, and a decline in required reserves to increase excess reserves.

There is no guarantee, of course, that the reserves of any individual member bank will vary in accordance with the

reserves of member banks as a whole, though the tendency would be in that direction. It will often happen, as a result of an uneven flow of clearings between banks, that some banks will find themselves deficient in reserves at a time when other banks may have a considerable excess. It is not unusual, under such circumstances, for a bank which is short of reserves to "borrow Federal funds" from a bank having an excess. This is accomplished by a loan between banks, the proceeds of the loan being transferred by means of a draft against deposits at the Federal Reserve Bank. In substance, such an operation amounts to creating an internal drain of reserves from the bank where reserves are in excess to the other where they are deficient.

14 Central Banking and Problems of Credit Control

While many features of central banking are similar in the different countries of the world, central banks have been obliged to accommodate themselves to their environment and consequently the differences among them are also great. The work of a central bank is necessarily different in an agricultural country, for example, from what it is in a highly developed manufacturing country. The degree of independence enjoyed by the central bank varies with the size of the country in which it is located, its political organization, and the character of economic and political connections with other countries. The twelve Federal Reserve Banks contrast with a single central bank in other countries. In countries where open markets do not exist, the use of open market operations of the familiar type is precluded. In Sweden open market operations have taken the form, upon occasion, not of the sale or purchase of high grade securities but of dealing in commodities.

There is, in short, no single pattern of central banking theory or organization that is valid for all times and places. The nature as well as the objectives and instruments of central banking have undergone great changes in the two hun-

dred and fifty years since the establishment of the Bank of England, the mother of all central banks. The changes occurring between the two world wars were more numerous and far-reaching than in any previous period of similar length. They included a great expansion in the number of central banks during the twenties, a trend toward increased state participation and control, and the introduction of new instruments of control such as changing reserve requirements and regulation of the foreign exchanges.[1]

War has played an extremely prominent role in the history of central banking. The Bank of England was established in 1694 as a result of the need for funds with which to prosecute a war with France. The disorganization of currencies during and following the Napoleonic Wars and the First World War contributed to the establishment of central banks charged with responsibility for helping to establish monetary order. While the Federal Reserve System was authorized shortly before the war of 1914-1918, the problems and responsibilities of those years stimulated its growth in size and influence and brought it to a stage of development that otherwise might not have been attained for generations. The Second World War caused changes in the status and functions of central banks in all countries including our own; the introduction of measures to control installment credit was only one example of its effect on the activities of the Federal Reserve.

The Functions of a Central Bank

It is inevitable that wars should have the effect of adding to the opportunities and responsibilities of central banks.

[1] Increased domination by the state invariably occurs in time of war, but the trend in this direction was strongly manifest even before the outbreak of hostilities in 1939. It was influenced by both the severe economic dislocations of the thirties and the general tendency toward governmental encroachment upon economic affairs.

The function of a central bank above all else is to act as a stabilizer, that is, to prevent or smooth out economic disturbances. Since wars are always extremely disruptive of economic activity, they create situations where the need for a central bank is strongly felt. The fortunes of central banking are not, however, governed solely by war. Great changes have also occurred in the art of central banking in periods of peace.

CUSTODIAN OF BASIC MONETARY RESERVES

The holding of basic monetary reserves has long been regarded as a principal function of central banks. During the ascendancy of the international gold standard, changes in the amount of a country's gold reserves served as a guide to monetary policy. While it was often the duty of the central bank to care for these reserves, little seemed called for in the way of independent policy on the part of the bank. The reserves were expected to serve as the basis of an automatic monetary system, and the role of the central bank was primarily that of custodian. Following the First World War many countries ceased to own significant amounts of basic reserve money. This change did not, however, diminish the duties of the central bank but rather transformed them into the still more intricate duties of monetary management.

LENDER OF LAST RESORT

In the second half of the 19th century the Bank of England, largely as a result of the writings of the economist, Walter Bagehot, came to regard as its most important function that of acting as the lender of last resort. Discharge of this function was integrated with the use of the discount rate, originally the most important instrument of central bank policy. It came to be generally accepted that in order

to assure confidence and avoid financial panics the central bank should always stand ready to lend additional cash when needed, but at a price high enough to discourage less deserving borrowers.[2] Behind this conception of the duties of a central bank lay the belief that in time of crisis panic is generated by the fear of not being able to secure ready money. Observance of Bagehot's Law, as the rule came to be known, was expected to provide an absolute assurance that a deserving borrower could always obtain additional money when it was needed.

Beginning with the early thirties the function of the Federal Reserve Banks as lender of last resort assumed a new significance.[3] The presence of large amounts of long-term securities in the portfolios of commercial banks confronted them with the danger of grave embarrassment in case there should be a serious weakening in the bond market. The assurance that the Federal Reserve stands ready to lend on these assets at par in case of need is of considerable importance in providing a stable basis of confidence among bankers. It has allowed the transition from short-term to relatively long-term lending by banks to be effected with a minimum of disturbance of banking morale.

STABILIZATION OF ECONOMIC CONDITIONS

The extremes of business fluctuations during the twenties and thirties emphasized the need for effective action by cen-

[2] See Walter Bagehot, *Lombard Street,* London 1873, Chapter VII.

[3] It may seem that this function has been partly taken over by the federal government through the Reconstruction Finance Corporation and other lending agencies. These institutions, however, have functioned primarily as suppliers of new capital or as a source of credit for others than commercial banks. The Federal Reserve Banks are still to be regarded as occupying the position in our banking structure of lender of last resort. *Cf.* also Lloyd Mints, *History of Banking Theory,* Chicago, University of Chicago Press, 1945, p. 249, for a criticism of the view that the rate at which credit is granted should be raised in an emergency; and *Infra,* pp. 297–301.

tral authorities to promote the stability of business conditions. The gravity of the depression of the thirties resulted in considerable disillusionment, both on the part of the public and bank officials, as to the ability of central banks to influence business conditions singlehanded. The magnitude of the task of promoting recovery led, therefore, to a great expansion in the use of fiscal policies to stimulate business activity. In the United States deficit financing by the Treasury was relied upon to a much greater extent than Federal Reserve open market operations to encourage business revival. Yet the central banking devices were by no means abandoned. Instead there was a fusion of Treasury and central bank policies. This merging of policies also occurred in other countries than our own, both before and after the outbreak of war in 1939.

To a much greater extent than formerly, central banks now share with treasuries the responsibility for stable business conditions. This represents, no doubt, a decline in the relative importance of central banks. It also indicates a decrease in their independence since they must, in large degree, accommodate their aims to the wishes of the fiscal authorities. On the other hand, it opens up the prospect of greater achievement than has been possible in the past. For the efficacy of stabilization policies conducted jointly by the central bank and the treasury can be far greater than if the central bank were to act alone.

FACILITATION OF ROUTINE FINANCIAL OPERATIONS

Perhaps the greatest day-to-day usefulness of central banks lies in their contribution to the efficiency of the monetary and banking mechanism. They are a vital part of a smoothly running monetary system. They facilitate the unspectacular but tremendously important routine operations of administering the currency and clearing and collecting

credit instruments. They permit the pooling of the financial resources of the country and introduce a degree of flexibility, and at the same time of stability, that would be impossible in their absence. They are an indispensable part of an efficient financial system, and nothing attests more fully to the smoothness with which they operate than the fact that ordinarily we are scarcely aware that they are doing anything.

The Creation of Member Bank Reserves

CENTRAL BANKS AND THE THIRD STAGE OF THE ART OF LENDING

In order to discharge the function of lender of last resort, the central bank must be able at all times to provide member banks with additional free reserves. To provide reserves under all circumstances, it must be able to create reserves if necessary. The way in which this is accomplished is by resorting, in its credit operations with member banks, to the third stage of the art of lending which was described earlier in connection with commercial banking. Since the legal reserves of member banks consist exclusively of deposits with the Reserve Banks, the creation of deposits for member banks (through placing to their credit the proceeds from discounted paper, advances or the purchase of Treasury bills) constitutes an increase in their reserves. A reduction in reserve requirements, while not increasing total reserves, increases the amount of free reserves. The basic factor limiting the ability of the Reserve Banks to create member bank reserves is the same as that limiting the ability of member banks to create deposits, namely, the reserves each is required to hold against its deposit liabilities. And as in the case of member banks, the maximum amount of deposit credit (i.e., member bank reserves) that can be created

on the basis of a given amount of Reserve Bank reserves is governed by the reciprocal of the reserve ratio which is required.

PRIMARY AND SECONDARY EXPANSION

In order to make clear both the general principles of reserve creation and the maximum possibilities of deposit expansion in a system that embraces a central bank, it is necessary to distinguish between primary and secondary expansion. The essential difference between the two is that primary expansion embodies the third stage of lending by the member banks, while secondary expansion embodies the third stage of lending by *both* the Reserve Bank and the member bank. This rather difficult but extraordinarily important subject can be made clear by a highly simplified illustration.

If member banks maintain a 20 per cent ratio of reserves to deposits, we may say either that $1 is the reserve held against every $5 of deposits, or that $5 of deposits represents the expansion of each $1 of reserves. Now let us assume that $1 of new reserve money is deposited at a member bank and redeposited by the member bank with the Reserve Bank of its district. With a 20 per cent reserve ratio, the member banks as a whole can hold, on the basis of this $1, a total of $5 of deposits.[4] The creation of $5 of deposits on the basis of the $1 of new reserves would constitute *primary expansion.* It represents the expansion initially made possible by the deposit of new reserve money.

According to our assumptions, the member banks now hold $5 of customers' deposits and the Federal Reserve Banks hold $1 of deposits in the form of member-bank reserves. Since Reserve Banks are required to hold a 25 per cent reserve against the deposits they hold, the $1 in the

[4] Disregarding the possible loss of reserves through external drain.

vaults of the Reserve Banks represents 25¢ of required reserves and 75¢ of excess reserves. On the basis of the $1 of reserve, the Reserve Banks can hold approximately $4 of member bank reserves or $3 (four times the amount of the excess) more than at present. Let us suppose that by rediscounting or open market purchases the Reserve Banks expand member bank reserves by the additional $3. Assuming that customers' deposits with member banks are then expanded to the full amount allowed by the 20 per cent

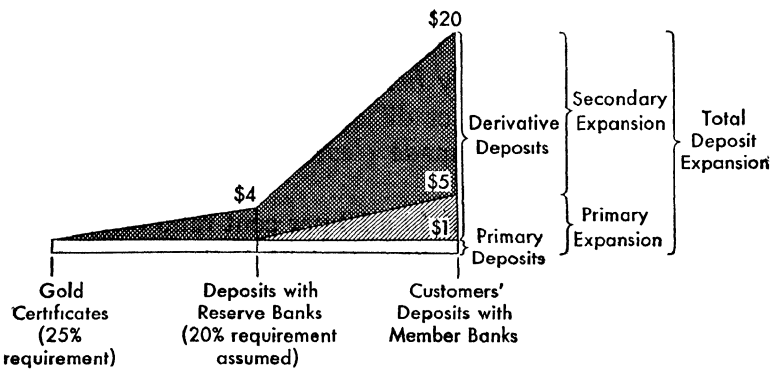


FIGURE II. *The Nature of Deposit Growth*

reserve ratio, the result is a rise in deposits of the public amounting to $15. This increase is what is meant by *secondary expansion*. It represents a combination of deposit expansion by the Federal Reserve Banks and, on the basis this provides, of deposit expansion by member banks. With the reserve ratios as stated, the *total amount of deposit credit that may be created* on the basis of $1 of new reserve money is $20, of which $5 *represent primary expansion and* $15 *secondary expansion.*

The nature of deposit growth is depicted diagrammatically in Figure II. Of the total deposit expansion of $20,

only $1 consists of primary deposits and the remainder represents derivative deposits. Of the $19 of derivative deposits, $15 is the result of secondary expansion and $4 is the result of primary expansion. Total primary expansion, however, is $5 since in addition to the $4 of derivative deposits it includes the original $1 of primary deposits. The more heavily shaded section of the diagram shows what is embodied in secondary expansion; it includes the creation of an additional $3 of member bank reserves and $15 of customers' deposits.

In summary, it may be noted that there are three different levels of deposit expansion.[5] A single bank would be able to increase its deposits by little more than in a one-to-one relation with the amount of the additional reserves initially deposited with it. It would be held to this amount by the loss of reserves to other banks in the System, i.e., by internal drain. The member banks viewed collectively could expand by five times the amount of the additional reserves. This is primary expansion and represents the third stage of the art of lending at the member banks' level; the limit of deposit expansion on the basis of a given amount of reserves is the reciprocal of the member banks' reserve ratio. All member banks, together with the Reserve Banks, could expand by twenty times the amount of additional reserves entering the system. This is the total of primary and secondary expansion, and represents a combination of the third stage of the art of lending at the member bank level *and* at the central bank level. It reflects credit expansion by the reciprocal of the central bank's reserve ratio and then a further expansion by the reciprocal of the member banks' reserve ratio. Because the reserves of central banks are

[5] This description again disregards, for the sake of simplicity, the possibility of external drain. Such loss of reserves would affect the totals but would not alter the relationship among the different degrees of deposit expansion.

capable of such great expansion, they are often referred to as "high powered money."

Important as is deposit expansion at the level of the commercial bank, it is the combination of this type of expansion with deposit expansion (expansion of member bank reserves) by the central bank that gives really spectacular results.[6] It is the source of great flexibility in the banking system if it functions well, but it is likewise the source of extremes of inflation and deflation if it functions badly.

The Conflict Between Safety and Elasticity

CENTRAL BANK RESERVES AND MONETARY AUTOMATISM

According to the traditional theory of the gold standard, the primary function of central bank reserves is to serve as an automatic regulator of the money supply. The Spanish term for reserves, *fondo regulador* (regulator fund), specifically emphasizes this feature. Flows into or out of reserves were presumed to bring about an expansion or contraction of the money supply. A tendency of gold to move in one direction or another was looked upon as constituting the best possible guide to the policies that should be followed by the central bank. The prerequisite of any such automatic functioning of central bank reserves is the maintenance of a fixed relation between the volume of circulating medium

[6] It was officially calculated that, on the basis of reserve requirements and internal banking practices prevailing at the time, excess member bank reserves in June 1941 would have permitted a deposit expansion of $32 billion. On similar assumptions, the excess central bank reserves on the same date would have allowed deposits to expand by nearly $224 billion. The assumptions noted explain why the ratios of expansion reflected in these figures are different from those employed in the text. In point of fact, neither figure of potential expansion was of any practical significance; the only point of the comparison is to indicate the relative magnitude of the potential expansion inherent in secondary as contrasted with primary expansion.

and the quantity of reserves. This is tantamount to saying that it calls for adherence to a constant reserve ratio.[7]

SAFETY AND ELASTICITY

The struggle to achieve an automatic monetary system has been characterized by a conflict between the two great monetary ideals, safety and elasticity. When the first objective has been paramount, it has been customary to rely upon the maintenance of a strict relationship between the money supply and some valuable commodity such as gold or silver. Through this strict reserve relationship, safety was conjoined with automatism. But always, lurking in the background, there was the other ideal of elasticity. During emergencies such as war, panic or serious depression, this ideal marched into the foreground to tempt administrators to deviate from strict rules of reserve relationships, in the hope of attaining a better adjustment of the money supply than would result from pure automatism.

The conflict over safety and elasticity was at the base of the famous currency and banking controversy in England during the first half of the 19th century. Advocates of the banking principle of note issue argued that the issuance of notes against good commercial paper would assure elasticity and at the same time would be safe. Supporters of the currency principle questioned the safety of this method and advocated the issuance of additional notes only against the deposit of 100 per cent reserves of gold. The latter view prevailed and was embodied in the Bank Act of 1844. It then became the duty of the Bank of England to help to furnish the elasticity which the currency principle failed to provide.

[7] Conceivably the ratio could vary according to a predetermined plan, such as a sliding scale, without the automatic feature being lost. Needless to say, the changes in ratio have never been of this sort.

DEPARTURES FROM MONETARY AUTOMATISM

Desirable as it may have seemed to have a monetary system that would function automatically, the rule of a fixed reserve ratio—upon which automatism rested—was probably never fully achieved in any leading country. This accords with the familiar observation that a completely automatic monetary system never existed. Various deviations and exceptions were recognized and accepted even during the heyday of the gold standard.

One of the most significant of the departures from the principles of monetary automatism was the practice of suspending the Bank Act when conditions called for greater freedom in issuing money than was possible by adhering to a strict relationship with gold. The effect of this step was to allow the Bank of England to issue notes without the gold backing normally required. Suspensions were authorized five times during the 19th century. In two of these instances no issue of money was necessary, the announcement that money could be issued being sufficient to calm the fear that funds would not be obtainable. In 1875 Germany introduced into her banking law a provision permitting the issue of currency in excess of the amount that could be backed by prescribed reserves, subject to payment of a tax on any such overissue. A similar provision was embodied in the Federal Reserve Act.

One might also mention the resort to open market operations and the use of discount policy as deviations from strict principles of an automatic monetary system. Even when such measures were employed not to resist automatic forces but to hasten and facilitate adjustments that would have taken place anyway, they still represented a departure from automatism. Open market operations represent a policy of buying up or selling member bank reserves in order to

alter by official action the amount of reserves available to member banks. To regard a system where such a policy exists as automatic is as unrealistic as to say that the price of coffee was automatically determined at a time when the Brazilian government was arbitrarily withholding from the market a substantial portion of the coffee supply.

THE GROWTH OF EXCESS CENTRAL BANK RESERVES

These are clear-cut examples of a departure from the rigid reserve relationships prescribed by automatism, in the search for a greater degree of elasticity. Suspension of the Bank Act in England and the provisions in German and American law involving a tax on reserve deficiencies represented situations where the reserve ratio could be *lowered* temporarily in order to permit an expansion of the circulating medium. The growth of excess central bank reserves represents a somewhat different type of departure from a strict reserve relationship, one in which the ratio has been *increased* in order to prevent too great an expansion in the circulation. The accumulation of excess central bank reserves became particularly pronounced in the period between the two world wars. It represented a departure from a fixed ratio between reserves and circulation, which is the essential condition of a purely automatic monetary system. The fundamental significance of the emergence of large excess central bank reserves, therefore, was that they constituted the abandonment of a basic condition of an automatic monetary mechanism.[8] The breakdown of the more

[8] The whole matter can be put in the form of a syllogism:
A fixed central bank reserve ratio is a prerequisite of an automatic monetary system.
The emergence of excess central bank reserves destroyed the fixity of this ratio.
Therefore, the emergence of excess central bank reserves entailed the destruction of monetary automatism.

or less automatic gold standard system is to be traced not to the formal departures from the standard in 1931 and after, but to the practice of disregarding central bank reserve ratios.

It is a matter of some interest that while considerable alarm has been expressed over the inflationary possibilities of excess member bank reserves no one is in the least concerned over the possibility of undue expansion on the basis of excess central bank reserves. Yet the potential expansion is far greater in the second case than in the first. The reason for the difference is evidently that we have confidence in the ability and the determination of the Federal Reserve Banks to resist any tendency for their excess reserves to be utilized too freely. And we evidently do not have a similar degree of confidence that banks and the business community, influenced as they are by the desire to maximize profits, will be able to resist undue expansion on the basis of excess member bank reserves. This is an impressive testimonial to the high regard in which the Federal Reserve is popularly held.

Excess Member Bank Reserves and the Impairment of Credit Control

THE CONDITIONS OF EFFECTIVE CREDIT CONTROL

Turning now from the reserves of the Federal Reserve Banks to those of member banks, it is apparent that the effectiveness of the indirect instruments of Federal Reserve control requires the fulfillment of certain well-defined conditions. The first requirement is the existence of what is, from the standpoint of the central bank, a governable relationship between the reserves and deposits of member banks. This means the maintenance of a constant ratio between member bank reserves and deposits, the existence

of a ratio which changes at the will of the central bank (as when reserve requirements are deliberately altered), or the ability of the central bank to offset changes in the ratio which result from the action of member banks, such as might arise from an increase or decrease of excess reserves. The second essential condition for effective control of credit by the indirect instruments of central bank policy is the ability of the central bank to influence the volume of member bank reserves.

As long as these two conditions prevail, the central bank has clear and unequivocal power to control the volume of member bank credit. To the extent that either of them is lacking, the central bank is deprived of its ability to control credit or is placed under the necessity of counteracting, by more intensive use of powers that still remain, the limitation imposed thereby.

As a result of developments in the decades of the thirties and the forties, both of these prerequisites of credit control have been seriously impaired and, consequently, the ability of the Federal Reserve to control credit has been correspondingly weakened. The first of these developments, the effect of which was to destroy the constancy of the ratio of reserves to demand deposits, was the emergence of large excess member bank reserves starting in the early thirties.[9] The significance of this factor will be discussed in the present section and that of the other major development, the loss of the power of the Federal Reserve to control the volume of member bank reserves, which is the second prerequisite of effective credit control, in the following section.

CONTRACTION OF CREDIT BY THE FEDERAL RESERVE

The existence of a substantial volume of excess member bank reserves may completely neutralize Federal Reserve

[9] *Supra*, pp. 131-35.

policies directed toward a contraction of credit. By open market operations, for example, the Federal Reserve could reduce the actual quantity of legal reserves, but this would not necessarily reduce demand deposits, provided member banks held excess reserves greater than the amount that could be absorbed by this means. Conceivably, the entire reduction in reserves could come out of excess reserves, leaving required reserves untouched. As long as required reserves were not affected, the system as a whole would not necessarily be obliged to reduce deposits; it would be entirely possible for the same amount of deposits to be maintained, even though the combined total of required and excess reserves was less than before. The Reserve authorities would have reduced total legal reserves of member banks but would not have brought about a reduction of deposits. Excess reserves would have acted as a buffer, absorbing and neutralizing the effect of the open market sales. The only result would be a change in the ratio of total reserves to deposits. The statement that the existence of excess reserves destroys the power of the Federal Reserve to control credit does not necessarily signify that the authorities are powerless to reduce total reserves. It means rather that excess reserves would permit the ratio of total reserves to deposits to change by enough to offset any reduction in the absolute amount of reserves that could be brought about by the Federal Reserve authorities.

The same considerations apply with respect to the bearing excess reserves have upon the effectiveness of changing reserve requirements. This may be illustrated by considering the possible effect of an increase in reserve requirements. Such a step would presumably be intended to reduce demand deposits or to prevent them from increasing. Member banks might proceed, however, to maintain the same quantity of deposits, which they could do by holding pro-

portionately fewer excess reserves, or they might even expand deposits by utilizing a part of the excess reserves that still remained. In either case, the objective of the control authorities would be frustrated. Again this would simply mean that member banks were altering the actual ratio of reserves to deposits. And again it would not signify that the central authorities were powerless to influence reserves, but that member banks were able to offset, by the change in the ratio of total reserves to deposits, the action of the control organization.[10]

EXPANSION OF CREDIT BY THE FEDERAL RESERVE

The inability of the Reserve authorities to be sure of bringing about an expansion of deposits is to be explained on similar grounds. By purchases in the open market or by lowering reserve requirements the Federal Reserve could increase available member bank reserves, but they have no way of preventing these balances from remaining idle through simply entering into excess reserves. When an increase in total reserves leads to a growth in excess reserves rather than a growth in deposits, it signifies that the ratio of total reserves to deposits is rising. The authorities might be able to increase available reserves but they would be powerless to counteract the effect of reserves being added to excess reserves instead of being used to expand deposits. Similarly, the effectiveness of changes in legal reserve re-

[10] The effectiveness of a change in reserve requirements is probably greater than this analysis implies. An increase in reserve requirements has a psychological influence apart from its purely mechanical effect. Moreover, a certain amount of excess has come to be regarded as normal so that, following an increase in the requirement, banks might be disposed to restrict advances in order to protect to some extent their excess reserves. Most important of all, excess reserves are not evenly distributed throughout the banking system. The reserves of some banks would fall below requirements, so that those banks would have to reduce deposits long before the excess reserves of the system as a whole were eliminated.

quirements as a control device could be destroyed as a result of excess reserves. The effect of such changes, for example, would be neutralized if the banks, by increasing or decreasing excess reserves, were to alter the ratio of total reserves to deposits to such an extent as to offset the change in the ratio of required reserves to deposits.

The key to quantitative credit control as traditionally exercised, then, is reserves. The success of such measures depends upon approximate stability of the ratio of reserves to deposits, except as the control agency may change it. Continued usefulness of the familiar instruments of control depends upon the elimination of excess reserves and the discovery of means of circumventing the effect, arising chiefly from excess reserves, of uncontrolled changes in the ratio of reserves to deposits.

Interest Rate Policies and the Impairment of Credit Control

A weakening of the effectiveness of methods for controlling the volume of member bank reserves is no new experience for the Federal Reserve System; the introduction, one after another, of open market operations, the power to change reserve requirements and the Treasury bill policy was tacit recognition in each instance of the shortcomings of existing methods of controlling credit. The overall adequacy, however, of the control powers at the disposal of the Federal Reserve authorities continued to be insisted upon until the time of the Second World War. Statements that the amount of Reserve Bank credit "is wholly subject to control," [11] that Federal Reserve credit is "the one factor that is largely controllable," [12] and the like,

[11] Board of Governors, *The Federal Reserve System, Its Purposes and Functions,* Washington, Federal Reserve, 1939, p. 66.
[12] *Ibid,* p. 92.

have repeatedly appeared in official publications of the Board of Governors and elsewhere. The loss of this power, and, therefore, the failure to satisfy the second essential condition of successful control of credit by the indirect instruments of Federal Reserve policy, was a direct consequence of financial policies adopted during the Second World War. On the morning after the attack on Pearl Harbor, the Board of Governors announced as the major objectives of Federal Reserve policy:

> To assure that an ample supply of funds is available at all times for financing the war effort and to exert its influence toward maintaining conditions in the United States Government Security market that are satisfactory from the standpoint of the Government's requirements.[13]

The two most distinctive policies put into force following this announcement provided for the purchase and sale of Treasury bills at a guaranteed rate and for the establishment of a fixed pattern of interest rates on government obligations.

The statement of Federal Reserve objectives was so clearly reasonable that not a voice was heard in dissent. The two principal methods adopted to make the policy effective were no less obviously appropriate to the end in view. Yet the combination could not have been more perfectly contrived to deprive the indirect instruments of credit control of their effectiveness. The Federal Reserve's agreement to buy Treasury bills *at a guaranteed rate* had the effect of giving any member bank holding bills the power to demand reserves whenever it desired; and the undertaking to preserve a fixed pattern of interest rates extended this power, in effect, to banks holding other types of Treasury obligations as well. It was clear that in order to prevent

[13] *Federal Reserve Bulletin*, January, 1942, p. 2.

yields from rising above the stipulated rate, the Reserve authorities would be obliged to purchase *any* issue—if anyone chose to offer it and if other buyers were not at hand—at a rate corresponding to the yield established by the fixed pattern of rates.

The logical consequence, then, of providing a guaranteed market for Treasury bills and of establishing a fixed pattern of rates on other Treasury securities was to destroy the power of the Federal Reserve authorities to refuse to furnish reserves. To say that the Reserve Banks thereby lost the power to control credit is not to say that the member banks or any other group, official or unofficial, acquired this power. With these policies in force, member banks can, it is true, compel the creation of reserves without the possibility of being subjected to a penalty rate of discount; but that is very different from their having control over credit in the sense in which the Federal Reserve was formerly assumed to have it. The reason for the difference is that Federal Reserve action to change the volume of reserves is conscious and coordinated, while the great body of member banks do not and cannot act in any such systematic manner. The consequence of the interest rate policies introduced during the Second World War, therefore, was the disappearance of the power to control credit by means of reserves and not the transfer of that power to others.

The great expansion in holdings of government securities by member banks was an additional factor impairing the power of the Reserve Banks to restrict credit. The Reserve authorities would hardly dare to sell heavily in the open market or force up interest rates, for fear of depressing securities of the types held by member banks to such an extent as either to weaken the banks or to create undue alarm.

The net result, then, of the policies introduced to assure

bank liquidity during the war was to destroy Reserve Bank control over the reserves of member banks of the character referred to at the start of this section. Changes in the discount rate, open market operations and changes in reserve requirements may continue to serve a useful purpose in steadying the market for government securities or facilitating the adjustment of reserve balances; but for effecting fine adjustments in the volume of member bank balances as a means of accurately limiting the volume of credit, their usefulness, whatever it may have been in the past, is lost unless or until conditions change drastically from what they are today.

The circumstances which have so greatly compromised the controls that operate through reserves have had no significant effect on the direct controls which are independent of reserves. In particular, the selective controls, i.e., those relating to consumer credit and margin requirements, are as good as ever, except so far as the powers conferred by the law have already been abrogated or partially exhausted, or as external considerations, such as the opposition of business men, interfere with their exercise. Furthermore, moral suasion is still an important instrument of policy, more influential perhaps than officials of the Federal Reserve System have generally been inclined to acknowledge.

15 The Development of Federal Reserve Policy

The most notable characteristic of the Federal Reserve System has been its capacity to grow and change with the times. Its remarkable ability to adjust to new problems and to contrive new methods of dealing with these problems has given it a resiliency which is all too often lacking in official institutions of so important a character. The result is that the Federal Reserve System has been almost completely transformed from what it was at its inception. This adaptability has enabled it to retain its usefulness and to avoid becoming out of date, as was the fate of its predecessor, the National Banking System. In addition, it is perhaps the best indication we have that it will continue to play a major part in the financial affairs of the nation.

The present chapter will trace the gradual development of Federal Reserve policy, devoting special consideration to the changing purposes of the System, the emergence of new powers and the deterioration of old, the problems of coordinating the powers and purposes of an increasingly complex organization and, finally, the leading proposals for further strengthening and improving the System.

Purposes of the Original Federal Reserve Act

The framers of the Federal Reserve Act undertook to provide machinery which would satisfy three principal aims, namely, remedy the major defects of the National Banking System, prevent a recurrence of credit crises like those of 1893 and 1907, and operate automatically. Their efforts, as will be seen, were highly successful in achieving the first two purposes but completely failed to accomplish the third.

CORRECTION OF THE DEFECTS OF THE NATIONAL BANKING SYSTEM

The major defects of the National Banking System were: the inelasticity and immobility of bank credit; the inelasticity of bank notes; the inefficient and expensive system of transferring funds within the United States; the lack of a centralized and coordinated banking system for the country as a whole.[1] The key to the principal methods introduced for remedying these defects is to be found in the provisions governing the creation and administration of bank reserves. Banks which were called upon to extend additional credit would presumably be asked to lend on eligible commercial paper. The reserves which would enable the banks to provide deposits in exchange for these obligations could be obtained by discounting part of the eligible paper with the Federal Reserve Bank, the proceeds being placed to the credit of the member bank reserve account. The centralization of reserves at the Federal Reserve Banks[2] facilitated

[1] Other defects are omitted from this list as being of a secondary order of importance. Chief among these was the absence of satisfactory means for dealing in foreign exchange. To correct this defect, member banks were granted authority to accept drafts drawn on them for foreign exchange purposes and to hold paper arising out of foreign transactions.

[2] It was not until 1916 that all legal reserves of member banks were required to be held at the Federal Reserve Bank.

regional adjustments in the distribution of a given volume of reserves and the provision for expanding Federal Reserve credit permitted additions to the total of member bank reserves. The effect of these provisions was to overcome the inelasticity of bank credit and to increase its mobility throughout the banking system.

The provision for issuing Federal Reserve notes against eligible commercial paper on the basis of a reserve of 40 (later 25) per cent in gold certificates was designed to allow the volume of currency to vary with the changing needs of business. By this means the inelasticity of note issue was largely corrected.

The concentration of member bank reserves at the Federal Reserve Banks furnished a simple means for adjusting balances among member banks through simple debits and credits to their reserve accounts. Holding a part of the Reserve Bank reserves in an Interdistrict Settlement Fund permitted the same sort of adjustment through transfer of reserves among the Reserve Banks. These reserve provisions furnished the medium for effecting settlements among banks and the requirement that all member banks clear at par all checks drawn against them removed any occasion for checks being sent other than by the most economical and expeditious route. The result was to remedy the costly and cumbersome transfer system which existed before the Federal Reserve Act and to give us as efficient a mechanism as can well be imagined for effecting settlements throughout the United States.

A large proportion of the banking resources of the country are today incorporated in the Federal Reserve System. The mere fact of joint membership in the System and adherence to its relatively high standards have provided a degree of unification and uniformity in banking practices which was lacking earlier. The coordination and centraliza-

tion of credit operations is facilitated by the control powers of the Federal Reserve Banks and the Board of Governors, with the assistance of the Open Market Committee. The actual exercises of these powers is accomplished, as has been noted, very largely through the reserves of member banks. The improvement in centralization and coordination of the banking system compared with the old National Banking System is apparent, even though in the course of time the effectiveness of certain of the instruments of policy has been seriously impaired.

PREVENTION OF CREDIT CRISES

The second main purpose in establishing the Federal Reserve System was to provide an institution which could function as a lender of last resort and thereby prevent a credit panic such as had long been a familiar feature of American financial history. While the Federal Reserve System did not enable us to escape a collapse of security values in 1929 and an ensuing economic depression, it has succeeded in preventing the type of credit crisis known earlier. A general stagnation of credit like that of 1893 and 1907 when call rates rose to more than 100 per cent a year, a situation characterized by resort to such emergency improvisations as the issue of clearinghouse certificates and other phenomena of the utter demoralization of credit, has become a thing of the past. The power which the Federal Reserve Banks possess to create additional currency and bank reserves assures that they will always be able to observe Bagehot's Law and extend credit on good assets. And it may be added that the interpretation of what may be accepted as constituting "good assets" has continually been extended.

In 1933 banking conditions were allowed to reach a point where all banks were closed and the gold standard aban-

doned. Whether the Federal Reserve would have been able to prevent this out-and-out collapse if its powers had been fully utilized, will never be known. The gold standard was suspended not only without making significant use of the elastic features of the Reserve law but also without the required reserves, which were presumably intended for use in an emergency, ever being touched.

AUTOMATIC OPERATION

The plan for the automatic functioning of the Federal Reserve System rested on two bases, the gold standard and the use of self-liquidating commercial paper. The discounting of commercial paper by member banks and its rediscount by the Reserve Bank was expected to control the volume of bank credit while the operation of the international gold standard was expected to control the volume of basic central bank reserves. The result was to be a system operating almost automatically with the Reserve Banks playing a passive role. The ideal of an automatic system cannot be said to have been achieved at any time: active methods of credit control assumed an increasing importance; commercial paper gave way to Treasury obligations as the principal basis of the credit operations of both member banks and Reserve Banks; and the international gold standard, which had not been allowed to control reserves even in the twenties, ceased to exist in the thirties. With these changes, even the semblance of an automatic monetary and banking system disappeared.

Development of Federal Reserve Powers and Policies

In order to minimize repetition of what has been said earlier and to indicate most clearly the evolution of Federal Reserve powers, a list of major developments is presented

below in the form of a chronology. What is most worthy of note in this evolutionary process is the steady subordination of commercial paper, the rise in active powers as contrasted with those where the initiative rests with the member banks, and the extension of the scope of Federal Reserve action.

CHRONOLOGY OF MAJOR DEVELOPMENTS

1914 Use of discount rate. Features: Passive: reliance on "eligible" commercial paper; indirect (i.e., via member bank reserves).

1917 Introduction of advances. Features: Admission of other assets than commercial paper (after 1935 any "acceptable" asset); still passive and indirect.

1923 Introduction of open market operations. Features: Abandonment of passivity; use of government securities as well as eligible paper; still indirect.

1933 Authorization of changes in reserve requirements. Features: Active; still indirect (i.e., via reserves) but dependent on changes in banking rules (reserve requirements) rather than on changes in banking quantities (amount of reserves); still turned on central bank-member bank relationships.

1934 Authorization of change in margin requirements. Represented extreme stage of development away from original Federal Reserve conceptions. Features: Active; related to stock market operations (rather than just banking activities); direct; dependent on changes in rules (margin requirements) rather than on changes in banking quantities.

1942 Introduction of control of consumer credit (Regulation W). Comparable with preceding.

1942 Introduction of Treasury bill policy. More nearly in the conventional central banking tradition. Features: Passive; indirect, but not related to commercial paper.

FURTHER INCIDENTS IN THE DEVELOPMENT OF FEDERAL RESERVE POLICIES

While the preceding list indicates the major developments in the evolution of Federal Reserve powers of credit control, other developments also occurred which reflect changes in the scope of Federal Reserve operations. Authorization of loans to industry, the so-called 13-b loans, gave the Reserve Banks the power for the first time to lend to the public. During the Second World War they acted as intermediaries (the so-called V, VT and T loans) in arranging loans to companies engaged in vital war work. Instead of lending directly to the public, that is, they acted as intermediaries for loans by other institutions. In 1942 the Reserve Banks were given temporary authority (which was later made permanent) to extend credit directly to the Treasury, up to a total of five billion dollars.

At times, on the other hand, the Federal Reserve authorities have found themselves divested of powers or refused requests for an extension of powers. As a result largely of criticism directed against a somewhat irregular issue of Federal Reserve bank notes soon after our entry into the Second World War, which was designed to economize on labor and material in the printing of currency, the power to issue Federal Reserve bank notes was abrogated. So also, later on, was the power to control consumer credit.[3] Urgent

[3] The vigorous though unavailing opposition of the Federal Reserve authorities to the removal at that time of the power to control consumer credit, Regulation W, was reflected in the statement issued by the Board of Governors.

The continuance of strong inflationary pressures has confirmed the be-

requests that the limits on the power of the Board of Governors to raise member bank reserve requirements be extended were rejected, and the Board of Governors was curbed in its efforts to extend the par clearance of checks.

An interesting example of the ingenuity of the Federal Reserve authorities in finding ways of meeting particular situations was afforded by action announced in the spring of 1947. For some years Federal Reserve officials had been troubled by the large profits which the Reserve Banks were earning. As a result of the 1933 legislation, the only disposition for these earnings that was provided in the law was to add them to surplus, which by that time was more than adequate. Accordingly, the Board of Governors announced that a tax would be imposed on outstanding Federal Reserve notes sufficient to absorb approximately 90 per cent of the net earnings of the Reserve Banks for 1947. The authority for this action was a provision of the original Federal Reserve Act which had been incorporated to enable the Board to restrict the volume of Federal Reserve notes in circulation.

Critics of the action were undoubtedly correct in saying that the step was not part of the original intentions of the framers of the Act. It was likewise true that the step constituted, technically, a usurpation of the powers of Congress to decide what disposition should be made of Reserve Bank

lief of the Board that this is no time for the relaxation of terms by banks, finance companies and installment sellers. Demand for automobiles and many other durable goods specifically covered by the regulation is still far in excess of supply. Easier credit will not add to the supply. It can only intensify demand and accentuate the upward pressure on prices. Easier terms should await a time when growth of credit is needed to maintain full production. That time has not arrived and it is not in immediate prospect. Employment and national income are at all time peaks. Inflationary forces continue to exert powerful upward pressures on the general price level. There could not be a worse time to encourage the public to go deeper and deeper into debt.—Federal Reserve Bank of Philadelphia, Misc. No. 194, October 25, 1947.

earnings. On the other hand, it was within the spirit of the original law which had provided that above a certain point the bulk of profits earned by the Reserve Banks should be turned over to the Treasury as a franchise tax. This provision had been repealed at a time when a large amount of the Banks' surplus had been diverted to provide capital for the Federal Deposit Insurance Corporation and current earnings were relatively small. However reasonable the end contemplated by the Board's action, it is hardly to be denied that the means gave the appearance of being somewhat highhanded.

IMPLICATIONS OF THE EXPANSION OF FEDERAL RESERVE POWERS

On the basis of the original Federal Reserve Act, the Reserve Banks could hardly claim to be central banks in the full meaning of the term. The result of the gradual process of evolution has been to raise the Reserve Banks to the full stature of central banks and to give Reserve officials the power, as well as the general philosophy, that goes with their status. At the same time the Reserve System has become decreasingly automatic and increasingly complex. With added powers have come added responsibilities. The greater complexity of duties and powers has greatly accentuated the need for a careful coordination and integration of Federal Reserve policies.

The Coordination of Federal Reserve Policies of Credit Control

THE NECESSITY OF COORDINATION

Coordination of Federal Reserve policies is dictated, first of all, on grounds of effectiveness. Certain of the instruments of credit control are capable of accomplishing results

for which others would be entirely ineffective. In certain instances the one policy may supplement another, as where open market sales were used to reduce reserves and "make the discount rate effective" by forcing member banks into a position where they must borrow from the Reserve Banks. Again, the effectiveness of certain of the instruments may become impaired or lost altogether, while other instruments continue to retain their potency.

In the second place, coordination may be necessary in order to avoid possible undesirable consequences of Reserve Bank policies. One of the earliest lessons learned by the Reserve authorities was that unless the Reserve Banks act in harmony, they may neutralize the effects of each other's operations. It was realization of this fact that led to the establishment of the Open Market Committee. Particular policies, moreover, may have secondary effects in addition to those primarily intended. Where these secondary effects are harmful, they may be minimized or even avoided entirely by a proper coordination of different instruments of credit control. All these points may be clarified by considering the various possible effects of Federal Reserve policies for controlling credit.

DIFFERING EFFECTS OF CREDIT CONTROL POLICIES

Reserves. The indirect instruments of credit control are designed to effect changes in the reserves of member banks. In addition to the fact that discounting does so at the initiative of the member banks and changes in reserve requirements and open market operations at the initiative of the Reserve Banks, it is to be noted that it is difficult, if not impossible, to make as fine adjustments by changes in reserve requirements as by either of the other two means. Open market operations, for example, can bring about an increase or decrease in reserves of a few million dollars. The

principal changes in reserve requirements, on the other hand, have been by jumps of a quarter or half of the basic reserve ratios, involving the mopping up or the release of hundreds of millions of dollars of excess reserves. Reserve requirements for banks in central reserve cities were reduced by stages of 2 per cent at a time in 1942, but even these changes involved considerably larger sums than are customary in open market operations. While the earlier changes had all applied to the entire country, the 1942 reductions were confined to New York and Chicago. Open market operations, however, could be directed to a still narrower area. This difference gives to such operations a degree of precision that is lacking in the case of changes in reserve requirements.

The clumsiness of changes in reserve requirements has been partly the result of the manner in which the instrument was applied. It would seem to be as feasible to change reserve requirements by one-fortieth of the basic requirements as by one-fourth. Open market operations would also be a very awkward, not to say dangerous, instrument if they were undertaken only on a scale of hundreds of millions of dollars. However, it is likely that under no circumstances could reserve adjustments be made on as fine a scale by changing reserve requirements as is possible by open market operations. A reasonable policy would seem to be to use the open market, discounting or Treasury bill technique for the more delicate operations, relying on changes in reserve requirements as a supplementary device to be employed when larger alterations are called for or to prepare the way for other instruments of credit policy. Such a complementary relationship existed formerly between open market operations and the discount rate; there is no reason why the same principle could not be applied more widely.

Security markets. Open market operations designed to alter member bank reserves inevitably affect the supply and demand situation in the market and tend to change security prices. In view of the important position now occupied by investment securities in the portfolios of commercial banks, pronounced swings in security prices might have a very disturbing effect on the financial system. It is likewise possible that in case of an increase in reserve requirements, certain banks might be obliged to sell securities in order to meet the higher requirements and that this also could have disturbing effects on the security market.[4] Precisely such a situation developed early in 1937. It was met through the absorption by the Federal Reserve of securities of the types that were depressed, an operation which marked the beginning of the policy of employing open market purchases to preserve "orderly conditions in the money market."

A continuation of this policy would seem to provide an answer to the fear that the raising of reserve requirements might seriously disturb the security market. As long as it is known that the Federal Reserve is prepared to prevent a serious decline in security prices, there is little reason to anticipate a panicky unloading of securities. It seems probable that under such conditions the volume of sales in the open market would be limited to an amount genuinely needed to enable banks whose existing holdings of cash and short-term securities were small to meet the new requirements. This is another illustration of the manner in which open market operations and changes in reserve requirements might be combined, in this instance to offset undesirable effects on the security markets.

[4] A reduction in holdings of short-term securities, which are held in large volume by commercial banks, might enable them to obtain additional reserves without directly depressing the security market.

Miscellaneous. The distinctive character of changes in reserve requirements leads to a number of other significant conclusions. In the first place, since open market sales are possible only as long as the central bank has something to sell, there is a clear limitation on this instrument of credit control. Except for arbitrary legal limitations, the policy of changing reserve requirements is under so such restrictions.[5] Unlike open market operations, it is a weapon of central bank policy that is capable of functioning without ammunition.

In the second place, an increase in member bank reserve requirements, by calling for a higher ratio of Reserve Bank deposits (member bank reserves) to member bank deposits, compels the Reserve Banks to hold a larger volume of assets than would otherwise be necessary. Under present circumstance, this means that a larger part of the public debt is lodged in the hands of the Reserve Banks. Since the Reserve Banks hold chiefly lowest yield securities, the Treasury obtains its funds from this source on more favorable terms than it presumably would elsewhere.[6] Moreover, the Treasury pays interest to the Reserve Banks, a quasi-public body, instead of to commercial banks or other private holders. If provision should be made for turning over to the Treasury the profits of Reserve Banks above expenses and dividend requirements, the effect would be to approximate, to the extent of the added holdings of government securities by

[5] There are, of course, other limitations that apply to each method of credit control. An extreme increase in reserve requirements would doubtless be strenuously opposed by bankers and the public.

[6] It may be remarked in passing that the cost of Treasury financing has been affected by Federal Reserve policies in still other ways. It is to be supposed that the use of open market operations to promote stability in the security market and to preserve a particular pattern of yield on government securities tended to lower the cost at which the Treasury was able to borrow. In effect, the Federal Reserve gave liquidity to Treasury obligations and spared the Treasury the necessity of paying the premium that illiquidity customarily commands.

the Reserve Banks, a situation of costless Treasury financing.

Finally, the height of reserve requirements has a direct bearing on the leverage effect of a given change in the volume of member bank reserves. Thus the level of reserve requirements helps to determine the effect of future changes in the quantity of member bank reserves. The higher the reserve ratio, the larger must be the scale of discounting or open market operations designed to change the volume of bank credit outstanding. Similarly, a reduction in reserve requirements would increase the expansion potential of a given increase in reserves and would increase the leverage effect of a given volume of discounting, advances or open market operations.

METHODS OF EFFECTING COORDINATION OF FEDERAL RESERVE POLICIES

Certain of the methods of Federal Reserve credit control, particularly the changing of reserve requirements and the control of consumer credit, have been attacked on the ground that they may give Federal Reserve authorities the power of life or death over particular banks and businesses. The same objection could be raised with respect to other instruments of central bank policy. If Reserve policies are of any effectiveness at all—if, that is, they can do good if wisely used—they can do harm if badly used. In part, this objection is based on lack of familiarity with the particular methods in question. No one thinks of criticizing open market operations in these terms, even though havoc could also result from a wanton exercise of the power to sell securities in the open market. The more powerful the weapon is, the more damage it can do if it is abused, but to condemn instruments of credit policy on this score is to make a virtue of futility.

There can be no hope for the future of central bank policy

unless we start with the assumption that it will be applied with intelligence and circumspection. At best, central bank policy is constrained by the effectiveness of the instruments with which it can operate. And every instrument of central bank policy must be judged, not on its individual characteristics, but on how it fits into the entire framework of control policies. Inasmuch as the edge of certain of the instruments of Federal Reserve policy has been blunted by the developments of recent years, the possibility of strengthening the effectiveness of credit policies through better coordination of the available techniques has become doubly important.

One of the oldest and most important methods of coordinating Federal Reserve policies is through the work of the Open Market Committee. In the main, however, this body is concerned with integrating the activities of the Reserve Banks rather than with coordinating the use of the different instruments of control. The manner in which the instruments of credit control might be coordinated warrants fuller explanation than has been given thus far.

One of the serious obstacles to the use of open market sales to reduce excess reserves is the fact that they might depress the price of types of securities that have come to hold a large place in the portfolios of commercial banks.[7] A rise in reserve requirements could also have a depressing effect on the security market, since individual member banks might sell longer term securities in order to build up their reserves. If sales by member banks were confined to

[7] This would be particularly true if the securities sold consisted of long-term bonds. If, instead, short-term Treasury bills or notes were sold or allowed to run out, a contraction of reserves could be effected with little direct effect on the market value of investment securities. Security holdings of the Reserve Banks have come to consist largely of short-term Treasury obligations. This would seem to increase the probability that a future contraction of reserves may be accomplished with a minimum of direct pressure on the security market.

what was needed to meet the new reserve requirements, the net amount of sales would be far smaller than the volume of sales by the Reserve Banks which would be necessary in order to bring about a similar contraction in reserves in the absence of an increase in reserve requirements. There is no assurance, however, that sales by the member banks would amount only to what was needed to meet the new reserve requirements, and it is entirely conceivable that unless appropriate action was taken by the Reserve Banks, a panic might be precipitated which would result in sales greatly in excess of that total. The fear of this possibility is responsible for much of the opposition to a policy of raising reserve requirements.[8]

A theoretical solution for this difficulty would be to employ an increase of reserve requirements in conjunction, not with sales, but with purchases of securities in the open market. A precedent for such a combination of policies exists in the open market purchases made early in 1937. The purchase of securities at that time was designed to exert a stabilizing influence on the price of government bonds. Security purchases could as well be conducted with a view, not only to sustaining security prices, but also to making additional reserves available for banks requiring them as a result of a change in legal ratios.

The combination of policies calculated, on the one hand, to increase and, on the other hand, to decrease free reserves might seem to be contradictory. The purpose, however, of open market purchases at such a time would not be to in-

[8] Open market operations are carried on more or less behind the scenes without the general public being aware of them. A change in reserve requirements, on the other hand, like a change in the discount rate, can scarcely escape notice. Whether this is an advantage or a disadvantage depends upon whether or not the supplementary psychological effect of resort to these credit instruments is desirable in the light of conditions existing at any particular time.

crease the total volume of reserves. It would be, instead, to prevent security prices from weakening and to relieve local stringencies in member bank reserves. If they accomplished this, a close approach would be possible to confining net sales by member banks to the minimum necessary to enable individual banks to adjust their reserves to the new requirements. The total of such member bank sales would be much smaller than would occur if the Reserve Banks were to rely upon open market operations alone. Even though results fall short of perfection, an integration of policies offers a strong prospect of remedying the principal defects attaching to either open market sales or an increase in reserve requirements employed separately.

Proposals for Further Modification of Federal Reserve Policies

The Federal Reserve authorities may be said to have succeeded too well in their aim, announced the morning after the attack on Pearl Harbor, of guaranteeing the liquidity of the banking system. The member banks have become so liquid that the power is now in their hands rather than in that of the Federal Reserve to determine whether or not reserves will be created at any particular time. Various suggestions have been advanced for enabling the Reserve Banks to recover their control of member bank reserves and with it their ability to influence credit by their familiar indirect instruments of credit control. Among the most interesting are certain recommendations originating with Professor Simeon E. Leland, Chairman of the Federal Reserve Bank of Chicago, and with the Board of Governors.

THE LELAND PROPOSALS

Official statements emanating from the President, the Treasury and the Federal Reserve strongly indicate that

the general outline of policies on interest rates and the government security market will continue, in other words, that interest rates will be kept low and Treasury securities will receive support at parity or above. Within the limitations of policy as thus laid down, the possibility of action to restore Federal Reserve control of credit is narrowed to (a) eliminating Treasury securities from the portfolios of member banks, or (b) destroying their convertibility into reserves. Measures to restrict their ready exchangeability for reserves, however, cannot be of such a character as to jeopardize the stability of the price of Treasury securities in the open market. The solutions proposed by Professor Leland would be (a) to issue special nonmarketable Treasury obligations for ownership by banks, or (b) to redeem bank holdings of Treasury obligations in Reserve Bank credit, with a corresponding increase in reserve requirements combined with the payment of interest on reserve balances.[9]

Special issue of Treasury securities for banks. The first of these two proposals is to provide a special issue of securities which would be exchanged for "a substantial proportion" of the Treasury obligations now held by banks. These new securities would perform the usual functions of earning assets; they would furnish a source of income, provide a means of redeeming deposits, and be capable of discount subject to condition laid down by the Reserve Banks. The fact that the securities would be nonmarketable constitutes the most significant feature of the proposal. As a consequence of this stipulation, the Federal Reserve Banks would be able to continue their policies of supporting the

[9] "The Government, The Banks and the National Debt," *Commercial and Financial Chronicle,* January 17, 1946, p. 283. Cf. also the proposal along the lines of the first of these recommendations which was originally advanced in Lawrence H. Seltzer, "The Problem of Our Excessive Banking Reserves," *Journal of the American Statistical Association,* March 1940, pp. 24–36.

price of securities held outside the banks and at the same time treat the special issue differently, thereby abandoning the practice which now enables member banks to force the Reserve Banks to create member bank reserves. The Reserve authorities would thereby retrieve their power to control credit by means of open market operations, the discount rate and the member bank reserve ratio.

The amount of the special issue of Treasury securities which banks would be required to hold would be prescribed in relation to the volume of deposits, somewhat as reserve requirements are now prescribed; and in order to facilitate credit control the ratio required would be subject to change by the Federal Reserve authorities. In effect, commercial banks would be required to maintain a minimum reserve in the form of Treasury securities and the requirement would presumably apply to all commercial banks, whether or not they were members of the Federal Reserve System. Banks would retain their freedom to hold, buy and sell marketable issues, but the proportion of such operations in which they would be able to engage would presumably be kept so small that they could not threaten the stability of security prices.

The interest rate on the special issue of Treasury obligations to be held by banks would be maintained at a low level and would be closely related to the cost of providing checking facilities. The rate might be altered on the basis of business conditions and in accordance with purposes of credit control. The securities would bear no maturity dates, but would be payable at the pleasure of the government.

Transfer of Treasury securities to the Reserve Banks. The other plan suggested by Professor Leland is for the government to repay Treasury obligations held by commercial banks out of funds to be borrowed from the Federal Reserve Banks. The effect would be to transfer the debt from commercial banks to the Reserve Banks. By an

offsetting increase in reserve requirements the consequent increase in member bank reserves would be prevented from providing a basis for credit expansion. In order to maintain the income of commercial banks, interest would be paid on reserve balances. "Both the reserve requirements and the interest paid on reserve balances could be made variable at the discretion of the Reserve Banks, with Treasury approval, to secure the appropriate credit policies needed by the economy." [10]

Provisions could be introduced, or rather re-introduced, to return surplus earnings of the Reserve Banks to the Treasury. "Whatever advantage these arrangements possess would eventually accrue to the people whose collective credit was being utilized. If at times it proved to be more costly than the present contractual system, at least the incidence of the cost could be defended as being fair." [11]

Conclusions on the Leland proposals. The first of these proposals, as Professor Leland notes, somewhat resembles the policy of borrowing on Treasury deposit receipts which has been followed in England since 1940. The success of the policy there is cited in support of the present proposal. The power and, at the same time, the responsibility of the Treasury over the earnings of commercial banks would be far greater and more direct than ever before in our history.

The second proposal is essentially an adaptation of the 100 Per Cent Reserve Plan which is discussed in Chapter XXII. Even more than in the previous instance, the Treasury, through the Reserve Banks, would occupy a position of strategic importance with respect to member bank earnings.

The chief drawback of the proposals is not that either of them would fail to accomplish its purpose. On the contrary,

[10] *Ibid.*
[11] *Ibid.*

they are well adapted to restoring the power of the Federal Reserve to control credit. They would allow the essential conditions of a solution to be met; in the one case, by largely eliminating Treasury obligations from commercial bank portfolios; in the other, by overcoming the perfect convertibility of government securities into reserves. Moreover, the proposals are compatible with continuing the policy of supporting the government security market.

The practical difficulty with the proposals is that—notwithstanding the distance our thinking has progressed, as the mere fact that such suggestions can proceed from high official sources testifies—they are too new and strange to find general acceptance. Furthermore, any plan which would call for determining the rates of yield on member bank assets would impose an unenviable burden upon those responsible for deciding the level of rates. A uniform limitation of the level of rates payable to banks would be hardest on the smaller banks, since in general they hold a higher proportion of longer term securities, and might leave the large city banks, which hold mostly low yield issues, largely unaffected—precisely the opposite of what would presumably be desired. On the other hand, if the authorities should attempt to differentiate by accommodating yields to the needs of different banks or categories of banks for earnings, the complications would be endless and vexatious.

RECOMMENDATIONS OF THE BOARD OF GOVERNORS

The Board of Governors, while refraining from making official recommendations for extending its power to control credit, has called attention to certain proposals which they say deserve consideration.[12] These suggestions, briefly, were to grant the Board of Governors authority to:

[12] *Annual Report* for 1945, pp. 7–8. Cf. also *Annual Report* for 1946, pp. 6–7.

Place limits on the amount of long-term marketable securities, both public and private, which commercial banks may hold against demand deposits;
Require all commercial banks to hold a specified percentage of short-term government securities against demand deposits;
Raise reserve requirements, up to a certain point, beyond the limits now established.

These different measures could be adopted, presumably, either separately or together. A considerable degree of administrative flexibility was recommended in connection with each of them. It is significant that the Board indicated the desirability of including all commercial banks and not just member banks within the scope of these provisions.

Each of these proposals was calculated to assist in restoring to the Federal Reserve authorities something of their lost power to control credit. The limitation of total holdings of long-term securities would presumably restrain commercial banks from creating additional demand deposits through increasing their holdings of investment securities but would leave them free to accommodate current demands for commercial loans. Because of this limitation, there would be less incentive for commercial banks to force the creation of reserves through sale of short-term securities to the Reserve Banks. The requirement that banks hold a certain ratio of short-term securities to demand deposits would limit even more directly the ability of commercial banks to force the creation of reserves through sale of short-term securities to the Federal Reserve Banks. The final method would merely extend the existing power of the Reserve Banks to restrict deposit expansion by commercial banks on the basis of present and potential reserves.

The suggestions of the Board of Governors, even though they were put forward in highly tentative form, met with considerable opposition. In part, the reaction may have

been based on opposition to anything new and different in the way of centralized control. In any case, the suggestions were widely interpreted as constituting too great an extension of Federal Reserve powers, even though they were apparently designed merely to restore to the Federal Reserve authorities a degree of control which it was intended that they should have in the first place and which, in fact, they had enjoyed earlier.

The times in which the suggestions of Professor Leland and the Board of Governors were advanced were characterized by reaction against the controls introduced during the war period and before, by a resurgence of individualism and by a general reluctance to do anything which might interfere with the prevailing prosperity of business. Coupled with the fact that there is always strong resistance to legislative changes touching the banking system, these were conditions certain to render especially difficult the introduction of measures of the sort suggested.

16 Relations of Government to Commercial Banking

The relations of government to banking assume a variety of forms. On the one hand, banks perform many services for the government, including the extension of short-term and long-term credit, the holding of deposits and the performance of agency or brokerage functions as in the sale of Treasury bonds to the public. On the other hand, there is a wide range of relationships where the government stands over the banks in the various roles of administrator, supervisor, umpire, policeman or patron.

Basic Aspects of Governmental Policy Toward Banks

THE NATURE OF RELATIONS BETWEEN GOVERNMENT AND BANKING

In addition to the direct control which the government or its delegated representatives exercise through the chartering, examining and regulation of banks, the central authorities exercise other controls of an indirect character. These measures of an indirect character extend all the way from merely providing information to the discharge of such typical Federal Reserve policies as changes in the discount

rate and open market operations. The government has also contributed greatly to improving the banking organization of the country through providing facilities for the more efficient clearing and collecting of checks, the rapid transfer of funds, and the mobilization of banking resources. And it has set up supplementary—and occasionally competing—financial institutions such as the Export-Import Bank, the Federal Intermediate Credit System for agriculture, the Postal Savings System and the numerous alphabetical agencies created during the 1930's.

In some of the relationships between government and banking no particular problems are involved. The most important questions which arise are those relating to supervision and control and to central banking policy. The present chapter is concerned chiefly with the first of these subjects, the supervision and control of banks.

WHOSE INTERESTS ARE INVOLVED?

In the conduct of the banking system, as in any other situation involving public policy, various interests are at stake. In fact, the basis of public policy usually lies in the fact that different interests exist and are in potential conflict. Intervention by the authorities is presumably designed, in such cases, to effect a balancing among the various groups, or otherwise to protect interests which might suffer. The different groups having a stake in the banking system are the banks themselves, the banks' customers and the public at large.

The banks. Through the officers, employees and stockholders of banks, a large number of people have a direct and very material interest in the survival and success of the banks. Regulation is frequently designed for the protection of those who are regulated, and this is very definitely the case among banks. It is to the interest of banks to be

safeguarded against destructive competition from badly run banks or banks whose affairs are in such condition as to make them disposed to pursue socially dangerous policies. There has been an increased tendency in recent years to regulate for the purpose of protecting banks against banks. The restriction of interest paid on deposits is a conspicuous example of this policy. The danger exists, where such policies are followed, that the legitimate objective of controlling injurious practices may serve as a cloak to restrict competition to a greater extent than is in the social interest. There is good reason to believe that some of the practices introduced in recent years, with the consent of the constituted authorities, have been designed to foster local monopolies and thereby to enable banks to obtain higher profits than would be possible under more competitive conditions.

Customers of banks. The desire to protect the customers of banks is the oldest and most important motive for governmental control over banking. Historically, this concern was directed first toward noteholders and later toward depositors. The creation of the Federal Deposit Insurance Corporation in 1933 is the latest and most conspicuous step in the direction of taking care of bank depositors. In a sense the F.D.I.C. may be said to reflect disillusionment with respect to the effectiveness of regulation alone as a means of safeguarding the interests of depositors: it is designed not so much to prevent the abuses that would cause banks to fail as to indemnify smaller depositors in case failure does occur. Less attention has been directed toward safeguarding the interests of borrowers from banks even though they, like depositors, are also bank customers. This is probably because the failure of a bank may involve the loss to depositors of deposits which they own, while borrowers are merely deprived of a place to which they could go for loans with which to acquire deposit balances. The establishment

of various lending agencies by the government, as well as chronic airing of the problem of availability of bank credit, particularly for smaller businesses, shows that the authorities are not oblivious to the interests of borrowers.

The public. The public at large is chiefly concerned with how the banks affect the working of the economic system as a whole. A country's circulating medium is a vital factor in the functioning of the economic order. Indeed, there are those who see in an over-expansion or overcontraction of bank credit the principal element in booms and depressions. In surrendering to the nation's banks the task of providing the largest part of the circulating medium, the government did not divest itself of its responsibility to see that the task is effectively performed. The public's chief interest in the banking system lies in the manner in which banks discharge their function of providing the circulating medium and in the effect this has upon economic activity in general. It is this interest that governmental control in its broader aspects, such as central bank credit control, is primarily designed to serve.

THE EFFECTIVENESS OF CONTROL

Evidence is necessarily inconclusive as to the importance and effectiveness of governmental supervision and control. One reason for the uncertainty is that an ideal policy would be one that served to prevent a crisis from arising rather than one that efficiently restored order after an emergency. The most effective system would be one that never seemed to have anything to do. It is not possible to say with any assurance how much has been accomplished by supervisory measures for the simple reason that one can never know what would have happened in the absence of these policies. Thus the most important achievements of bank examination may well lie in the risky operations that were never under-

taken, because of the knowledge that examiners would expose them to public view. The magnitude of the preventive effects of supervision is necessarily conjectural. Nevertheless, the evidence of the quarter century before the War Between the States, when central control was virtually nonexistent and banking conditions were chaotic, should satisfy even the most skeptical that the preventive effects of governmental supervision of banks are very great.

The Evolution of Governmental Policy Toward Banks

The examination of banks appears to have originated in the desire of the authorities to make certain that the powers given to banks in their charters were not exceeded or abused. It was thus essentially a part of the right of the government, recognized from early times, to grant charters to particular types of business. A logical distinction between examination and regulation can readily enough be drawn, but when it comes to practice the two are indivisible since the one complements the other. The trend of governmental policy toward banking has been in the direction of a broadening of the scope of the objectives sought for, and a strengthening and expansion of the measures adopted to attain these objectives.

CHANGING CHARACTER OF BANKING PROBLEMS

Quality of bank notes. The way in which the activities of regulatory authorities have broadened in the course of time is indicated by the various problems that have been their major concern. At one time the principal banking problem was to improve the quality of bank note issues. For many years prior to the War Between the States, and especially in the two decades just preceding it, the bank note circulation was of the most unreliable and nondescript

character. The authorities of a few of the states, supplemented by certain private organizations such as the Suffolk Banking System, were more effective than the federal government in improving the quality of banking practices. With the passage of the National Banking Act and the subsequent law taxing state bank notes out of existence, the problem of defective bank note issues was at last brought under control.

Inelasticity of currency and credit. Introduction of the National Banking System served to overcome the more glaring faults of bank note circulation, but it was not well adapted to accommodating the volume of circulating medium to changes in current needs. With the passage of time and the emergence of a more complex economic structure, this deficiency came to assume greater and greater importance in the eyes of business men and officials. Indeed, the inelasticity of notes and deposits was the major problem of banking before and after the turn of the century. It was believed to have contributed to seasonal disturbance in interest rates and to have been the principal cause of the panics of 1893 and 1907. The desire to remedy this defect was responsible to a greater extent than any other factor for the passage of the Federal Reserve Act.

Bank failures. Following the introduction of the Federal Reserve System, inelasticity of bank credit was no longer a serious concern, but again it happened that the correction of the particular banking problem of the time failed to bring a solution to the banking problem as a whole. After 1920 we began to suffer severely from the problem of bank failures, which continued to plague the country down to the closing of the banks in 1933. The seriousness of bank failures and the attendant losses to depositors contributed to the passage of the Banking Acts of 1933 and 1935. This legislation brought about the organ-

ization of the Federal Deposit Insurance Corporation and important changes in the Federal Reserve System.

Effect on business activity. Throughout the decade of the 1930's, both before and after the passage of the bank reform laws, the most important problem of bank policy had to do with credit conditions as a whole and the effects of these conditions upon *general economic activity*. This was reflected both in Federal Reserve policies and in resort by the United States Treasury to the use of fiscal policies to promote business recovery. Important modifications, designed to promote orderly credit conditions throughout the economy rather than merely to safeguard the position of individual banks or their customers, were introduced in connection with open market operations and the procedure of bank examination.

With the transition from planned recovery to the period of war economy and then to reconversion, principal emphasis continued to rest on the broader aspects of banking and credit conditions. Both during and after the war, the authorities sought to discover noninflationary methods of financing where in the thirties the inflationary effects of government finance had been regarded with distinct favor. This shift represented a changing phase of a consistent policy: in each instance banking policy was integrated into the general economic policy of the country. The stimulus of rising prices was desired under the earlier but not under the later conditions. In both situations banking policy had ceased to be directed toward the banks or their patrons, but rather it was incorporated into the framework of economic policy as a whole.

In a clear-cut statement issued soon after the end of the Second World War, the Board of Governors reemphasized the maintenance of satisfactory business conditions as the chief problem of banking policy.

It is the Board's belief that the implicit, predominant purpose of Federal Reserve policy is to contribute, in so far as the limitations of monetary and credit policy permit, to an economic environment favorable to the highest possible degree of sustained production and employment.[1]

LANDMARKS IN THE EXPANSION OF FEDERAL POWER OVER BANKS

For a good many years after the founding of the Republic, the power of the federal government to control banking remained open to question. It was not until 1819 that the Supreme Court decided that Congress had the constitutional right to charter a bank (the Second Bank of the United States) and that the states were not entitled to interfere with it by taxation or other means. Even then some doubt remained, and the prinicple had to be reaffirmed in 1824.

The next major development in the expansion of federal powers over banking came with the National Banking Act of 1863. As a result of this legislation, the authority of the federal government to charter, regulate and supervise banks was extended to a significant proportion of the country's banks. Laws passed in 1865 and 1866 imposed a prohibitory tax on the notes of state banks, for the purpose of driving them into the national system. Aside from the importance of these laws in increasing the proportion of banks under federal charter, they were noteworthy as demonstrating that the power of the federal government over the issue of bank notes was absolute; and they showed that this authority extended to state banks as well as to those with national charters.

Following the legislation of the 1860's, little change in the status of federal authority over banks occurred until the introduction of the Federal Reserve System in 1914. The

[1] *Annual Report* for 1945, p. 1.

effect of this step was to extend federal jurisdiction to a larger group of banks than were included in the National Banking System. The legislation of 1933 and 1935, and particularly the creation of the Federal Deposit Insurance Corporation, expanded the jurisdiction of federal authorities much further. While the degree of control exercised over individual banks by the F.D.I.C. is less complete than that of either the Comptroller of the Currency or the Board of Governors of the Federal Reserve System, it is nevertheless substantial.

The organization of the F.D.I.C. represents, as has been noted, the most recent stage in the extension of permanent federal jurisdiction over banking. It is worth observing, however, that federal authority over banking on a temporary or emergency basis has been carried much further. Thus in 1932 the Reconstruction Finance Corporation established the precedent of the federal government offering to lend emergency aid to any deserving bank. Moreover, the action of the President in declaring the Banking Holiday in March 1933 applied to all banks in the country. These two measures clearly demonstrate that, under certain circumstances, the admitted responsibility of the federal government and its powers embrace all banks.

METHODS OF PROGRESS

In the development of governmental policy toward banking the practice in this country has usually been to attack the particular problem rather than to effect a fundamental reorganization. By and large, we have sought to remove the manifestation of weakness in our banking system rather than its cause. This is illustrated repeatedly in the laws we have enacted. We prevented state banks from issuing notes, instead of effecting reforms that would have assured the high quality of bank notes. We passed laws to control group

and chain banking rather than allowing a stronger and safer system of branch banking to develop as it had done in other countries. Instead of removing the causes of bank failures we instituted a system for guaranteeing small deposits against losses resulting from failures. The list of similar measures could be expanded much further.

The rivalry between state and national systems of regulating banks at one time constituted an obstacle to the raising of banking standards. The laws governing the National Banking System were relaxed on certain occasions because of a desire to place national banks on a more equal footing with state banks. This purpose was primarily responsible for the lowering of capital requirements for national banks and for the liberalization of regulations relating to the operation of trust departments, the holding of savings deposits, lending on real estate and the establishment of branches. It is probable that certain of these measures were in the best interests of banking development. Nevertheless, it is a discreditable commentary on the processes of banking evolution that even desirable innovations were brought about as deviations from what were generally regarded as the highest standards of banking regulation.

A further obstacle to banking reform has been the large number of small but politically influential bankers scattered throughout the country. The opposition of this group to proposals for strengthening the organization of American banking was reinforced by a familiar feature of American social psychology, namely, the attitude of suspicion and antagonism toward eastern financial interests.

The resistance to fundamental banking reform—or indeed to any banking reform, whether fundamental or not—has meant that it takes a major disturbance, such as war or a grave business depression, to precipitate significant action. This was true of the first important banking reform measure

in the history of the country, the establishment of the Second United States Bank which owed its origin to the financial disorder that followed the War of 1812. Of the three major banking reforms in our history, the National Banking Act of 1863 was occasioned by the War Between the States while the Federal Reserve Act and the banking laws of 1933 were the direct consequences of financial breakdowns accompanying crises and depressions. The Federal Reserve Act was drawn up and passed in a deliberate and orderly manner, but the acts of 1863 and 1933 were hurried through under considerable pressure. In view of the circumstances under which they were introduced, it is perhaps surprising that the reforms were as successful as they have been.

Notwithstanding the fact that distinct progress has been made, the banking system of this country is still far from ideal. It makes a poor showing—whether judged abstractly or in the light of performance—in comparison with the banking systems of a number of other countries. It is good only in relation to the banking organization which existed in this country in the past. We have come a great way from the banking conditions of the 1850's, or even of the 1890's or 1920's, but we still have far to go before we can look upon our banking system with any great sense of pride.

The Structure of Regulatory Organization

Three outstanding features characterize banking in the United States. They are: (a) the mass of independent banks, most of them quite small but others so large as to represent individually as much as 3 per cent of the country's total banking resources; (b) the multiplicity of laws relating to banks; and (c) the number and variety of authorities charged with responsibility over the country's banks.

Bodies charged with the supervision of banking include

forty-eight state and three federal agencies. The latter, which are much the most important, consist of the Comptroller of the Currency, the Federal Reserve System and the Federal Deposit Insurance Corporation. In addition to these regularly constituted control authorities, a certain amount of supervision is exercised by other governmental organizations. The Treasury was given certain responsibilities for the licensing of member banks after the banking crisis of 1933, and for reviewing plans for recapitalization or rehabilitation where aid of the Reconstruction Finance Corporation is involved. The latter body also may have considerable voice in the affairs of banks which have turned to it for financial aid. The Securities and Exchange Commission has certain powers with respect to the trust activities of banks and to the organization of banks owned by holding companies.[2]

So complicated an administrative structure inevitably involves overlapping of jurisdiction. A national bank, for example, may find itself subjected at different times to the Comptroller of the Currency, the Reconstruction Finance Corporation, the Federal Deposit Insurance Corporation and the Federal Reserve System. Steps have been taken to reduce overlapping as far as possible; in actual practice the incidence of supervision is less burdensome than might appear. Primary responsibility for national banks rests with the Comptroller of the Currency and primary responsibility

[2] Aside from these organizations, whose duties may properly be regarded as supervisory, banks are affected in one way or another by the operations of many other governmental bodies. Among these may be mentioned the National Labor Relations Board, the Wages and Hours Division of the Department of Labor, and the governmental lending agencies created to aid in supplying credit for agriculture, housing and savings and loan associations. One might also include in this list the Postal Savings System which shares the field with savings banks. In a somewhat different way, the various Trust Funds maintained by the federal government may have an important bearing upon banking operations.

for state banks, regardless of membership in the Federal Reserve System or the Federal Deposit Insurance Corporation, rests with the state authorities. Greater cooperation has been effected among the federal agencies, however, than between the federal agencies and the state bodies. Thus national banks are examined by the Comptroller of the Currency, state member banks by both the Federal Reserve and the state authorities, insured nonmember banks by both the Federal Deposit Insurance Corporation and the state authorities and noninsured state banks by the state authorities.

To the foregoing list of governmental bodies must be added the numerous clearinghouse associations, organized on a city or regional basis, some of which undertake to perform an appreciable amount of regulation and supervision.

Relations between different regulatory bodies have varied from hostile antagonism to friendly cooperation. Fortunately, the latter attitude has tended to increase in strength in recent years. A notable instance of this tendency was the declaration on procedure with respect to bank examination issued jointly in 1938 by the Comptroller of the Currency, the Federal Reserve System and the Federal Deposit Insurance Corporation in which a large number of state authorities subsequently joined.

The Bases of Examination Policy

The examination of banks has long been an important feature of public policy toward banks. It is concerned not only with the prevention and exposure of abuses, but also with arriving at information which will be of use to the banks and to society generally. Bank examination implies not only the getting of facts, but also their appraisal. It is in the process of appraising the facts that the greatest possibility of error arises, since this necessarily involves value judgments on the part of examiners.

"THE INHERENT INSTABILITY OF BANK CREDIT"

During a period of expanding business activity, it is to the interest of the individual bank to expand along with the rest, yet it is precisely such action by each individual bank that allows an inflationary movement to progress to the danger point. Similarly, during a downward trend, considerations of safety and profitability compel an individual bank to pursue a cautious policy. But the action of individual banks in restricting credit, calling loans and increasing their liquidity serves to contract business and places a strain on other financial institutions, thereby causing them to follow similarly deflationary tactics. The automatic tendency for banks to be inflationary during periods of inflation and deflationary during periods of deflation aggravates, if it does not generate, deflation and depression. As Lord Keynes once remarked, the idea of banks "is not to keep sober, but, in accordance with a perfect standard of manners, to enjoy just that degree of tipsiness (or sick-headache) as characterizes the country as a whole." [3]

It seems likely that changes in the composition of bank portfolios since the early thirties have somewhat lessened the inflationary and deflationary tendencies of bank credit. In the first place, bank credit which is based upon government bonds is probably less likely to contract suddenly than bank credit based upon commercial paper, and, in the second place, when contraction occurs it will probably be less deflationary in its effect on other parts of the economy since it is not directly related to manufacturing and trading operations. Despite the improvement that may have occurred in the basis of credit operations, however, the first essential of an enlightened policy toward bank examination

[3] J. M. Keynes, *A Treatise on Money*, London, Macmillan, 1930, Vol. II, p. 222.

is that the controlling body should be fully conscious of the inflationary and deflationary tendencies in bank operations and should be prepared to adapt examination procedure to changes in business conditions. The rule should be strictness in the expansion phase of the business cycle and liberality in the contraction phase. It is perhaps unnecessary to remark that this is exactly opposite to natural inclination, and to actual practice in the past. It is particularly difficult in a period of depression to think in terms of supplying additional capital and avoiding liquidation, yet these are necessary steps if the downward trend is to be reversed. Likewise the idea of relaxing banking standards during a depression, at the very time when the evils of too great laxity are becoming most fully apparent, runs directly counter to normal behavior.

Nor is it easy to apply wise examination policies in the upward phase of the cycle. At a time of general optimism and expansion the role of the examining authorities must be that of a kill-joy, and this is clearly no way to attain popularity. The administrative authorities are exposed to two psychological hazards: they must avoid being swept away by the same popular psychology that infects the rest of the business community, and they must avoid being deterred by the knowledge that adherence to the indicated course of action is certain to provoke bitter public criticism and possible political interference.

Aside from these basic difficulties there is also the problem of correctly diagnosing changes in business conditions. It may be far from easy to determine whether a particular upward movement is of a cyclical or secular character, yet upon this point may turn the decision as to the course of action that should be followed. A perfect handling of the problem of examining banks is not to be expected, but it is significant that the experience of the early 1930's brought

about widespread recognition of the evil as well as the good that can be done by bank examination. It seems doubtful that bank examiners will ever again attempt to evaluate bank assets by the rule of thumb methods prevailing in the past.

STANDARDS FOR THE VALUATION OF ASSETS

It is not surprising, in view of the difficulty of their task, that bank examiners came to rely heavily upon market quotations and arbitrary rules and classifications for testing the soundness of bank assets. But this recourse, while it helped to relieve individual examiners of personal responsibility for errors of judgment, constituted no solution. For, as had been shown repeatedly in our history, the quality of assets changes with economic conditions. Adherence, without regard to changing circumstances, to formal tests and rules has sometimes proved ineffective and sometimes positively harmful.[4]

There are two principal difficulties with market quotations as a standard for the valuation of bank assets. In the first place, market prices at any given moment may be a very unreliable index of the long-run value of particular securities. One has only to consider the excessively high quotations recorded in 1929 and the excessively low quotations recorded in 1932 to recognize the disadvantages of relying on market value as the basis for appraising bank investments. In the second place, market price, far from providing an independent standard of valuation, may be partly determined by the policies of the bank examiners themselves. In the period after 1929, a decline in security prices was the

[4] Cf. Homer Jones, "An Appraisal of Rules and Procedures of Bank Examination," *Journal of Political Economy*, April 1940. Dr. Jones, who was later Director of Research for the F.D.I.C., indicates that the banking difficulties of the early thirties were seriously aggravated by the examination policies followed at that time.

signal for a writing down of assets and a forced liquidation of securities. The sale of securities in a market already weak contributed to further declines, and with every decline there was further liquidation. Thus, reliance on market quotations for the valuation of assets was perfectly calculated to contribute to a downward spiral of security prices.

Nor does emphasis on the "intrinsic" value of assets provide a much more substantial basis of valuation. After all, value is not an intrinsic or inherent quality. It is a resultant of the complex of choices which lie behind supply and demand. Changes in business conditions, inventions, discoveries and many other factors may alter the bases on which those choices rest. Reference to "intrinsic" value, far from providing an objective standard of valuation, does no more than express in a different form someone's personal appraisal of the factors entering into the determination of the value of securities. While it places emphasis on long-run considerations to a greater extent than market quotations, it still is strongly subject to personal impressions and passing influences.

Bank examination is primarily concerned with the ultimate safety of assets. It is related to the fundamental banking problem of keeping assets equal to liabilities, chiefly in its long-run rather than its short-run phase.[5] The mistake of bank examination procedure in the thirties was to apply short-run tests, such as market valuation, not to the short-run problem of liquidity to which they were adapted, but to the long-run problem of safety for which they were not suitable. The task of examination policy is to accommodate the method of valuing assets to the particular problems, short-run or long-run, which are paramount. This is essentially what the 1938 Ruling on the treatment of loans and investments in bank examination undertakes to do.

[5] Cf. Chapter VIII.

THE 1938 RULING ON EXAMINATION PROCEDURE

By the 1938 agreement the three Federal agencies charged with the responsibility for bank examination adopted uniform policies with respect to the classification of bank assets. The former categories of Slow, Doubtful and Loss were abolished, and categories I, II, III and IV substituted. Loans are given the highest rating if payment seems assured, and the lowest if they are to be counted as losses and charged off. The intermediate classifications represent intermediate degrees of risk and call for corresponding action on the part of the bank officers. Turning from the loan to the investment category of bank assets, securities are placed in the highest group if they are of investment character. Where a considerable speculative element exists, as in the case of securities classified by rating agencies below the four highest grades, securities are placed in Group II. Groups III and IV include defaulted bonds and stocks. Securities in Group I are carried at book value, though the premium, where it is included in book value, must be properly amortized. Securities in Group II are carried at average market price for the eighteen months immediately preceding examination, while those in Groups III and IV are carried at current market price.

The 1938 Ruling constituted an important step in the direction of greater flexibility and discretion in the valuation of bank assets by examiners. In particular, the provision for carrying securities in Group II at average market price over the preceding eighteen months reduces very considerably the emphasis placed on current quotations in either the upswing or downswing of the market. Deference to the older point of view remains, however, in the requirement that securities in Groups III and IV be appraised at current market price; there is less reason, if anything, to suppose

that market quotation is a reliable means of long-run valuation in the case of a defaulted security than of one not in default. The requirement may perhaps be defended as an intentional discrimination against securities of inferior banking quality. In any case, the uniformity and flexibility afforded by the 1938 Ruling make it an important achievement in the development of banking policies.

The Government and Financial Security

Along with an extension of relationships between government and banking has gone a growth in the dependence of our entire financial structure upon government authority. As matters now stand, the government and agencies of the government are committed as never before to seeing that financial security is maintained.

The F.D.I.C. has undertaken to protect all but a small proportion of depositors. The word "Federal" in the name of the Corporation is probably enough in itself to make the public think that the government stands behind this pledge. Shattering of confidence in the fulfillment of the pledge would be certain to undermine public morale. It is widely felt that if the F.D.I.C. were subjected to greater pressure than it seemed able to carry the government would have no other alternative than to come to its rescue and insure that all demands upon it were met. Indeed, the mere assurance that this would be done might be sufficient to prevent the necessity from arising.

In a sense, the Federal Reserve Banks have become the "ultimate shiftee" for a large proportion of bank assets. Member banks are able to borrow from the Federal Reserve by posting government bonds as collateral, and these bonds are accepted at par. As long as this practice is continued, member banks are protected against a decline in the value of governments below their par value. The banking system

is assured of a high degree of liquidity through the possibility of shifting assets, temporarily or by outright sale, to the Federal Reserve. At one time, discussion of bank liquidity was based on the implicit assumption of a free and independent market for the securities held by banks. For some time this assumption has not been entirely valid; the market has been largely what the Federal Reserve authorities chose to make it. While it may be questioned whether the Federal Reserve Banks are likely to be called upon to fulfill the function of ultimate shiftee on a large scale, it seems doubtful that they could evade the responsibility of doing so if the need should arise.

Finally, the United States Treasury has come to hold a major position in financial affairs. The Board of Governors of the Federal Reserve System declared as long ago as in its report for 1938 that "the Treasury's powers to influence member bank reserves outweigh those possessed by the Federal Reserve System." This was a reflection of the decreased effectiveness of Federal Reserve instruments of control, as well as of the expanded power of the Treasury. From certain points of view it would seem fortunate that the decline in effectiveness of Federal Reserve measures has been accompanied by an increase in the power possessed by the Treasury. At the same time it emphasizes the importance of this greater power being exercised in suitable coordination with the activities of the Federal Reserve authorities.

E ~ Financial Developments Since 1914

17 Financial Policies in the First World War

In looking back upon the financial history of the First World War, it is easy to forget how different the world of 1914–1920 was from the world of 1939–1945. The differences were not wholly those of magnitude, however, for even though the Second World War was on a scale which completely dwarfed the First World War, the financial, economic and military problems created by the first war were probably as great, relative to previous experience and to the prevailing pattern of production and finance, as those which were raised by the later war.

Background of the Financial Policies of the First World War

The pace of American involvement in the First World War was, to say the least, unhurried. In the two years prior to our declaration of war in April 1917, Treasury disbursements on the military establishment, far from being expanded, were actually reduced. Two months before our entry into the war, Congress was still debating whether or not to undertake military preparations and it was another month before taxes to pay for preparedness were actually voted. Federal outlay began to exceed revenue about the

time we entered the war, but deficits remained relatively moderate for another year. The peak of spending for military purposes was not reached until after the signing of the armistice. This helps to explain why some of the more extreme effects of war finance occurred during the year and a half after the conclusion of hositlities.

The country was considerably less united in its attitude toward the war than it was a quarter century later. So great was the pro-German sentiment in certain sections of the country that banks had to face the hostility of their customers if they took too active a part in the Liberty Loan campaigns. The Secretary of the Treasury found it necessary to issue an announcement that if any bank was threatened on this score by its depositors, the government would undertake to prosecute them for disloyalty. The Comptroller of the Currency announced that he would publish the names of national banks which failed to support the government's loan campaigns actively. Seventy-three banks were listed as having failed to subscribe to the first Liberty Loan either for their customers or for themselves. A similar list for the second Liberty Loan included only nineteen banks. About the same time, the Comptroller revoked permission to organize a certain national bank on the ground that the applicants had contributed practically nothing to the Liberty Loans. Early in the war, Iowa passed the so-called "spite bank bill" giving the State Superintendent of Banks the power to veto the establishment of new banks. The law was declared to be necessary because of threats that after the war new banks would be organized to drive out of business banks which had disregarded the wishes of their customers by supporting the war effort.

When war broke out in 1914, the institutional framework of finance was relatively undeveloped. The Federal Reserve System, though authorized the year before, did not begin

operations until several months later. The Federal Reserve was new, inexperienced and the object of considerable hostility in this particularly critical period of its history.[1] Its success in meeting the immediate testing of the war years established it in the American financial structure more firmly than many years of normal peacetime operations might have done.

During the war, and largely because of it, the new central banking organization quickly achieved size, power and prestige, but the American banking system as a whole retained much of its original character. It comprised many thousands of small unit banks, the majority of them subject only to the widely varying standards set by state banking laws. The Federal Land Bank System was instituted in 1917 and the War Finance Corporation, precursor of the Reconstruction Finance Corporation, the same year, but the elaborate collection of governmentally initiated financial institutions which featured the period of the Second World War was entirely absent.

Underlying and largely governing the financial policies of the period was a general adherence to the traditional, conservative peacetime rules of "sound" finance, strongly influenced by a laissez faire philosophy. Governmental controls were relatively unimportant. Central bank policies were in their infancy and commercial banking was thought of in terms of lending on the basis of short-term self-liquidating commercial paper. The principles of federal finance were not sharply differentiated from those of private finance and the interest rate was assumed to be a satisfactory, or at least a necessary, regulator of credit in war as in peace.

[1] Not long before, the American Bankers Association had passed a resolution opposing the establishment of the proposed Federal Reserve System on the ground that it was socialistic.

Monetary Policy

The outbreak of hostilities in Europe was the signal for a wholesale withdrawal of foreign capital from this country. In order to avert complete demoralization of the money market, the stock exchanges were closed and not reopened until the following December. With the sudden demand for foreign exchange caused by the repatriation of foreign capital, the principal foreign currencies went to a substantial premium in terms of the dollar, i.e., the dollar fell to a discount relative to these other currencies.

The leading belligerents abandoned convertibility into gold at the start of hostilities and the United States placed an embargo on gold exports soon after our entry into the war. Even though convertibility between the dollar and gold was maintained within the United States, the restrictions on the export of gold constituted abandonment of the international gold standard. Exchange rates between the dollar and the pound sterling and the French franc were kept at a fixed level, a little below the old parity, by a policy known as "pegging." The dollar fell to a considerable discount, however, in terms of a number of currencies—including the Spanish peso, Swiss franc, Japanese yen and some of the currencies of Latin America—which fully retained their position relative to gold.

A drain of gold from the United States resulted from the repatriation of foreign capital at the start of the war (Table XI), but a little later the expansion of exports of food and war materials to the belligerent countries led to a heavy flow of gold to this country. This movement virtually ceased after our entry into the war. Early in 1919, the United States lifted its embargo on gold and the dollar was again back on the international gold standard. A considerable exportation

of gold occurred, but it was not long before the movement was reversed and the dollar commanded a premium over some of the foreign currencies in which it had previously been at a discount.

Treasury Policies

The constitutional amendment legalizing the Federal Income Tax was enacted in 1916, just in time to permit the use of this form of taxation in financing the war. Federal expenditures rose from $734 million in the fiscal year ending June 1916 to $18,515 million three years later (see Table XII). While federal expenditures at that time fell far short of the heights reached in 1942–45, the growth relative to the scale of expenditures at the start of the period was much greater. Between a quarter and a third of federal expenditures in the fiscal year 1918–19 were covered by taxation, and of total tax receipts nearly two-thirds came from income and excess profits taxes.

Notwithstanding a sevenfold increase in tax receipts between 1916 and 1920, the First World War was financed chiefly by borrowing. Most of the money borrowed came from individual investors. An important feature of war finance was the policy whereby the public was encouraged to pay for bonds by loans from banks, pledging the bonds thus acquired as security for the loans. Besides appealing to patriotism and exerting strong pressure in other ways to induce the public to subscribe to government bonds, the Treasury adjusted the rates of interest and offered tax-exemption privileges in an effort to make bonds attractive. Machinery was established for supporting the price of outstanding issues and in 1918 the Treasury asked for and obtained an increase in the level of income taxes for the avowed purpose of strengthening the market price of tax-

exempt obligations.[2] During most of the period, higher rates were paid on short-term than on long-term issues. Partly for this reason but chiefly because of the anticipated dangers of a large floating debt, short-term issues, which amounted to something over 14 per cent of the total debt in 1918 and 1919, were largely refunded in longer term issues. After the completion of the Victory Loan, little attention was given to supporting the price of government bonds and by 1920 certain issues had fallen more than 18 per cent below the par value.

Government borrowing during the First World War was based chiefly on Treasury obligations in the form of short-

TABLE XI. *Gold Stocks and Gold Movements, 1914–1922*
(In millions of dollars)

Year	Gold Stock (end of year)	Increase or decrease (−)	Domestic gold production	Net gold import or export (−)
1914	1,526	−100.2	93.4	−165.2
1915	2,025	499.1	99.7	420.5
1916	2,556	530.7	91.1	530.2
1917	2,868	312.2	82.3	180.6
1918	2,873	4.9	67.4	21.0
1919	2,707	−165.8	59.5	−291.7
1920	2,639	− 68.4	49.9	95.0
1921	3,373	734.6	48.8	667.4
1922	3,642	268.5	47.3	238.3

Source: *Banking and Monetary Statistics*, p. 536.

term certificates of indebtedness and longer term bonds and notes. The sale of short-term Treasury certificates was a way of obtaining funds in advance of the elaborately planned

[2] The average rate of interest paid on government obligations was between 4 per cent and 4½ per cent per annum. At the time, the rate paid by the Treasury was regarded as extremely low. The difficulty experienced in maintaining the price of outstanding issues was generally attributed to the coupon rate being unduly low.

TABLE XII. *Treasury Finance, 1916–1922*
(In millions of dollars)

Fiscal year ending June	Receipts	Expenditures			Debt
		NATIONAL DEFENSE	INTEREST ON DEBT	TOTAL [a]	
1916	783	337	23	734	972
1917	1,124	618	25	1,978	2,713
1918	3,665	6,149	190	12,697	11,986
1919	5,152	11,011	619	18,515	25,234
1920	6,695	2,358	1,020	6,403	24,061
1921	5,630	1,768	999	5,116	23,737
1922	4,109	935	991	3,373	22,711

Source: *Banking and Monetary Statistics*, pp. 512–13.

[a] Includes loans to foreign governments amounting to $9,598 million for the period 1917–22. This sum includes $4,738 million in 1918 and $3,479 million in 1919.

Liberty and Victory Loan drives. In large measure the loan drives were in the nature of funding operations whereby short-term debt was converted into long-term debt. It was intended that by selling certificates at intervals and having them mature at a rate to correspond to the yield of bond sales, a fairly even flow of funds into and out of the Treasury could be maintained. However, this ideal adjustment of certificates to bond sales was not fully achieved.

It was hoped that because of their short maturities and satisfactory yields the loan certificates would appeal to banks, but no great enthusiasm for them was manifested. Prior to the third Liberty Loan, a system of quotas for the purchase of certificates was introduced and the Secretary of the Treasury sent a telegram to every bank and trust company in the country urging it to subscribe. Before the fourth Liberty Loan campaign, the banks were virtually ordered to subscribe to certificates at a monthly rate equivalent to 5 per cent of their total assets. These methods served to provide a wider and more even distribution of the

certificates among the banks of the country than might otherwise have obtained. While loan certificates were convertible into longer term government securities as issued, banks showed a tendency to hold on to certificates because of their greater liquidity. Thereupon, the government undertook to force their conversion by announcing that it would withdraw deposits from banks that failed to pay at least 50 per cent of their loan subscriptions in the form of certificates. This action was only partially successful in hastening the retirement of certificates.

Commercial Bank Operations, 1914–1921

LOANS TO THE GOVERNMENT

In the First World War, commercial banks were a minor but by no means unimportant lender to the government. At the outbreak of war, most of the outstanding federal debt was lodged in commercial banks, much of it serving as backing for national bank notes. Between the middle of 1917 and the middle of 1919, the federal debt increased by $22.5 billion. About $3.6 billion or 16 per cent of this amount was acquired by commercial banks. The changes in commercial bank holdings relative to the total national debt from 1916 to 1920 were as follows (in millions):

	1916	1917	1918	1919	1920
Bank holdings of Treasury securities	$753	$1,545	$3,215	$5,143	$3,751
Total federal debt	972	2,713	11,986	25,234	24,061
Percentage of debt held by banks	77.5	56.9	26.8	20.4	15.6

The decline in bank holdings of Treasury obligations from the peak reached in 1919 was partly a reflection of the feeling on the part of many bankers that they were not a suitable type of asset for commercial banks. On this ground

certain of the Reserve Banks urged member banks to get rid of their government securities.

LENDING TO THE PUBLIC

The banks' part in financing war involves considerably more than supplying the Treasury with necessary funds. It is likely to entail providing credit for enterprises engaged in war production and may include lending to individuals in order that they in turn may lend to the government.

Between the outbreak of war in Europe in 1914 and our entry into the war in 1917, loans and discounts of national banks rose by 36 per cent. The total continued to rise thereafter at about the same rate until 1919, when the rate of increase became still more rapid. A considerable proportion, at times a major proportion, of the increase in loans that took place between 1917 and 1919 was in the form of loans on the collateral of government bonds. Loans of this type, which were popularized under the slogan "Borrow and Buy," constituted one of the distinctive features of financial policy during the First World War. A customer of a bank was allowed to buy a government bond and pay for it with the proceeds of a loan secured by the bond itself. The rate charged by the bank on the loan was customarily the same as the rate paid by the government on the bond serving as collateral. Since the loan was repaid either currently or out of a deposit which had been accumulated gradually, the effect was similar to the purchase of a bond on the installment plan. While these loans were technically of a private character, their effect was to make bank credit indirectly available to the government.

There can be little doubt that the action of the banks in lending to their customers on the security of government bonds contributed materially to the success of the Liberty and Victory Loan drives. At the same time, considerable dis-

satisfaction was expressed both then and later with the policy of "borrow-and-buy." Banks experienced some difficulty with the loans and their general effect was unquestionably inflationary.

BANK EXPANSION

From 1914 to 1920 was a period of extraordinary growth and prosperity for the banks of the United States. The number of commercial banks increased by over 4,000 and deposits and earning assets of all banks more than doubled (Table XIII). While the percentage increase in commercial bank holdings of government securities was greater than that of loans, the bulk of the growth in earning assets measured in terms of value was accounted for by the increase in loans and discounts which rose from a total of $13 billion in 1914 to $28 billion in 1920. The volume of loans grew by nearly $6 billion in the single year 1919-20 or by almost half the total amount of loans six years before. From the standpoint of the commercial banks of the country, then, the war years were a period of extraordinary expansion, with most of the expansion of assets taking the form

TABLE XIII. *Commercial Banks, 1914–21*
(Value figures in millions)

At or near end of June	Number of Banks	Loans	Investments		Deposits
			U. S. GOVERNMENT	OTHER	
1914	25,510	$13,171	$ 818	$2,865	$17,390
1915	25,875	13,519	802	3,152	17,993
1916	26,217	15,768	752	3,891	22,079
1917	26,831	18,185	1,545	4,133	25,885
1918	27,859	20,073	3,211	4,096	28,011
1919	29,087	22,363	5,147	4,250	32,739
1920	29,788	28,103	3,748	4,443	36,114
1921	29,458	26,073	3,386	4,760	32,987

Source: *Banking and Monetary Statistics*, p. 19.

of a growth in private lending. Unfortunately, much of this increase was associated with badly inflated commodity and real estate prices, a fact which was to prove the undoing of many thousands of banks during the next dozen years.

The Federal Reserve Banks, 1914–1921

FISCAL OPERATIONS

Their position as fiscal agents of the Treasury gave the Federal Reserve Banks a central role in the financial operations of the war. In each of the Reserve Districts, the Governor of the Reserve Bank headed the regional loan organization. Reserve Banks were responsible for issuing securities and handling funds resulting from their sale and for sending out the advertising matter used in the loan campaigns. Some conception of the scale of these operations is afforded by the estimate that during the third Liberty Loan campaign, seven tons of material advertising the loan were mailed out daily including Sundays for distribution in the Chicago Reserve District alone. The total amount of such material allocated to the Chicago District during one drive was 300 tons. This included, for instance, one poster for every twenty-five persons in the District. The use of posters and similar displays probably exceeded any advertising effort ever made before or since.

The services performed by the Reserve Banks in connection with war financing entailed a very substantial cost to them, and the Treasury provided no reimbursement for the added expense. The growth in volume of Reserve Bank business was so great, however, that these years were by far the most prosperous in the entire history of the Reserve System. In the year 1919, the net earnings of the Federal Reserve Bank of New York were over 200 per cent of its paid-in capital. In the following year the average for all the

Banks was in excess of this figure, only three of the Reserve Banks failing to earn 200 per cent of paid-in capital.[3]

At the end of June, 1919, the Federal Reserve Banks held Treasury obligations amounting to $232 million or just under 1 per cent of the outstanding federal debt. This was apart from loans extended on the collateral of government bonds.

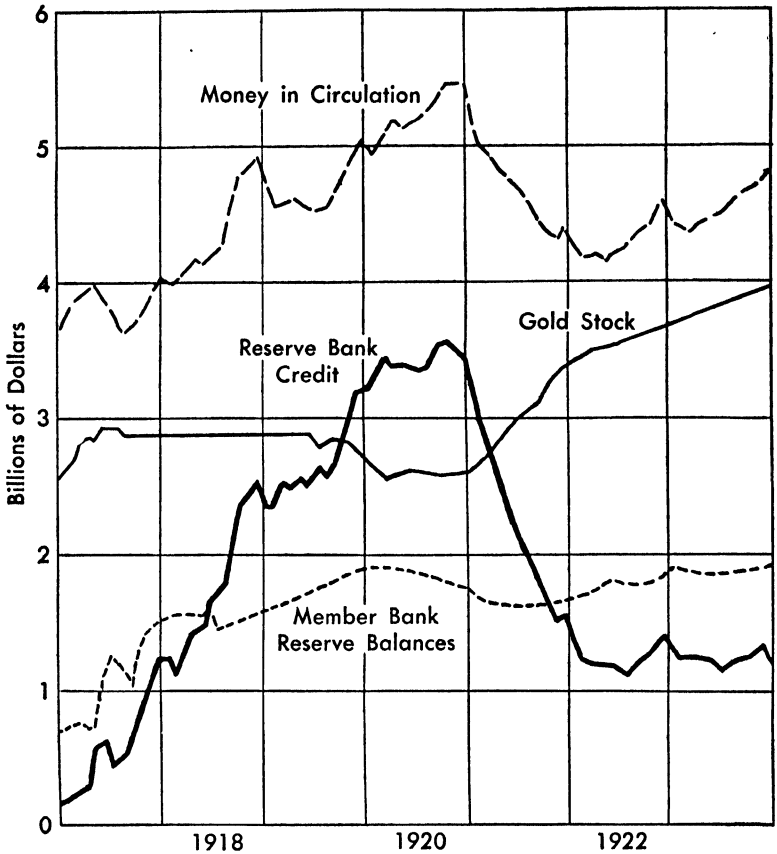
LOANS AND DISCOUNTS

An important division of Federal Reserve activities had to do with providing member bank reserves. Inasmuch as credit expansion by the banking system was conditional upon the existence of adequate reserves in the hands of individual banks, this phase of Reserve Bank operations was of fundamental significance. The principal method whereby member banks acquired additional reserves was through collateral loans and rediscounts at the Federal Reserve Banks. The total of Reserve Bank loans and discounts rose from $20 million just prior to our entrance into the war to $2,200 million in November 1919.

The discount policy of the Federal Reserve was strongly influenced by consideration for government financing. At the very start of the Liberty Loan program, the New York Federal Reserve Bank established a lower rate on loans secured by Liberty Bonds than on other types of loans; and a differential in favor of such loans was maintained, except for a short interval at the start of 1920, until the middle of 1921. Discount rates, moreover, were set below the level of rates prevailing in the market, the rate on loans secured by Liberty Bonds and Victory Notes being below the coupon rate and the rate on commercial paper being below the market rate for such paper. This action was defended on the ground that the abnormal conditions existing in time of

[3] *Annual Reports of the Federal Reserve Board* for 1919 and 1920, pp. 37 and 89 respectively.

CHART XII. *Reserve Bank Credit and Related Items, 1917–1922*



Source: Adapted from *Federal Reserve Charts.*

war and the Treasury's policy of borrowing at low rates made any other course, in the words of Reserve officials, "impracticable."

The most important feature of Federal Reserve financing during and after the war consisted of granting "advances," i.e., loans to member banks on the collateral of federal ob-

ligations. The total of such advances reached a peak of nearly $2 billion in May 1919; at that time they represented over 91 per cent of all Federal Reserve loans and discounts. The Reserve Bank credit made available in this way helped to provide a substantial portion of the reserves upon which the growth of deposit credits was based. Open market operations, on the other hand, were of relatively small proportions, involving purchases amounting in all to only about $300 million.

The extent of member bank borrowing from the Reserve Banks is indicated by the fact that for a considerable period of time the volume of member bank indebtedness was greater than total legal reserves. This is equivalent to saying that the member banks as a whole were operating entirely on borrowed reserves. Leading features of the monetary and credit expansion of the period after our entry into the war are shown in Chart XII. The rise in Reserve Bank credit in 1918–20 reflects the manner in which the facilities of the new central banking organization were called upon to meet the demands arising out of the increase in currency in circulation, the growth in required reserves of member banks and, during part of the period, the drain of gold reserves out of the country. A reversal of these influences was largely responsible for the sharp contraction of Reserve Bank credit in 1921.

STABILIZATION OPERATIONS

An important part of Federal Reserve operations consisted of equalizing the movement of reserve balances among the Banks of the different Federal Reserve Districts. The drain of reserves from one Bank to another and from one part of the country to another followed a fairly definite pattern. The Reserve Banks in certain districts, particularly those in the East, lost reserves to Reserve Banks in the West

during the war, only to find their position reversed afterward. Reserves of the Federal Reserve Banks were kept at the desired level by borrowing between Banks, with the result that any tendency toward regional stringency was overcome. The extent of the accommodation thus afforded is indicated by observing that adjusted reserves of certain of the Federal Reserve Banks, i.e., reserves less borrowing from other Reserve Banks, fell below 10 per cent of note and deposit liabilities, compared with legal requirements of 40 and 35 per cent respectively.

In order to increase the ability of the Reserve System to meet the demands made upon it, steps were early taken to concentrate legal reserve money in the hands of the Federal Reserve Banks. Patriotic appeals were addressed to member banks and others to induce them to turn in gold. Where formerly a considerable proportion of required reserves could be held in the form of vault cash and deposits with correspondent banks, member bank reserve requirements were changed in 1917 to provide that all legal reserves must be in the form of deposits with the Reserve Banks. The purpose of this change was primarily to compel them to transfer gold to the Reserve Banks.[4]

The proportion of monetary stocks of gold held in the Reserve Banks rose from 13 per cent at the beginning of January 1915 to 26 per cent two years later and reached 68 per cent at the beginning of 1919 and 74 per cent at the beginning of 1920. The ability of the Federal Reserve System to exert a stabilizing influence and to meet banks' demands for accommodation was partly the result of the success of the new central banking organization in assuming

[4] The ratio of required member bank reserves was lowered at the same time. Since cash in vault and deposits with other than Federal Reserve Banks could no longer be counted as legal reserve, the nominal reduction in reserve requirements, far from increasing the volume of excess member bank reserves, had the effect of greatly reducing the excess.

a dominant position with respect to basic gold reserves. The volume of gold in the hands of commercial banks and the public was destined never again to assume large proportions.

It was upon the Reserve Banks that the strain of meeting the credit demands of the war and early postwar period tended to rest. The task of accommodating the financial structure of the country to the exigencies of war-time needs was not, however, confined to the Federal Reserve System. A considerable degree of voluntary control was exercised over the New York money market by the financial community itself. The Money Subcommittee, created as part of the Liberty Loan organization, also undertook to assist in maintaining orderly conditions in the market. At its first meeting in September 1917, this committee decided to make arrangements with a large number of banks and trust companies to accumulate funds for use by the committee in preventing government borrowing operations from forcing rates up too far. The sum of $200 million was soon placed at the disposal of the committee to administer at its descretion. The committee functioned as expected until the second half of 1918 and was given a large share of the credit for maintaining short-term rates at levels of 6 per cent or below. Governor Strong, head of the Federal Reserve Bank of New York, later declared that the work of this committee, by protecting the market for securities generally, was of great help in assuring a satisfactory market for government obligations.

CRITICISM OF FEDERAL RESERVE POLICY

Immediately after the Armistice, a slight recession in industrial production set in and lasted until early in 1919. From March onward, a speculative situation developed which grew steadily more pronounced. In January, 1920 the

New York Federal Reserve Bank raised its rediscount rate from 4¾ to 6 per cent and four months later to 7 per cent where it remained for a year. Following the start of the downturn in prices and business activity in May 1920, a severe liquidity crisis developed in certain sections of the country. In an effort to curb excessive borrowing by particular banks without unduly penalizing other banks, a system of progressive rates was established in four of the districts where pressure on the Reserve Banks was particularly heavy, Kansas City, Dallas, St. Louis and Atlanta. Banks were granted a "basic line" and borrowing in excess of this amount was at a higher discount rate.[5] The Kansas City Bank made use of what were called "super-rates." It was in this District that the famous incident occurred of a member bank borrowing from the Federal Reserve Bank at an effective rate of 87 per cent.

In the Dallas District, where the liquidity crisis was relatively late and particularly severe, the demand for credit was acute. In December 1921 the member banks situated in Oklahoma were borrowing an amount equal to 521 per cent of their basic lines. For all member banks in the District, borrowing at the end of 1921 was equal to 142 per cent of basic lines.[6]

The liquidity crisis was rendered more difficult for banks because of the decrease in lending by certain other credit

[5] *Annual Report of the Federal Reserve Board* for 1920, p. 58. A bank's "basic line" was nominally the amount of free funds made available to the Reserve Bank by the member bank. It was calculated at two and a half times the bank's contribution to Reserve Bank capital plus 65 per cent of the member bank's legal reserve. The basic line did not set a limit to possible accommodation at the Reserve Bank; it was permissible to borrow in excess of the basic line for seasonal or emergency reasons. The primary purpose of establishing basic lines was to safeguard the rights of other member banks by preventing a few banks from pre-empting more than their fair share of Reserve Bank facilities.

[6] *Annual Report of the Dallas Federal Reserve Bank* for 1921, p. 8; *Annual Report of the Federal Reserve Bank of Kansas City* for 1920, p. 10.

institutions, among them insurance companies, trust companies and the Federal Farm Land Banks.[7] The decrease was particularly marked in the farm mortgage field, and this probably accounts in part for the greater strain on banks in agricultural than in urban communities. The strain on banks was aggravated in agricultural areas by the fact that in the market for private credit they occupied the position of residual lender. The greater success of banks in cities in weathering the liquidity crisis may mean, in part, that in the cities the withdrawal of other lenders was a less important influence.

Opposition to restrictive measures of the sort introduced was, of course, to be expected; it was rendered especially violent by the deflation of agricultural and general commodity prices. The chorus of denunciation was led by the agricultural groups who blamed the Federal Reserve for the recession of farm prices from their inflated postwar level. The President of the American Cotton Association demanded that "the Federal Reserve Board and Wall Street divorce relations and give us a financial machinery that will function for the business of the people of the country and not for any vested wealth," and he went so far as to predict a repetition of Andrew Jackson's Bank War.

The critics pointed to the large profits realized by Reserve Banks as proof that discount rates were excessive. Some bankers also joined the opposition, complaining that high discount rates either denied banks the services of the Federal Reserve System or forced them to charge their customers usurious rates. Inasmuch as the very purpose of the high discount rate was to curb credit expansion, this criticism shows a strange lack of understanding of the methods and motives of central bank procedure. Neverthe-

[7] *Annual Report of the Minnesota Federal Reserve Bank* as given in the *Annual Report of the Federal Reserve Board* for 1920, p. 515.

less, Governor Strong [8] found himself on the defensive and declared that he was "mortified" that earnings were so high, adding that "we do not want those earnings." He explained the high profits of the Reserve Banks on the basis of the large volume of business transacted rather than the high rates imposed.

The Federal Reserve was, in effect, caught in a cross-fire of criticism. On the one hand, it was attacked for having maintained too liberal a policy during and immediately after the war and of having thereby contributed to inflation. On the other hand, it was accused, particularly by the agricultural group, of having brought about the postwar collapse in commodity prices by raising its rates too high. In answering critics of Federal Reserve policy, Governor Strong minimized the possible effectiveness of high discount rates as a means of checking inflation. He argued that prices, certainly in the early days of the war, "advanced in response to competitive bidding which could not be controlled . . . and the Federal Reserve System was a bystander . . . of that proceeding." The credit expansion that took place during the war he characterized as "inevitable, unescapable, . . . necessary and . . . defensible," and added that "had we endeavored to force economy—economy of credit and economy in consumption of goods—upon the people of the United States by discount rates, we would have been inviting disaster." Later he declared that "irrespective of any policy that might have been adopted by any particular bank or system of banks . . . what . . . happened was bound to happen anyway. This great wave of expansion of prices had reached its climax and it was bound to break." [9]

The final report of the Congressional Committee which

[8] Quoted in Charles R. Whittlesey, *The Banking System and War Finance*, New York, National Bureau of Economic Research, 1944, pages 21–22.
[9] *Ibid.*

investigated the financial record of the war and postwar period, notwithstanding its rather measured tone, supported the view that the credit policies of the Federal Reserve left much to be desired. The Committee concluded that discount policy had been too greatly subordinated to the wishes of the Treasury and particularly to the desire of the Treasury for easy money. It was suggested that the advantage of low rates thus made possible on government borrowing was more than offset by the resultant high prices.

The committee maintained that an earlier resort to firmly restrictive measures would have diminished the difficulties of 1920–21 which they viewed as the culmination of "a period of expansion, extravagance and speculation, the like of which has never before been seen in this country or perhaps in the world." [10] By the time restriction was seriously begun, the inflationary process had gone too far to be brought safely under control. Finally, the committee characterized as inexcusable the failure of the Reserve System to ease discount rates earlier than it did after the onset of the recession in 1920.

The Financial Consequences of the First World War

MONETARY EXPANSION

During the six years from July 1914 to June 1920, the circulating medium of the United States, comprising currency and demand deposits, increased by 102 per cent. As is characteristic in time of war, the percentage growth in the volume of currency in circulation was considerably greater than in the volume of demand deposits. The relatively greater expansion in currency than in deposits is largly explained by such factors as the rise in incomes among groups not accustomed to extensive use of checks, population shifts

[10] *Ibid.*

which disturbed old banking connections and interfered with the establishment of new, the expansion in retail trade and possibly a desire to facilitate evasion of high wartime taxes.

PRICES

The increase in prices in the period of the First World War was greater than that which occurred during the greenback inflation in the War Between the States. In the first two years of the war, 1914–16, the change in level of wholesale prices kept close pace with the change in volume of circulating medium. In the next year the increase in prices was much greater than the increase in circulating medium, and for the period as a whole prices rose considerably more than the volume of circulating medium (cf. Chart XXII, *infra*). From 1914 to 1916, wages per hour failed to keep step with the rising cost of living, so that real wages on an hourly basis declined. Thereafter, hourly wages increased more rapidly than cost of living, but it was not until 1920 that real wages were back to the 1914 level (Table XIV).

The rise in prices of agricultural products was somewhat greater than that for commodities in general and this increase was reflected in a sharp rise in prices of farm real estate. The behavior of prices during these years had a pronounced influence on the number of commercial failures from 1915 to 1922. The number of commercial failures, which totaled 22,156 in 1915, fell to 6,451 in 1919, only to rise to 23,676 in 1922, a figure not equalled again until 1928.

BANKING

The increase in volume of business and the rise of prices which occurred during the war and which was accelerated after the end of hostilities left commercial banks in a greatly

expanded condition. A large proportion of the loans and discounts held by banks were based on commodities priced far above their former level and on farm real estate whose price was likewise abnormally high. The position of banks in agricultural areas was particularly vulnerable to a decline in the level of prices; many of the banks were small, the business of their clients was not well diversified and they were loaded up with paper which rested on a badly inflated price structure.

TABLE XIV. *Wages and Cost of Living, 1913–1921*

Year	Wages Per hour	Cost of Living	Real Wages
1913	100	100	100
1914	102	103	99
1915	103	105	98
1916	111	118	94
1917	128	142	90
1918	162	174	93
1919	184	188	98
1920	234	209	112
1921	218	177	123

Source: *Statistical Yearbook for 1933*, p. 292.

Prices turned in the middle of 1920 and within a year one of the sharpest and most pronounced price deflations in history carried the level of wholesale prices to a point more than 40 per cent below the peak reached in 1920. The number of bank failures rose to 167 in 1920 and 505 in 1921; but that was only a beginning. From 1921 to 1933, suspensions of commercial banks totaled nearly 15,000 and reduced the number of banks to about half the number in operation in 1920. In large measure, this protracted episode of loss and dissolution was the legacy left by the hectic prosperity of the war period. The sorry record of the years following the war demonstrated that however successful the commercial banks of the country may have been in solving the short-run

phase of the fundamental banking problem during the war, they failed utterly in solving the long-run phase of the problem.

The accomplishments of the war period, notwithstanding the criticism evoked, established the Federal Reserve System solidly in the American financial structure. No serious doubt remained in the minds of the banking community concerning the advantages of having a bankers' bank such as the Federal Reserve provided. Moreover, the accommodation afforded by the Reserve Banks was not confined to credit and fiscal operations; during the influenza epidemic of 1918–19, the Federal Reserve Bank of Philadelphia enabled local banks to remain open by lending members of its staff as replacements for employees who were ill.

The experience of these years cannot be said, however, to have raised the Federal Reserve Banks to the stature of a central banking system as we now understand the term. The Reserve Banks partook more of the character and psychology of very large private banks than of a central institution charged with the formulation and discharge of credit policy at the highest level. Of the characteristic instruments of credit policy, only the discount rate was used to any extent—and that rather badly. Open market operations as a significant instrument of credit policy were not developed until a little later; the powers to change reserve requirements and alter margin requirements were added during the depression of the thirties; and the Treasury bill policy and control over consumer credit were introduced during the Second World War.

The First World War was a major influence in the rise of the Federal Reserve System. But while it presented the Reserve Banks with a great opportunity, it can hardly be said to have done more than lay the basis for their later development.

18 ~ Monetary and Banking Developments Between the Wars

For the financial community as a whole, the period of liquidation and readjustment after the First World War may be said to have been completed during 1922. A general upward movement of banking items, including bank earnings, occurred in 1923 and 1924, and by 1925 a considerable degree of prosperity had been achieved. But thousands of banks were still to pay with their lives for the proliferation of banks and the over-extension of credit that occurred during the war years, factors closely related to the high level of commodity prices and real estate values attained at that time. From the larger point of view, therefore, the period of readjustment and liquidation may be thought of as continuing to 1933 or beyond.

Quantitative Changes in Banking

At the turn of the present century, 10,382 banks were in operation in the United States. Twenty-one years later the number was nearly three times as great, 30,812. Thereafter, and most rapidly from the start of the depression in 1929 to the closing of the banks in 1933, the number of banks declined. By 1939 there were less than half as many banks

as in 1921. The decrease was caused by mergers, consolidations and, above all, failures. The record of bank failures during these years is without parallel in this or any other country. In the State of Florida, more banks failed from 1921 to 1933 than were in existence in 1921, and the experience in many other states was hardly less calamitous.

Changes in the number of banks are only one index, and a somewhat misleading one, of the course of banking developments during these years. Figures of deposits and bank assets provide a very different picture. The growth in the average size of banks more than offset the decrease in number of banks from 1921 to 1929, and the same was true again after 1935. Despite the greatly reduced number of banks at the start of the Second World War, the totals of deposits and of bank assets were larger than ever before in our history (Table XV). It should be noted that a certain amount of distortion results from the fact that the figures for 1929 relate to the peak period shortly before the break in the stock market which marked the beginning of the depression, and the figures for 1933 to the depressed period shortly after the reopening of the banks following the Banking Holiday.

TABLE XV. *Banks in the United States and Possessions, 1900–1939* (On or about June 30. Value figures in millions)

	Number of Banks	Total Assets	Total Deposits
1900	10,382	$10,786	$ 8,513
1910	23,095	22,450	17,584
1920	30,139	52,828	41,725
1921	30,812	49,585	38,665
1925	28,841	61,898	51,995
1929	25,330	71,719	57,911
1933	14,624	51,294	41,534
1935	16,053	60,347	51,586
1939	15,146	73,601	64,577

Source: *Annual Reports of the Comptroller of the Currency.*

Prosperity and Boom, 1922–29

Financial developments of the interwar years fall into three clearly defined periods, the first terminated by the stock market collapse in 1929, the second by the inauguration of the Roosevelt Administration, and the third by the start of the war in Europe.

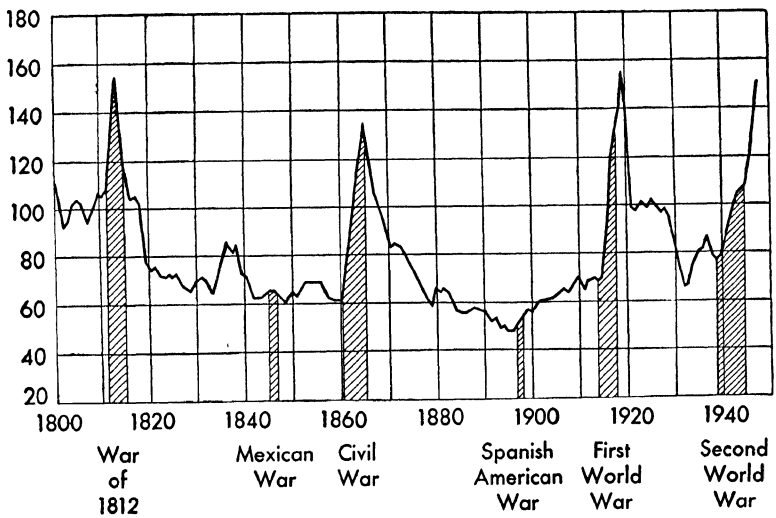
THE ATTEMPT TO STABILIZE PRICES

The early twenties witnessed the start of one of the most ambitious attempts ever made to stabilize the general price level, and with it the purchasing power of the dollar. Popular acceptance of the quantity theory of money had given rise to a widespread belief in the feasibility of price level stabilization. Confidence in the powers of the Federal Reserve to control money and credit and in the effectiveness of price level stabilization in promoting stable economic activity generally combined to encourage the introduction of such a policy. There followed, from 1922 to 1929, one of the longest periods of stable prices, as measured by indexes of wholesale prices, in the history of this country. For this, the Federal Reserve System under the leadership of Banjamin Strong, Governor of the Federal Reserve Bank of New York and the outstanding figure in the history of central banking in the United States, was largely responsible. This was the heyday of Federal Reserve credit control policy and marks the peak of confidence inside and outside the System in the powers of the Federal Reserve authorities (see Chart XIII).

A number of significant lessons emerged from the experience of these years. In the first place, it was shown all too clearly that stabilization of the wholesale price level was no guarantee of the long-run stabilization of the economy as a whole. Secondly, it became clear that stable wholesale

prices could exist alongside great instability of other price series. Despite stable wholesale prices, the period was featured by an extreme rise in the price of real estate and in security prices. In short, the general price level (corre-

CHART XIII. *Wholesale Prices in the United States, 1800–1947* (1926 = 100)

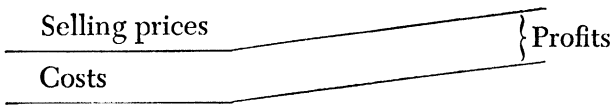


Source: Adapted from *Sixteenth Annual Report* of the Bank for International Settlements, p. 49.

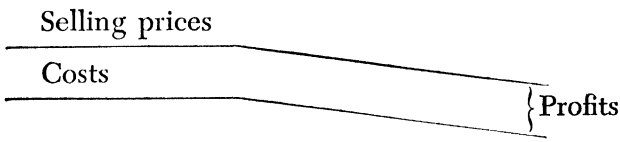
sponding to P in the equation of exchange) is by no means homogeneous, but is composed of many different classes of prices which may behave in varying fashion.

The final lesson to be drawn from the attempt at price level stabilization in the twenties is the distinction between what is sometimes called "absolute" and "relative" inflation. Theretofore, it had been customary to look upon inflation as a simple matter of rising prices. These years were to disclose that the same phenomena of expanded profits and

distorted price relationships such as occur when prices move up ahead of costs:



could also occur if costs declined with selling prices remaining more or less constant:



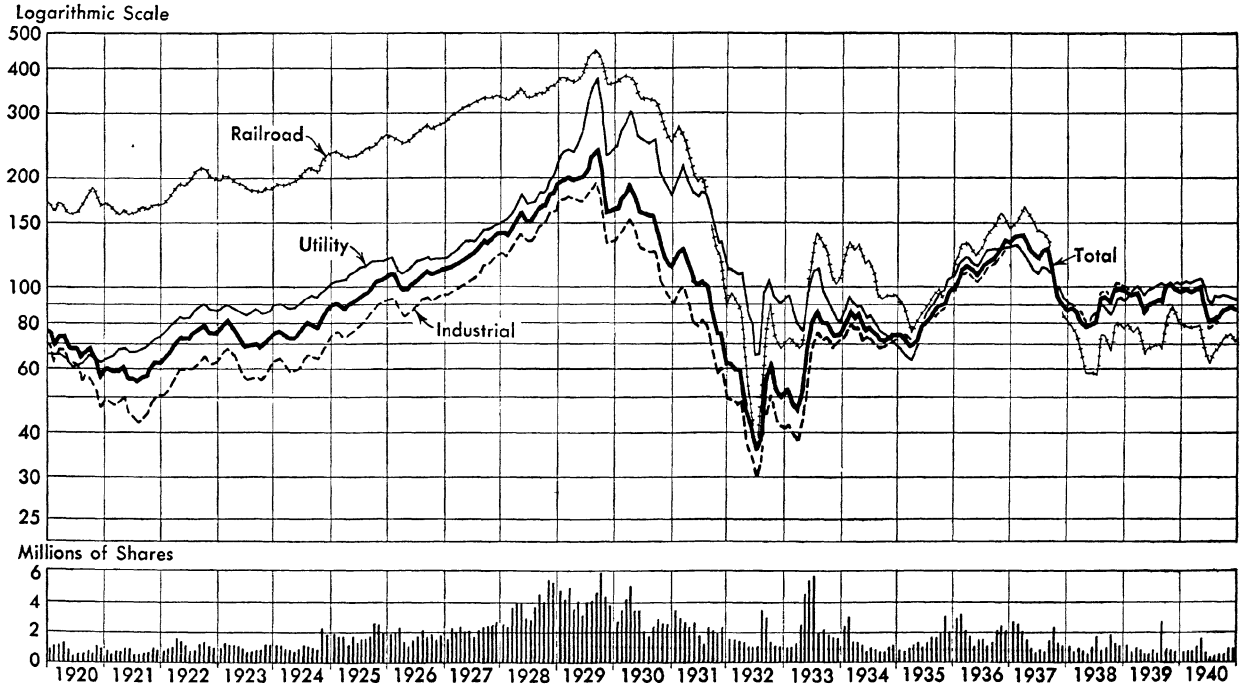
To the first of these situations, which is the familiar pattern ordinarily associated with inflation, is given the name "absolute inflation," and to the other the name "relative inflation." At a time such as the twenties when technological advance and the introduction of production-line methods were contributing to a reduction in costs of production, a policy of stabilizing the general level of selling prices was almost bound to produce many of the characteristic features of inflation.[1]

OTHER FEATURES OF THE BOOM

The later twenties are chiefly marked in public memory by the extraordinary boom in the stock market and the succeeding collapse. The volume of security flotations stood at a high level throughout the period, rising to a peak of nearly $12 billion in 1929 (Table XVI). Not only was the total volume impressive, but so also was the fact that by far the largest part consisted of new capital. In the middle forties, by contrast, the bulk of private flotations were for

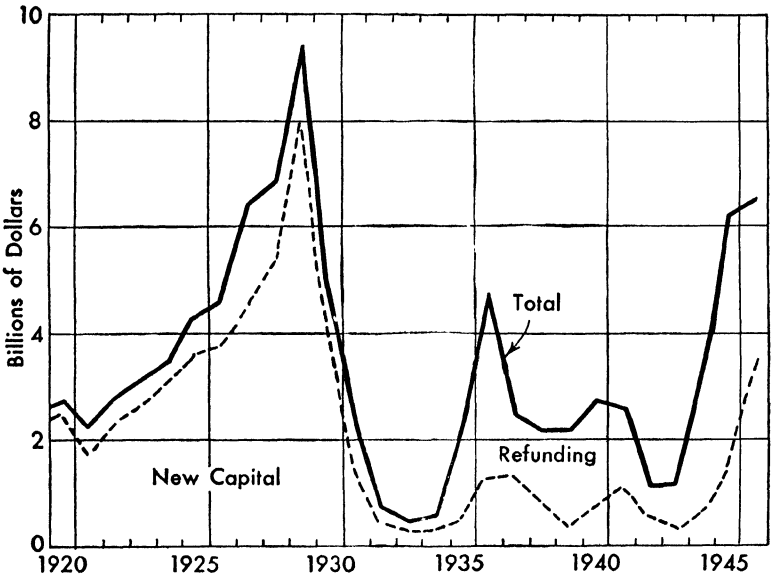
[1] A similar phenomenon of "relative" inflation is reported to have developed in Holland during the middle thirties.

CHART XIV. *Stock Prices and Volume of Shares Traded, 1920–1940*



Source: *Federal Reserve Charts.*

CHART XV. *Corporate Security Issues, New and Refunding, 1920–1946*



Source: *Federal Reserve Charts.*

refunding purposes to take advantage of the decline in interest rates. The difference, however, is much less significant than might appear. In 1929 a very high proportion of the so-called new capital issues consisted of investment company, holding company and other issues where the proceeds were merely used to acquire securities and other existing assets. In the forties, on the other hand, nearly all of the new issues were for capital expansion and not for the acquisition of securities or other existing assets. Issues of foreign securities in the American market during the twenties, while large relative to what they were later, were much smaller than domestic issues [2] (Charts XIV and XV).

[2] It is worth noting also that the peak of foreign borrowing was passed well before 1929.

The action of the Federal Reserve Banks in holding down the discount rate in order to avoid draining gold reserves from abroad is believed to have contributed to the speculative boom in Wall Street. To the extent that funds were then attracted to this country by the stock market boom, the action of the Reserve Banks—which had been designed to facilitate the restoration and maintenance of the international gold standard—may have had the opposite effect from what was intended.

From June 1922 to June 1929, adjusted demand deposits and currency outside banks rose by a little over one-fifth.[3] The annual rate of turnover of demand deposits of member banks in New York City, on the other hand, doubled between 1922 and 1929 and increased by nearly one-third for banks in one hundred other leading cities throughout the country. These comparisons suggest two observations. In the first place, the rise in rate of turnover of money (V) may have been a more important factor than the increase in quanitiy (M) in determining how prices, including in that term *all* prices, behaved during these years. Secondly, the great rapidity of monetary circulation in New York City was undoubtedly associated with the inflation in security markets which centered there.

The Great Depression, 1929–1933

In the four years from June 1929 to June 1933, practically all the deposit expansion which had occurred in the preceding seven years was wiped out. Where deposits had risen by nearly $17 billion during the period of prosperity and boom, they now declined by over $16 billion, or considerably more sharply than they had risen.

[3] Because of a shift in the manner of classifying demand and time deposits, the extent of the increase may have been somewhat greater than is indicated here.

TABLE XVI. *New Security Issues, 1920–1941*
(Millions of dollars)

		New Capital	
	REFUNDING	DOMESTIC	FOREIGN
1920	342	3,235	497
1923	682	4,016	421
1926	1,044	5,189	1,125
1929	1,420	9,420	673
1932	554	1,165	32
1935	3,242	1,409	48
1938	2,089	2,325	35
1941	2,693	2,852	1

Source: *Banking and Monetary Statistics*, p. 487.

FEDERAL RESERVE POLICY

The Federal Reserve authorities had become concerned over the development of speculative activities on the stock exchange at the close of 1927. Starting shortly thereafter, they endeavored to curb further increases in loans on securities by advancing the discount rate, selling securities in the open market and, in 1929, exerting direct pressure on member banks. Conflict of opinion within the circle of Federal Reserve officials and strenuous protests from without the System impeded the pursuit of a more vigorous policy in combatting the boom. Action, when it came, was too limited and too late.

The immediate effect of the break in the stock market in October 1929 was to cause a heavy withdrawal of funds by panic-stricken, nonbanking members and, consequently, a sharp increase in the demand for bank credit on the part of brokers. Member banks in New York City came to the rescue of the brokers by taking over a large amount of brokers' loans. In the course of one week, October 23 to October 30, the loans and investments of reporting member banks in New York City increased from $7.6 billion to $9

billion. This increase was possible only because the Federal Reserve Bank of New York provided the necessary additional reserves, the amount of reporting member banks' reserves rising from $739 million to $982 million. Outside New York City, bank credit nowhere showed a substantial advance during the week of the crisis, though minor increases occurred in Chicago, Boston and St. Louis.

Despite valiant assistance afforded by the Federal Reserve Banks in providing liquidity at times of particularly heavy strain, the great depression was a period of distinct frustration for the Federal Reserve System. The extent of the boom in 1928 and 1929 was influenced by overconfidence in the ability of the Federal Reserve System to prevent crisis. It was an easy descent from this state of undue confidence in the Federal Reserve to a state of excessive disillusionment. In this prevailing hopelessness, the Federal Reserve authorities, as their efforts to expand credit by lower discount rates and open market purchases proved unavailing, came generally to share.

A combination of drain of gold abroad, demand for increased currency in circulation and spreading bank closings placed commercial banks and the Reserve Banks under heavy pressure in early 1933. The ability of the Reserve Banks to assist in meeting the liquidity crisis had been considerably increased as a result of legislation enacted a year before. To relieve an impending shortage of gold, the Glass-Steagall Act was passed early in 1932 giving the Federal Reserve Banks the power to use United States government securities as collateral against Federal Reserve notes. Since gold previously held in excess of the 40 per cent reserve requirement was thereby released, the effect was to increase the amount of available gold reserves by well over a billion dollars. By authorizing the Reserve Banks under special conditions to accept ineligible paper as collateral, the Glass-

Steagall Act also made it possible to extend assistance to member banks that lacked adequate amounts of eligible paper.

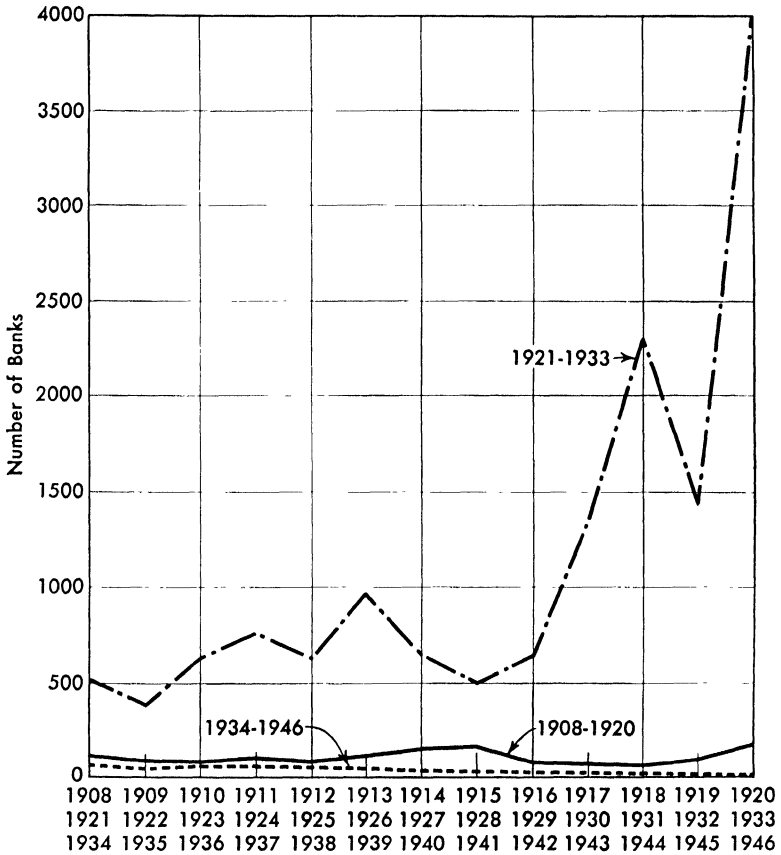
Notwithstanding these measures of relief, the increase in Federal Reserve notes in circulation and the decrease in gold holdings that occurred early in 1933 reduced the ratio of Federal Reserve Bank reserves by March 3 to 45.3 per cent of combined note and deposit liabilities. The required ratio on that date was 38 per cent. Anticipating an even greater need for Federal Reserve credit, the Board found it advisable to suspend reserve requirements for a period of thirty days from March 3, with a tax on the amount by which reserves were deficient. With the improvement in conditions after the reopening of the banks, little use was made of this suspension and it was not renewed at the end of the thirty-day period. In view of the powers yet remaining to the Reserve Banks, it was not because of inability on the part of the Federal Reserve Banks to extend further credit that a general Banking Holiday was declared.

COMMERCIAL BANKS

The worsening of the general financial situation after 1929 was reflected in a decline in combined net profits of all banks in 1930 to a little over half what they were a year before. By 1931 they had all but disappeared. The principal concern of bankers, however, was not the lack of earnings but the deterioration in quality of assets through defaults on loans and shrinkage in the market value of investments. The immediate problem became one of survival. A rough guide to the extent of this deterioration in quality of assets is afforded by Table XVII showing the percentages of losses charged off on earning assets. The rising ratio of losses applied to both loans and investments.

Banks whose difficulties became known to the public were

CHART XVI. *Bank Suspensions in Three Thirteen-year Periods, 1908–1946*



Source: Federal Deposit Insurance Corporation, *Annual Report for 1946*, p. 13.

subjected to heavy withdrawals of deposits. Forced liquidation of assets contributed to further declines in market values. There was a sharp increase in the rate of bank suspensions, and the dumping of assets of failed banks exerted still another depressing influence. A decline in the number

of bank failures in 1932 led Will Rogers to observe that the apparent improvement merely meant that we were running out of banks. The record of bank failures during the period of the depression was extremely bad (Chart XVI). It is scarcely less remarkable, however, that so many failures should have occurred in the decade of the twenties, a period that was notable for the general prosperity and high level of business activity which prevailed throughout the country as a whole.

In the earlier years of the depression, banks in the large centers were the recipients of a flight of capital to banks believed to be stronger. The wave of cash withdrawals early in 1933, however, resulted in a liquidity crisis whose chief impact was upon banks in New York. Both reserves and excess reserves of member banks in New York City were reduced drastically despite a large increase in borrowing at the Federal Reserve Bank. The greater pressure on New York banks was largely accounted for by the heavy withdrawals of correspondents' balances.

THE GOLD STANDARD

In the six weeks following Britain's abandonment of the gold standard in the autumn of 1931, the United States lost nearly three-quarters of a billion dollars of gold. A second sharp outflow of gold occurred in May and June of 1932. The net loss of gold in these two movements amounted to approximately $1.1 billion. In the second half of 1932, the flow was reversed and by the end of the year the country's gold stock had gained about $600 million from the low point. The banking system was able to withstand the pressure caused by the flow of gold abroad and the expansion of currency in 1931 and 1932, mainly because of the ability of the Federal Reserve Banks to extend credit to member banks. At the beginning of 1933, however, gold reserves

TABLE XVII. *Percentage of Losses Charged off on Earning Assets, 1919–1941*

Years	Loans and Discounts	Investments
	NATIONAL BANKS [a]	
1919	0.32	0.55
1920	0.23	1.48
1921	0.63	1.89
1922	1.20	0.73
1923	1.02	0.43
1924	0.86	0.48
1925	0.75	0.44
1926	0.70	0.41
1927	0.62	0.43
1928	0.61	0.41
1929	0.59	0.65
1930	0.70	0.89
1931	1.42	1.55
1932	2.52	2.80
1933	2.85	3.21
1934	4.93	2.59
1935	2.56	1.28
	ALL INSURED COMMERCIAL BANKS [b]	
1936	1.57	0.69
1938	0.94	1.03
1939	0.81	0.96
1940	0.62	0.80
1941	0.49	0.57

[a] Year ending June 30.
[b] Year ending December 31.

Sources: *Report of the Comptroller of the Currency,* 1926, p. 54, and 1935, p. 95; *Annual Reports of the Federal Deposit Insurance Corporation.*

began to decline again and this time the movement continued until it was stopped, and the pressure on banks relieved, by the closing of the banks and an embargo on the export of gold. These measures constituted the first major official action of President Roosevelt after his inauguration.

Abandonment of the gold standard in this country and

abroad was the manifestation in considerable part of a sharp reversal of public opinion. Prior to the onset of the great depression, the general public in this country had been inflation-conscious. This attitude had been strongly reinforced by the examples of extreme inflation during and after the First World War. As a result of the prolonged deflation starting in 1929, the public, here and abroad, became just as strongly deflation-conscious; and deflation came to be popularly associated with the gold standard. This acute awareness of the evils of deflation, assuming at times the proportions of an obsession, not only helps to account for our own action with respect to gold, but served to color monetary and fiscal policies throughout the ensuing years.

Money and Banking under the Roosevelt Administration, 1933–1939

Never before in our history had there been such a period of legislative activity affecting money and banking as in the early years of the Roosevelt Administration. The principal laws enacted from 1933 to 1935 were:

Emergency Banking Act of 1933 (March 1933)
Thomas Amendment to the Agricultural Adjustment Act (April 1933)
Banking Act of 1933 (June 1933)
Gold Reserve Act of 1934 (January 1934)
Silver Purchase Act (June 1934)
Banking Act of 1935 (August 1935)

In addition there was a succession of other laws, resolutions, rulings, executive orders, and messages and statements of policy by the President. Many of the provisions dealt with matters narrowly related to the immediate emergency, or were of a temporary character. Other parts of the legislation, such as provisions of the much criticized Thomas

Amendment authorizing the issue of three billion dollars of greenbacks and the establishment of bimetallism at the discretion of the President and at a mint ratio to be determined by him, were not exercised and were subsequently repealed.

Many of the steps taken at this time were condemned as bad economics and some, notably the Congressional resolution abrogating the gold clause in existing contracts, as bad morals. Few would deny that the measures adopted were hasty, often ill-conceived and sometimes conflicting. It is probable, however, that the show of vigorous leadership and the tactics of shock helped, particularly in the first days after the closing of the banks, to arouse the financial community from the fear and paralysis which had oppressed it for so long. At any rate, it cannot be denied that from the opening of the banks after the Banking Holiday the banking system—whether because of the New Deal or in spite of it—moved steadily forward in strength and prosperity.

In view of the speed and scope of the action taken from 1933 to 1934 it is rather surprising that so much of lasting value was accomplished. That a certain amount of bad has remained along with the good is perhaps inevitable. The following pages indicate the principal monetary and banking changes introduced at that time which appear, after the lapse of a good many years, to be of the greatest interest and importance.

MONETARY DEVELOPMENTS

Major objectives. The hectic early days of the Roosevelt Administration allowed little time for working out a considered and consistent monetary program. Coupled with this fact was a strong determination on the part of the Administration to adopt positive action of some sort at a time when the customary sources of monetary policy had little that was definite and decisive to offer. Under the cir-

cumstances, it is far from easy to trace clear lines of monetary thought and action. Nevertheless, it appears that the financial policies of the Roosevelt Administration were influenced, consciously or unconsciously, by a desire to achieve the following major objectives:

a. Restoration of commodity prices and thereafter the maintenance of, in the words of the message sent to the London Economic Conference by President Roosevelt in July 1933, "a continuing purchasing power which does not vary greatly in terms of commodities."
b. Insulation of the bases of credit, and of the monetary system generally, from external influences.
c. Encouragement of investment and industrial expansion.
d. Prevention of a speculative boom in Wall Street.

These assorted and potentially inconsistent objectives help to explain the distinctive monetary and banking policies which characterized the period: the departure from gold, the gold purchase program, the sterilization and desterilization of gold; easy money policies; introduction of new instruments of credit control such as the provision for changing margin requirements; and the verbal attacks on "malefactors of great wealth" and "money-changers."

Principal monetary developments. The major monetary action of the period was the abandonment of the gold standard and the subsequent devaluation of the dollar in terms of gold to 59.06 per cent of the former parity. This represented an increase in the dollar price of gold from $20.67 to $35 an ounce. At the same time, changes were introduced in the provisions governing the operation of the gold standard which had the effect of giving us a gold bullion standard with restricted convertibility. Approximately $2.8 billion was immediately realized as profit from writing up the value of the monetary gold stocks to their new dollar equivalent. Of this amount, two billion was set

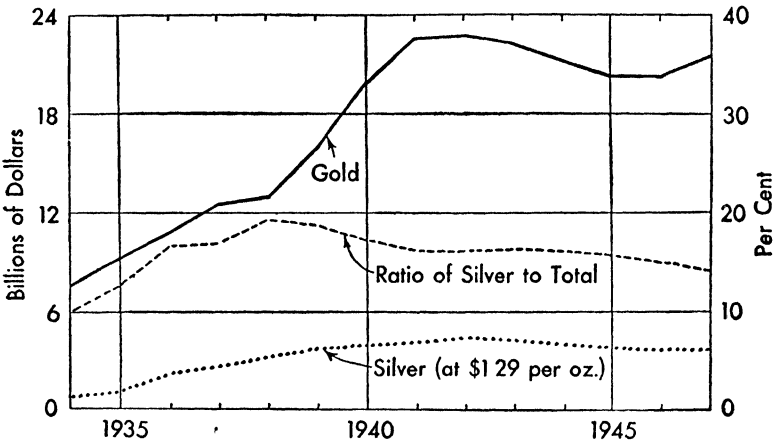
aside to provide an Exchange Stabilization Fund and the remainder was appropriated to such uses as direct loans to industry through the Federal Reserve Banks and retirement of bonds which had been used as backing for National Bank notes.

Late in 1933 the Treasury embarked upon the Warren Gold Purchase Program, so named because of the authority on farm administration, George Warren of Cornell University, who was its author and sponsor. When commodity prices failed to respond as readily as had been hoped, the policy was abandoned and the price of gold stabilized at the new rate of $35 an ounce. For about sixteen months from 1936 to 1938 the Treasury pursued a Gold Sterilization Policy, whereby the effect of gold imports on bank reserves was largely offset through the sale of Treasury obligations in the open market. Of the monetary improvisations introduced in these years the most desirable was the Exchange Stabilization Fund, whose name indicates its purpose. Very little, however, can be said to have been accomplished by the Fund. The Silver Purchase Policy, which was primarily a production subsidy in the guise of monetary legislation, calls for more extended treatment.

The Silver Purchase Act of 1934. The silver legislation of the Roosevelt Administration was of the same general character as earlier silver purchase acts, with the principal difference that it involved far larger sums and was not repealed. It called for purchases of silver by the Treasury until the price of silver reached $1.29 an ounce or the value of Treasury stocks of silver, computed at $1.29 an ounce, reached one-third the value of our gold stocks. Payment was to be made by the issue of silver certificates in amounts sufficient to cover the cost of the bullion acquired. Where the ratio of 25 per cent of silver (valued at the unrealistic price of $1.29 per ounce) to combined gold and

silver stocks was contemplated under the Silver Purchase Act, the highest point actually reached was a little over 19 per cent in 1938 (Chart XVII). Thereafter the rate of gold imports increased and the rate of silver acquisitions declined or was reversed. After the start of the war, no serious effort was made to accomplish the objectives of the law.

CHART XVII. *Monetary Stocks of Gold and Silver, 1934–1947*



Source: Data from *Treasury Bulletin.*

The arguments on which the passage of the law was based were almost wholly specious. The claim that it would increase the monetary reserves of the country disregarded the fact that silver does not constitute legal reserves, and could be counted as monetary reserve only if we were to adopt a bimetallic or silver standard. Moreover, our gold reserves were already adequate at the time—and were destined shortly to expand enormously. The argument that the law would increase the purchasing power of the Orient and so promote our export trade overlooked the fact that silver

was not used as a means of paying for imports by the oriental countries, and in addition that our exports to China, the principal country in question, were being considerably better maintained than our exports to countries which had been on the gold standard. The most that can be said in defense of the silver legislation is that it may possibly have forestalled even more uneconomic proposals which were then current.

Despite purchases between 1934 and 1941 of double the amount of silver called for at the time of the passage of the law, the Treasury was farther away from the goal of a one-to-three ratio in our stocks of silver and gold at the end of the period than it had been at the start. The reason for this strange result is that, rapid as was the increase in Treasury holdings of silver, the growth in gold reserves was more than three times as fast. The chief benefit from the silver policy was that derived by foreign and domestic producers of the metal. The most significant consequences of the Silver Purchase Act, however, were the abandonment of the silver standard by China, which for years had been the greatest source of demand for silver in the world, and a reduction or abandonment of the use of silver as circulating medium in many countries, including India and the United Kingdom. As a result of these moves, supplies of silver bullion were poured into world markets by these countries.

BANKING DEVELOPMENTS

By and large, the banking legislation of the Roosevelt Administration was on a considerably higher plane than the monetary legislation, a fact which may indicate that we were better equipped to deal with banking than with monetary problems and that Congress and the Executive were less inclined to take the initiative in this particular field than in the other. In any case, the American banking system,

including both the Federal Reserve and the commercial banks, was substantially altered and improved by the legislation of 1933-35.

The Federal Reserve System. A number of changes were introduced in the administrative organization of the Federal Reserve System. Among the more important were the elimination of ex officio membership by the Secretary of Treasury and the Comptroller of Currency on the Board of Governors, modifications with respect to terms of service by the Governors, greater centralization of control by the Board over officers of the Reserve Banks and the member banks, and the legal establishment of the Open Market Committee as a permanent feature of the Federal Reserve organization.

Even more important were the changes relating to Federal Reserve powers. The Board of Governors was given the power, for example, to change reserve requirements of member banks, set margin requirements on security loans, make direct loans to industry, limit the rate of interest paid on time deposits and suspend from use of the System's credit facilities a member bank found to be making improper use of bank credit.

Commercial banks. One of the most important of the changes directly affecting commercial banking was the prohibition of the investment affiliates of commercial banks, which had attained great popularity during the late twenties. The action was based on a belief that integration of investment and commercial banking by this means had caused confidence in banks to be weakened through unfavorable reports relating to the operations of their affiliates, and had led to unwise or even unethical practices, including dangerous underwriting operations, the dissipation of banking assets to support affiliates and the maintenance by affiliates of a market for the banks' own

stock. According to one writer, himself a banker as well as a recognized authority on banking:

> The bank was likely to be loaded with affiliates, its assets purloined to benefit a subsidiary, its officers and directors biased in their judgments by adverse interests in affiliates, and its credit wrecked by publicity of sharp deals or by known support of weak securities in which the outfit was interested.[4]

Along with the elimination of investment affiliates, restrictions were placed on interlocking directorates between banks and investment companies.

Certain modifications were made with respect to the conditions of membership in the Federal Reserve System, including admission to membership of Mutual Savings Banks and Morris Plan banks. There was some liberalization in the rules governing the establishment of branch banks. The provision imposing double liability on the stock of national banks was eliminated. Banks were prohibited from paying interest on demand deposits and made subject to control in respect to the rate paid on time deposits. Determination of the types of securities in which member banks may invest was placed under the direction of the Comptroller of the Currency.

The Federal Deposit Insurance Corporation. Establishment of the F.D.I.C. was the Administration's answer to the problem of bank failures which had plagued the country for a dozen years. The corporation was set up with a three-man board of directors consisting of the Comptroller of Currency and two members appointed by the President for six-year terms. Capital was provided jointly by the Treasury and the Federal Reserve Banks. All Federal Reserve member banks were required to join the F.D.I.C. and in

[4] Ray B. Westerfield, *Money, Credit and Banking,* New York, Ronald Press, 1938, p. 929.

addition all but a small number of the nonmember commercial banks have chosen to do so.

Deposits are fully insured up to a maximum of $5,000 for each depositor. All deposits of insured banks are subject to an assessment of 1/12 per cent a year. Thus deposits in excess of $5,000 are assessed even though they are not insured. Since the start of the F.D.I.C., from 96 to 98½ per cent by number of all deposits in insured banks have been fully protected and from 39 to 45 per cent by dollar amount. In case of failure the F.D.I.C. makes insured deposits immediately available, ordinarily in the form of deposits in some other bank in the vicinity. In addition to taking charge of the affairs of failed banks, it shares in the task of examining and supervising the country's banks. Among other duties, it regulates the rate of interest paid on time deposits by insured nonmember banks.

In the early years of the F.D.I.C. (1937 and 1938) as many as 50 insured banks failed in a single year and half as many more merged in order to avoid failure. The situation improved greatly after 1939, and in 1945, for the first time in at least three-quarters of a century, not a single bank failure occurred in the entire country. From 1934 to 1945, a total of 245 banks were placed in receivership and 153 were merged with the financial aid of the F.D.I.C. Disbursements in connection with failures and mergers came to $262 million during this period and net losses to a little over $31 million. Meanwhile $640 million was added to surplus after administrative expenses, and losses and expenses in connection with the insurance of deposits.

By 1946 the assets of the Corporation had passed the billion dollar mark. Accordingly, in 1947 the F.D.I.C. initiated a policy of returning to the Treasury out of its accumulated earnings a sum equal to the amount of money which had been advanced to provide the initial capital for the Cor-

poration. The Act authorizing retirement of the initial capital specified that it should not decrease the Corporation's assets below one billion dollars. The first payment under the terms of the Act totaled nearly $147 million.

At the inception of the F.D.I.C., it was criticized as violating recognized principles of insurance, since the rate of assessment was not scaled to the apparent risk of loss among those insured and assessments are paid on deposits in excess of $5,000 which are not accorded protection. It was argued that the protection afforded depositors would make it unnecessary for banks to maintain high standards in order to attract business, thereby encouraging lax banking methods. In the course of time, opposition to the F.D.I.C. has gradually died out and today no serious complaint is heard, though recommendations are occasionally made for a reduction in the rate of assessment. The F.D.I.C. has apparently become an accepted and permanent feature of the country's financial structure.

The years from 1933 to 1939 were also notable for the rapid expansion in holdings of investments by commercial banks and the practice of large-scale and continuous deficit financing by the government as a means of promoting economic recovery. The first of these subjects has been commented on earlier and the second will be discussed in Chapter XXIV.

19 Financial Policies in the Second World War

At the outbreak of war in 1939, there was tremendous slack in the American economy, notwithstanding the stimulus already afforded by the imminent prospect that there would be a war. This situation of slack was characterized by from seven to ten million unemployed and an abundance of idle productive capacity. We had grown accustomed to a high degree of governmental participation in economic affairs and we were equipped with an extensive array of governmental agencies capable of adaptation to the guidance or conduct of wartime economic activity. The Federal Reserve System in turn was in possession of various instruments of policy and had a wealth of knowledge and experience to draw upon.

The total federal debt amounted to nearly $41 billion at the end of August 1939, compared with less than $1 billion at the outbreak of war in 1914. At the start of heavy war financing the national debt was double what it was at the end of financing the First World War. The altered fiscal position of the Treasury was not without its practical advantages: after nine years of continuous deficit, the Treasury was thoroughly familiar with large-scale borrowing opera-

tions, and banks and private investors with the technique of lending to the government.

In short, economic and ideological conditions at the start of the First and Second World Wars were strikingly different. These differences help to explain why the financial history of the two periods, notwithstanding numerous similarities, presents so many significant contrasts.

Monetary Developments

THE INTERNATIONAL MONETARY SITUATION

August 1939 found the world without any such common international monetary system as the gold standard had provided twenty-five years earlier. There was instead a wide diversity of monetary practice. At one extreme stood the United States, holding to a modified gold standard—which could not, because of the lack of adherence by other major countries, be called international. At the other extreme were Germany and a number of other countries, maintaining arbitrary quotas for their currencies by policies which entailed stringent control of all transactions involving foreign exchange. In between were many countries, including Great Britain, France and numerous satellites, which exercised more moderate control over exchange operations than that prevailing in Germany.

The start of war in Europe was the signal for a stiffening of the control of exchange dealings by both belligerent and nonbelligerent countries. Gold stocks had already been pretty well concentrated in the hands of treasuries and central banks, but now other types of assets, particularly stocks and bonds of foreign corporations, were brought under governmental supervision and in many instances compulsorily transferred to the government.

SECURITY MARKETS

The fact that the New York security markets were spared the sudden shock which led to their being closed from August to December 1914 was partly because the war merely brought about an extension of authoritarian policies already in existence abroad and, therefore, more or less familiar. Security and exchange markets could not be demoralized by a rupture of the international gold standard because of the simple fact that, as a consequence of the events of the thirties, there was no longer an international gold standard to break down. Exchange rates could not fluctuate as they once had done, because there was nowhere a free market for foreign exchange.

While there was never any apparent question of the security markets being closed, the immediate effect of the declaration of war in 1939 was a sharp decline in bond prices. During the week ending September 6, 1939, the index of United States government bond prices fell from 107.3 to 103.2 and two weeks later was down to 100.8. Reflecting the drop in market prices, the yield on Treasury bonds, which had averaged 2.13 per cent in June, jumped from 2.27 per cent in the week ending August 26 to 2.74 per cent four weeks later, and similar changes occurred in the yield on municipal and high-grade corporate bonds. On the other hand, the prices of common stocks rose almost as sharply as bond prices fell.

Security markets were again upset by the events of December 1941, but with certain conspicuous differences. The decline in Treasury bond prices was considerably less than in 1939, from an index of 112.1 in the week ending December 6, 1941 to 110.5 a week later and 109.9 in the week of December 27. The fall in the price of municipal bonds was about the same as it had been in 1939, but common stocks

which previously had risen about 10 per cent within a period of three weeks declined more than 10 per cent in the same length of time following Pearl Harbor. The yield on Treasury bonds rose from 1.87 per cent, which was very near their low point up to that time, to 2.02 per cent three weeks later; the yield on municipal bonds rose from 1.9 per cent to 2.32 per cent. The effect of these differences was to widen considerably the spread in yields between Treasury bonds and municipal and high-grade corporate obligations.

In both periods the break in security prices was largely influenced by the recollection of past effects of war on interest rates and security prices; and in both instances the temporary weakness was met by prompt action on the part of Federal Reserve officials. In the two weeks ending September 13, 1939, the Federal Reserve Banks increased their holdings of Treasury securities by $400 million. During the ensuing weeks, there was a gradual recovery in the bond market and by the end of the year, security prices, yields and the volume of Federal Reserve holdings of Treasury issues were not far from what they had been shortly before the outbreak of war. Following Pearl Harbor, the security market was again supported by Federal Reserve purchases, but this time the assistance required to assure orderly conditions was much less than it had been in 1939.

GOLD AND INTERNATIONAL CAPITAL MOVEMENTS

From the start of 1934, there was a heavy flow of gold to the United States (Table XVIII). With the growing prospect and then the fact of large-scale war, the movement of gold to this country approached the proportions of an avalanche. From 1934 to 1938, net imports of gold amounted to an average of $1,510 million per annum. In 1939 imports rose to a total of $3,574 million, most of the increase oc-

curring in the second half of the year, and in 1940 they amounted to $4,744 million.

So heavy a movement of gold was bound to come to an early end, if for no other reason than that there was simply not enough gold in the world to allow it to continue. The inauguration of Lend-Lease early in 1941, by furnishing the allied powers with an alternative method of acquiring war

TABLE XVIII. *Gold Movements to and from the United States, 1934–46* (In millions of dollars)

Calendar Year	Net United States Imports of Gold	Net Imports from or Net Exports (–) to: UNITED KINGDOM	FRANCE	NETHERLANDS	CANADA	JAPAN
1934	1,132	500	260	94	87	—
1935	1,739	316	934	227	95	—
1936	1,117	174	574	71	73	—
1937	1,586	892	–14	6	111	246
1938	1,974	1,209	81	163	76	169
1939	3,574	1,826	4	342	613	166
1940	4,744	633	242	63	2,622	112
1941	982	4	—	—	412	9
1942	316	2	—	—	209	—
1943	69	—	—	—	67	—
1944	–845	–695	—	—	46	—
1945	106	160	—	—	53	—
1946	311	458	–14	–6	344	—

Source: *Federal Reserve Bulletin.*

materials, dispensed with the main reason for shipping gold to the United States. After our own entry into the war, the heavy importation of raw materials into the United States and restrictions on the export of commodities in exchange gave rise to large dollar balances in favor of many countries in Latin America and elsewhere. Part of these dollar balances were converted into gold either to be held under earmark in this country or to be exported. As a consequence,

monetary stocks of gold in the United States declined from $22.7 billion at the end of June 1942 to about $20 billion at the end of 1945. One of the factors contributing to the continuous flow of gold to the United States prior to 1941 was the large movement of capital to this country in that period. So much has been said about the strong creditor position of the United States that it comes as a surprise to

TABLE XIX. *Net Movement of Capital to the United States, 1935–46* (In millions of dollars)

Calendar Year	Total Net Movement [a]	Short-term Banking Funds	Domestic Securities	Foreign Securities
1935	1,441	993	317	125
1936	1,227	428	601	191
1937	834	287	245	267
1938	413	329	57	27
1939	1,199	1,135	−85	116
1940	695	842	−245	78
1941	−454	−244	−262	52
1942	626	583	47	−7
1943	1,287	1,168	28	78
1944	461	149	211	93
1945	1,074	1,216	−113	−47
1946	−793	−734	−334	265

[a] Total includes net change in brokerage balances amounting to $154 million from 1935 to 1946.

Source: *Treasury Bulletin.*

discover that the United States was a heavy debtor on current capital account from 1935 to 1940, the net import of capital in the six-year period totaling $5,727 million (Table XIX). In those years the United States imported capital at a greater average annual rate than we exported capital during the decade of the 1920's. Chiefly as a result of Lend-Lease, we were a very large exporter of capital from 1941 to 1945, but on private account we remained a capital importer even then.

FOREIGN FUNDS CONTROL

The first move to freeze control of foreign assets in the United States was taken when Norway and Denmark were invaded in April 1940. Similar action was taken as one country after another came under the domination of the Axis powers. In June and July 1941, the policy was extended to include Germany, Italy and Japan themselves. At China's request, it was also applied to China, thus preventing the occupied parts of China from being used as a loophole for evading our control. The assets subjected to freezing included bank deposits, gold, securities, merchandise, patents and other form of property. Licensing provisions made possible the relaxation of control where conditions warranted. Administration was under the Treasury Department and the Alien Property Custodian.

The purposes of the foreign funds control were to protect the assets of invaded countries, to safeguard American citizens against future claims in case the assets should be diverted to nationals of the occupying countries and, last but not least, to serve as an effective instrument of economic warfare against the Axis countries.[1]

INVASION CURRENCY

An interesting aspect of monetary policy during the war, and one which has occasioned more controversy than the merits of the case justify, was the issuance of currency for the use of troops in liberated and enemy areas. It was impossible to know in advance just what sort of currency conditions would be encountered at the time of invasion; in Tunisia, for example, the Germans flooded the country with francs before the American invasion in the hope of

[1] From *Summary Report of the Secretary of the Treasury,* 1945. Washington, July 21, 1945, pp. 80–83.

causing uncontrollable inflation, while in Sicily they ordered the banks to destroy Italian currency before the arrival of our troops. Various tactics were employed in preparation for whatever course the enemy might choose, as well as to meet the obvious monetary requirements of an occupying army. In North Africa, use was made first of "yellow seal" United States dollars and later of local currency. In Italy "yellow seal" dollars were used for a short time and then succeeded by a special issue of Allied military lire. The armies which landed in Normandy carried "supplemental francs" printed in the United States, but in Belgium and Holland they used currency which had been prepared by the respective governments in exile in London. Allied military marks and schillings were on hand when it came time for the advance into Germany and Austria.

With the exception of the "yellow seal" dollars, the invasion currency used in the western liberated countries was not in any way currency of the United States. The local government and central bank assumed responsibility for its redemption, and the United States Treasury obtained whatever was required for troop payments and other expenditures by paying in dollars or by reverse land-lease. The necessary disbursements formed a part of Congressionally authorized Army and Navy appropriations.

Because of the inflation prevailing in China, a different procedure was followed there with the consent of the Chinese Government. American troops were paid in United States currency and special arrangements were entered into with the Chinese authorities for the settlement of major military expenditures.

CIGARETTE MONEY

A curious feature of monetary development during the war and after was the widespread use of cigarettes as

money. The cigarette was beginning to establish itself in the role of currency in both occupied Europe and Great Britain as early as 1941. From then on its development in the different areas was similar but not identical. According to a writer in *The Economist* of London:

In Britain it never, even at the height of the American occupation, went so far as to replace the existing metal or paper coinages. In occupied Europe it did. Starting from modest beginnings in Germany and the occupied countries, it reached its full flower during 1944 as Europe was liberated. As the armies with seemingly unlimited supplies of cigarettes available behind them replaced those with more meager resources, so did the acceptance of the currency spread. In terms of goods it probably reached its peak value in the second quarter of 1945, although that date was not constant over all Europe. During the first days of the liberation of Holland, for example, a single cigarette there was equivalent to an English pound, while simultaneously its value in France was perhaps no more than sixpence. Such unfortunate variations are inevitable when the introduction of a new currency is left largely to chance.[2]

The same writer adds that because cigarettes were subject to deterioration, their velocity of circulation was maintained at a fairly high rate. Moreover:

It was reasonably small in size and conveniently packed. It was generally available in such supply that the single unit had a value not too different from that of the standard national metal currency. It did not perish if properly stored. It was light in weight. It could not easily be forged or counterfeited and by a happy chance of history its dimensions were very largely internationally standardized. In short, the practical genius of mankind saw it as a heaven-sent currency medium and used it accordingly.[3]

[2] *The Economist*, April 12, 1947, p. 526.
[3] *Ibid.*

Fiscal Policies

World War I was regarded at the time as an enormously costly undertaking, yet the entire cost of that war through final demobilization, was barely a tenth, $37 billions, of the expenditures of World War II up to the end of the fiscal year 1946, $375 billions. Since price levels were considerably lower in the period of the Second than of the First World War, the difference cannot be attributed to a change in the purchasing power of the dollar.

In the three fiscal years 1943 to 1945, close to a half, respectively, 46, 49, and 49 per cent, of the gross national product was devoted to federal expenditures (Table XX), compared with about a quarter at the peak of the last war. The volume of federal expenditures reached about two-thirds of total national income. In 1944 and 1945, they were larger in dollar amount than the total national income of the United States in any year of our history prior to 1942.

TABLE XX. *Federal Finances, 1940–46*
(In millions of dollars)

Fiscal Year	Total Expenditures	War Activities	Net Receipts [a]	Income and Profits Taxes	Interest-bearing Public Debt [b]
1940	8,998	1,657	5,387	2,125	42,376
1941	12,711	6,301	7,607	3,470	48,387
1942	32,397	26,011	12,799	7,960	71,968
1943	78,179	72,109	22,282	16,094	135,380
1944	93,744	87,039	44,149	34,655	199,543
1945	100,405	90,029	46,457	35,173	256,357
1946	65,019	48,542	43,038	30,885	268,111

[a] Excludes social security payments.
[b] End of fiscal year.

Source: *Treasury Bulletin.*

AIMS AND METHODS OF WARTIME TAXATION

In time of war, finance is the servant rather than the master of economic policy. That is to say, policy does not start with a consideration of what the nation can afford; instead, it becomes the task of the fiscal authorities to provide whatever funds are required to assure victory. Of the three traditional methods by which the government may raise money—taxation, borrowing and the issue of paper currency—only the first two were given serious consideration.

The Treasury's taxation policy was governed, according to Secretary Morgenthau's official declaration, by the principles that:[4]

a. Taxes should be fair, nondiscriminatory and in accordance with ability to pay. Unreasonable profits should be recaptured.
b. Taxation should contribute to the avoidance of inflation.
c. It should facilitate mobilization and production for war, and aid in diverting resources from civilian to essential military production.
d. It should not encroach harmfully on the standard of living.
e. Finally, the wartime tax policy should give full consideration to the financial well-being of the economy after the war.

For the fiscal years 1941 to 1945, 41 per cent of total expenditures were financed out of taxation, the highest ratio being in the fiscal year 1945 with 46 per cent. Net receipts from taxes in 1945 were nine times their total in 1940 (Table XX). The most important source of revenue consisted of income and profits taxes which provided over 75

[4] *Summary Report of the Secretary of the Treasury*, 1945. Washington, July 21, 1945, pp. 11–16.

per cent of total revenue in 1945. Income from this source increased sixteenfold from 1940 to 1945, from $2,125 million to $35,173 million.

The rise in tax income is attributable in part to the great increase in national income and in part to a drastic increase in rates. The excess profits tax introduced in 1940 was raised to a net rate of 85.5 per cent. The standard corporation income tax was doubled, from 19 per cent to 40 per cent. Personal income taxes were made more severe by reducing exemptions and increasing normal and surtax rates. The top rate of 79 per cent, which had applied only to incomes of $5 million and above, was raised to 94 per cent and applied to all incomes of $200,000 and above. The high level of income taxes, particularly in the higher income brackets, interfered with the ability of the Treasury to borrow from these groups. Even with the high level of taxation, however, one individual reported net income *after taxes* of nearly three million dollars in 1944. The bulk of this person's income was from securities, a considerable part of them tax-exempt.[5]

PRINCIPLES AND POLICIES OF WARTIME BORROWING

Secretary Morgenthau outlined the underlying principles of wartime borrowing by the federal governments as being: [6]

a. To raise funds in such a manner as to minimize the risk of inflation;
b. To provide securities best suited to the needs of the different types of investors;
c. To keep the cost of war financing at a reasonable level.

Of the total interest-bearing federal debt, issued or

[5] Treasury Department Press Release No. S-366, June 25, 1947.
[6] Secretary of the Treasury, *Raising the Funds for Victory*. Washington, July 17, 1945, p. 6.

guaranteed, of $257 billion at the end of June 1945, $84 billion was held by commercial banks and $22 billion by the Federal Reserve Banks, a total of $106 billion. The remaining $151 billion was distributed as follows (in billions): [7]

Individuals	$58.6
Insurance companies	22.7
Mutual savings banks	9.6
Other corporations and associations	30.3
State and local governments	4.9
United States Government agencies and Trust Funds	24.0

A distinctive feature of borrowing in the Second World War was the extensive resort to short-term securities. Of the increase in federal debt between April 1, 1939 and March 31, 1945, 43 per cent was in securities maturing in one year or less, 40 per cent in from one to ten years and only 17 per cent in over ten years.[8] The large volume of floating debt (as much as $65 billion has fallen due within a single year) represented a break with traditional policies of Treasury financing. It was adopted deliberately on two principal grounds, namely, that short-term securities were more suitable for certain types of purchasers, notably banks and corporations anticipating heavy tax liabilities, and that the Treasury could borrow on short-term at a lower rate of interest.

The success of the policy as a means of holding down the cost of war financing is attested by the fact that the computed average interest rate on federal debt outstanding fell almost continously throughout the war. At the end of June 1940, the rate was 2.5 per cent per annum; five years later it was a little over 1.9 per cent. Since the rate on identical maturities remained unchanged, the decline in average rate

[7] *Treasury Bulletin*, October 1945, p. 48.
[8] *Op. cit.*, p. 11

was largely the result of issuing a great proportion or relatively short-term, low-yield obligations. During the First World War, the computed average interest rate rose from 2.4 per cent in June 1916 to over 4.2 per cent four years later. In that period the interest rate on particular maturities was allowed to rise and the rate on short-term securities was generally as high as on long, if not higher.

Another feature of Treasury policy, and one somewhat contradictory of the preceding, was the emphasis placed on borrowing from individuals. The rate paid on War Savings Bonds, Series E, was 2.9 per cent if held to maturity. This rate was far above that paid on other issues and at the same time the securities were more costly to place and more trouble to administer. Nevertheless, greater effort was devoted to their sale than to the sale of all other issues combined. The explanation of maintaining such a policy lies almost wholly in the anticipated indirect effects of this type of borrowing; it was expected, in the first place, to exert a strongly antiinflationary influence at the time of borrowing and, in the second place, to provide a reserve of individual savings which would contribute to the maintenance of consumer demand in the years after the war.

THE TRANSITION TO PEACETIME BUDGETS

Federal expenditures for war are divided into those (a) for munitions including equipment and operations, and (b) for military pay, transportation and subsistence. During the period of fighting, the first group constituted by far the larger share of the total, 67 per cent and 65 per cent, respectively, out of a total of approximately $90 billion in the fiscal years 1944 and 1945. With the end of fighting, this category of expenditures dropped sharply—though not as sharply as deliveries—but the decline in non-munitions expenditures was relatively slight. Some of the expenditures

in the latter category, such as mustering-out pay and other expenses connected with demobilization, were greatly increased.

The budgetary relief afforded, both immediately and gradually, by the end of the war was partially offset by the rise in certain federal expenditures growing out of the war. The most important of these budgetary consequences of the war are expenditures for interest on the public debt and for care of veterans. The expansion of these items between the fiscal years 1941 and 1947 was as follows (in billions): [9]

	1941	1945	1946	1947
Interest	$1.1	$3.6	$4.7	$5.0
Veterans Administration	.6	.9	3.0	6.4
Tax refunds	.1	1.7	2.9	3.0
Total	1.8	6.2	10.6	14.4

Certain other expenditures were also increased as a result of the return to peace, notably the appropriations for U.N.R.R.A. and for the establishment of the International Monetary Fund and the International Bank for Reconstruction and Development. On the other hand, the conclusion of peace made certain funds available for use by the Treasury. Among these were the proceeds from sale of surplus property and the reduction in the Treasury's cash balance which had risen from $661 million at the end of the fiscal year 1941 to $16,874 million at the end of August 1945, the month war with Japan was concluded.

The Federal Reserve System

Experience in this country and abroad shows that wars produce consequences of great significance to central banks. The magnitude of the central bank's tasks as fiscal

[9] *Treasury Bulletin.*

agent, custodian of reserves and controller of credit is enormously increased. At the same time, the central bank must accommodate its activities more closely than in peace to policies of the Treasury and other branches of the government. War underscores the vital importance of central banks and may strengthen their standing and prestige, but, for a time at least, it drastically reduces their independence. Moreover, the aftermath of wars is a host of troublesome problems for central banks.

SERVICE OPERATIONS OF THE FEDERAL RESERVE BANKS

The mechanical operations of distributing Treasury obligations were conducted by the Federal Reserve Banks, operations which entailed a great amount of additional work. Reserve Banks were compelled to add entire divisions to their organizations, the increase in personnel amounting in some instances to as much as 50 or 60 per cent within a period of a few months. Considerable work was entailed also in the redemption of War Savings Bonds which amounted, in general, to between 10 per cent and 15 per cent per annum of the total amount of such securities outstanding. Besides the added work growing out of the issue and redemption of Treasury obligations, Reserve Bank operations expanded on account of the increased volume of payments to and from the Treasury. All of this parallels fairly closely the experience of the Federal Reserve System in the First World War.

A new but important phase of the activities of the Federal Reserve Banks as fiscal agency for the Government had to do with the administration of credit guarantees. The War and Navy Departments and the Maritime Commission agreed to guarantee loan contracts entered into in connection with war production. While general rules were laid down, the Reserve Banks were given the responsibility, sub-

ject to approval by the guaranteeing agencies, for arranging loans and establishing such guarantees as might be suitable to the circumstances. The broadened scope of Reserve Bank activities is shown by the fact that they were instructed to deal with commercial banks regardless of whether the banks were members of the Federal Reserve System.

The expansion in volume of currency outside banks, which grew from $8.2 billion at the end of June 1941 to over $25 billion four years later, was almost entirely in the form of Federal Reserve notes. The issuance of this currency and the work connected with administering it after issue devolved upon the Reserve Banks. The growth in the scale of business transactions was reflected in a doubling of the volume of bank debits between 1940 and 1945. A correspondingly greater burden was imposed on the Federal Reserve Banks in the clearing and collection of checks.

TREASURY BILL POLICY

Excess member bank reserves, whose magnitude had caused serious concern for a number of years, were reduced by the middle of 1942 to a point where it became necessary, in order to assure the success of the Treasury's program of war financing, to make additional reserve funds available. The total of Federal Reserve Bank credit, which had stood in the neighborhood of two and a half billion dollars for a decade, increased by over $21 billion between 1942 and 1945, reaching a total at the year's end of more than $24 billion. Part of the increase was required to provide reserves for the increased volume of member bank deposits, but the bulk of the increase was caused by the growth of currency in circulation. For the most part, the creation of Reserve Bank credit served simply to offset external drain in the form of currency expansion.

The distinctive method introduced to supply additional

Reserve Bank credit was through the purchase of Treasury bills. Methods formerly used to create Reserve Bank credit were either relatively unavailable or in disfavor. Thus, the supply of discountable paper was limited and member banks were unwilling to relinquish such desirable assets. Resort to advances was hindered by the strong tradition which had grown up against borrowing by member banks. Changes in reserve requirements were viewed with general disapproval, influenced partly by a lack of familiarity with the device and partly by a belief that maintenance of relatively high requirements would facilitate the control of credit in the postwar period. The Treasury bill policy was adopted as a way out of the difficulty caused by the failure, real or anticipated, of the other methods of making reserves available. The standing offer of the Reserve Banks to buy Treasury bills at a rate to yield ⅜ per cent, and to sell them back again on the same basis if desired, provided member banks with an easy and inexpensive means of acquiring reserves whenever needed.

OPEN MARKET OPERATIONS

In the history of the Federal Reserve System, open market operations have been directed toward four principal objectives. Originally, purchases in the open market were made for the purpose of obtaining earning assets for the Reserve Banks.[10] In their second and most familiar phase, open market operations were directed toward influencing the volume of member bank reserves in order to control credit. The third phase began in 1937 when purchases were made to preserve "orderly conditions" in the security market. The Reserve authorities indicated the principal

[10] Open market purchases were also employed to broaden the market for certain types of securities such as bankers' bills and United States certificates of indebtedness.

aims of this policy in explaining why they undertook to stabilize security prices at the outbreak of war in 1939. The first reason given was the desire to exert a steadying influence on the entire capital market, and the second was the feeling that the Federal Reserve System "has a measure of responsibility for safeguarding the large United States Government portfolio of the member banks from unnecessarily wide and violent fluctuations in price." [11]

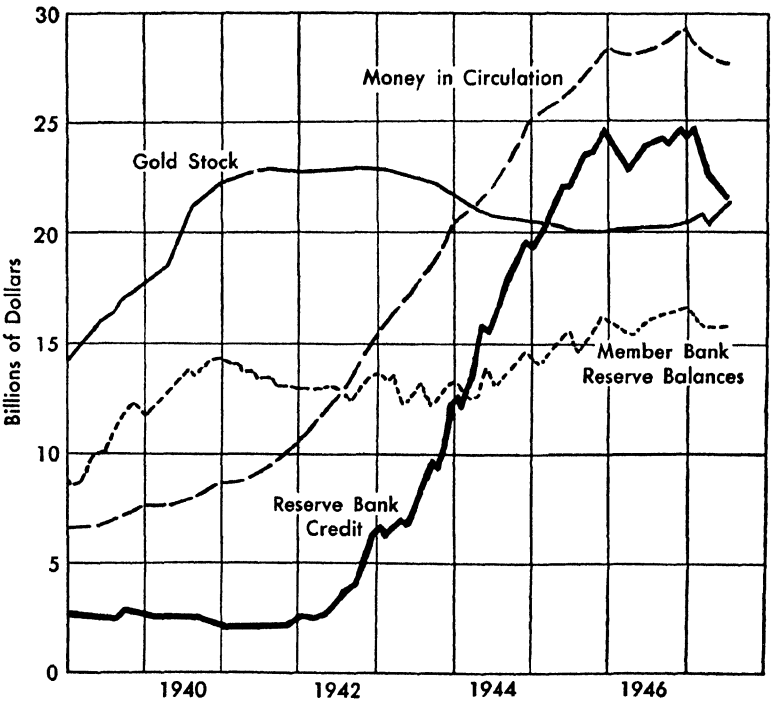
The fourth phase of open market operations was initiated in May 1942 when they were used to maintain a fixed pattern of interest rates on Treasury obligations. In substance, this policy amounted to placing a floor under the entire structure of Treasury obligations. While the second and third phases of open market policy were of some importance during the war, their origin antedated the war. The fourth phase was entirely the product of the war and it constituted a central feature of the entire program of war financing.

The open market purchases by the Federal Reserve Banks during the war accomplished a number of different results. In addition to the obvious effect of putting funds into the market, thereby strengthening the banks' cash position, they contributed to quieting the state of alarm caused by the outbreak of war in Europe and later in the Pacific. The support thus given the security market was of assistance to banks holding securities which might otherwise have declined in value. The policy of preserving a stable pattern of interest rates rendered Treasury obligations virtually as liquid as cash. With this policy in force, there could scarcely be any question, in view of the large amount of such securities held by banks, concerning the adequacy of liquid banking assets. The effect was to assure the liquidity of the entire system of commercial banks and presumably of any bank that held

[11] Board of Governors of the Federal Reserve System, *Annual Report* for 1939, p. 5.

its proportionate share of government securities. A further effect was to render differences in maturity of no immediate significance to the liquidity of government obligations. With a guaranteed pattern of rates on marketable govern-

CHART XVIII. *Reserve Bank Credit and Related Items, 1939–1947*



Source: Adapted from *Federal Reserve Charts.*

ment securities, the liquidity of all issues at their par value became virtually the same. With this policy in force, banks were able to obtain the higher yields available on longer maturities without any sacrifice of liquidity.

The manner in which Reserve Bank credit expanded to meet the large increase in currency in circulation, together

with the relatively moderate increase in member bank reserve balances and the slight reduction in gold stock, is indicated in Chart XVIII. The expansion in Reserve Bank credit repeated the experience of the First World War, but where the total rose at that time to $3.5 billion, during the later period it climbed to nearly $25 billion. While the earnings of the Federal Reserve Banks rose substantially during the war period, no such extreme of profitability as that of the previous war period was reached. For this fact the low rate of return on the bulk of the Banks' earning assets was chiefly responsible.

OTHER FEDERAL RESERVE POLICIES

At about the time of the introduction of the O.P.A. and other price control measures in 1942, the Federal Reserve Board announced its famous Regulation W for the control of consumer credit. Installment buying was curbed by prescribing larger down payments and a shorter period for the completion of contracts. Later, an order was issued requiring that charge accounts be paid within the month following the month in which they arose. These measures were partly responsible for reducing the volume of outstanding consumer credit from nearly $10 billion at the end of 1941 to a low point of $4.7 billion early in 1944. The decline in consumer credit outstanding was also influenced by the scarcity of automobiles and other goods often purchased on the installment plan.

Margin requirements on security loans had stood since 1937 at 50 per cent on short sales and at 40 per cent on others. In February 1945 the requirements were raised to a uniform 50 per cent and in July, shortly before V-J Day, to 75 per cent, the highest point on record up to that time. In neither instance did the action have any appreciable effect on the upward trend of stock prices.

The Reserve authorities also resorted to moral suasion to induce banks, insurance companies and others to refrain from "rolling over" holdings of Government securities on which they might be able to capture a premium. While the practice persisted, the personal intervention of Reserve Bank officials in this way unquestionably prevented many sales that would otherwise have been made. With the passage of time and particularly after the end of hostilities, the effectiveness of these measures declined.

Commercial Bank Operations, 1939–1945

At the time of his retirement as Secretary of the Treasury, Mr. Morgenthau declared that the amount "of Government securities absorbed by commercial and Federal Reserve Banks is larger than I would have wished, just as the proportion of our total funds raised by taxes is smaller than I would have wished." [12] Whatever the wishes or responsibility of those in authority, the fact remains that the huge volume of direct borrowing from banks by the government represented not only the most distinctive feature of Treasury financing, but also the most important phase of commercial bank operations during the period.

CHANGES IN BANKING ASSETS

Commercial banks were the largest single group of lenders to the government. Throughout the war they furnished a larger total than other source and at times more than all other sources combined. In the first year after the outbreak of war with Japan, approximately 60 per cent of net borrowing by the Treasury was from commercial banks. Within the space of a single month, they absorbed a larger net volume of Government securities than throughout the entire

[12] *Summary Report of the Secretary of the Treasury*, 1945, Washington, July 21, 1945.

period of the First World War. At the end of June 1945, approximately 75 per cent of all the earning assets of commercial banks in the United States consisted of Treasury obligations.

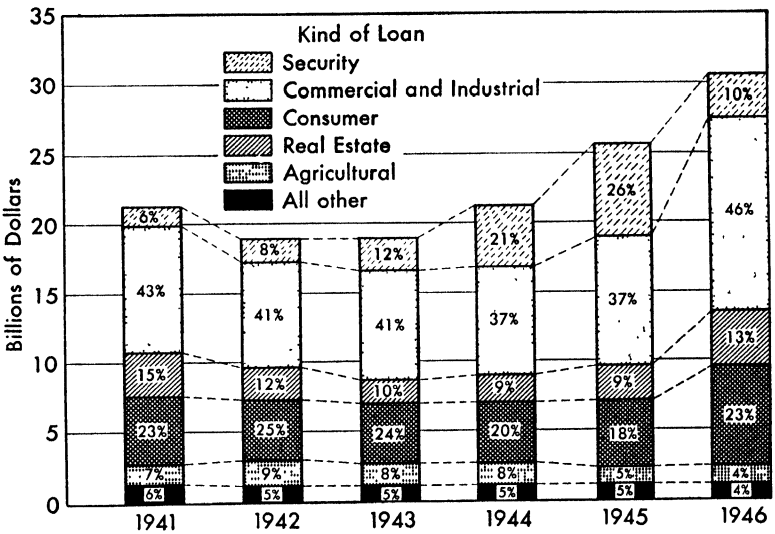
While lending by banks to the government expanded greatly during the war, the total of loans to private borrowers increased only slightly. During the earlier period of war financing they actually declined. Total loans of all banks in the United States rose from $22.2 billion at the end of 1939 to $26.6 billion two years later. By the middle of 1943, the total had fallen again to $22.2 billion, rising gradually thereafter to $28 billion at the end of June 1945, and then increasing more rapidly to $38.4 billion two years later.

The character of bank loans likewise underwent considerable change during the period, as may be seen from Chart XIX which shows, for insured commercial banks, the changes that occurred following our entry into the war. As was to be expected, the volume of consumer loans contracted, as did commercial and industrial loans and real estate loans. On the other hand, loans on securities, particularly loans on the security of Treasury bonds, increased markedly during the war. With the cessation of hostilities, all these trends were sharply reversed, and by the end of 1946 the pattern of bank loans had assumed much the character that it had in 1941. The total volume, however, was considerably higher.

The failure of private lending by banks to increase materially during the war, which was precisely opposite to the experience in the First World War, is largely a reflection of the difference in financial policies practiced in the two periods. Instead of industry looking to the banks for financing, the banks engaged heavily in financing the government and the government in turn financed business. Govern-

mental financing of business made use of such methods as construction on government account, direct loans through the R.F.C. and its subsidiaries and so-called "progress payments" made in advance of the completion of contracts. As a result also of altered financial policies of the larger cor-

CHART XIX. *Loans of Insured Commercial Banks, 1941–1946*



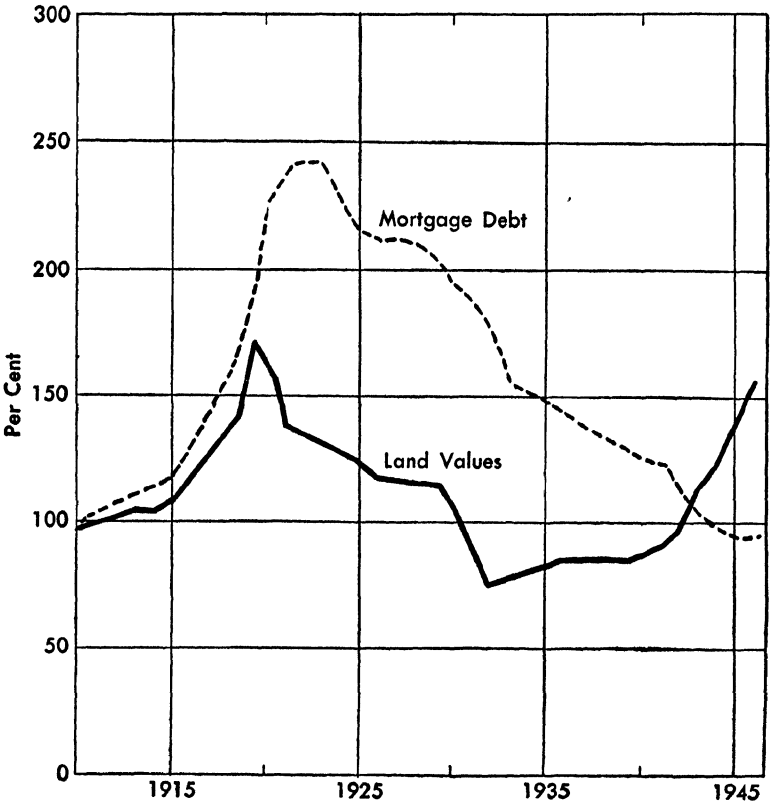
Source: Federal Deposit Insurance Corporation, *Assets and Liabilities*, Report No. 26, p. 2.

porations, American business was in a considerably better position than before to contribute to its own financing.

The banks found themselves at the end of war financing with portfolios consisting chiefly of assets of the very highest quality but relatively low yields. During and after the war, farm real estate rose about as it did in the First World War, but the volume of mortgage debt, far from rising as it had done earlier, declined to the lowest level reached in thirty years (Chart XX). Thus, banks in

general were without the high proportion of commercial paper and real estate loans which characterized bank portfolios in 1920. These were the securities which contributed

CHART XX. *Farm Land Values and Mortgage Debt, 1910–1947*



Source: *Federal Reserve Bulletin,* August 1947, p. 950.

so greatly to the dismal record of bank failures in the twenties; thus the major source of earlier banking difficulties no longer occupied a dominant position in bank portfolios. Instead, the safety and stability of the banking system was

dependent as never before upon the preservation of orderly conditions in the market for Government securities.

RATION BANKING

Commercial banks were also called upon to assist in handling the "ration currency"—ration coupons, tokens and credits—used in the rationing of scarce consumer goods. With the ration system in operation: "Certain economic areas were in effect served by two monetary systems. In many ways, ration currency behaved like dollars; in others, it did not. In most instances a knowledge of monetary principles made possible an accurate forecast of the behavior of ration currency in a given set of circumstances." [13]

The methods employed by commercial banks in the conduct of the ration system were similar in many respects to their handling of ordinary demand deposits. Deposits of ration points were made to the credit of merchants, eating establishments and others. Checks similar in form and use to ordinary checks were drawn against these deposit accounts and balances were debited and credited in the usual manner. There were deposits and withdrawals of ration checks, coupons, tokens and the like. Cashiers' checks payable in ration points were issued in approximately the same way as ordinary cashiers' checks. Ration checks were cleared among banks. Special measures, some of them highly technical in character, were introduced to detect counterfeiting. Greater leeway was allowed with respect to overdrafts, but means were provided to prevent this leniency from being abused.

Banks were compensated for the services performed in the rationing program, but an attempt was made to provide reimbursement for direct expenses only, with no allowance

[13] Joseph A. Kershaw, *A History of Ration Banking*, Washington, Government Printing Office, 1947, p. 7.

for overhead. The schedule of payments which prevailed at the height of the program was as follows: [14]

New accounts opened	$ .60
Additional accounts opened	.20
Deposit	.05
Deposited item	.01
Checks paid	.04
Maintenance per account (monthly)	.10
Boxes of tokens disbursed	.005
Boxes of tokens received	.02
Fee to compensate for work entailed by official reports and regulations (monthly)	20.00

The schedule of charges was applied uniformly throughout the country notwithstanding substantial cost differentials among different size categories of banks. At the height of the ration banking program, 14,000 banks were participating and reimbursement was being received at the rate of $15,-500,000 per annum. Against 1,200,000 deposit accounts in the banks, a total of nearly 10,000,000 ration checks per month were being cashed. Small wonder that the O.P.A. officials have indicated that the rationing program could not have been carried out without the aid of the banks.

The Rise of Financial Liquidity

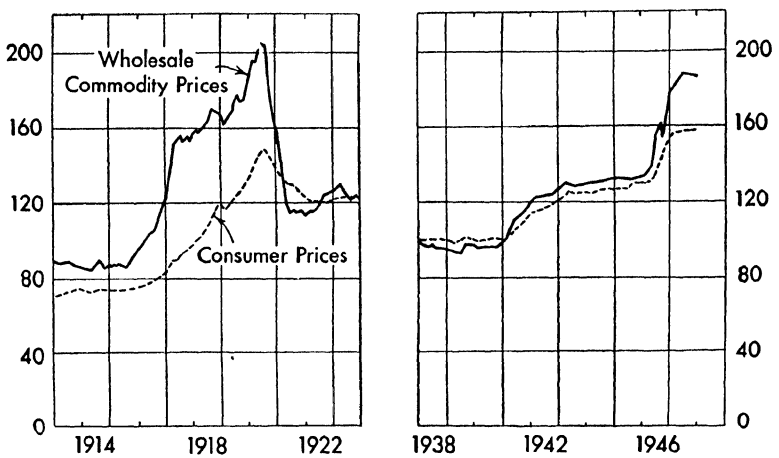
In the six years from 1914 to 1920, the prices of manufactured and semimanufactured products rose 135 per cent and 260 per cent respectively; in the same length of time from 1939 to 1945, they rose by only 25 per cent. In the later period, farm prices rose by 100 per cent compared with 138 per cent in the earlier period, but in the Second World War the price rise proceeded from a relatively depressed base. Indexes of the cost of living showed a rise between 1939 and 1945 of less than a quarter of that which occurred in the earlier period. While the contrast was not as great

[14] Kershaw, *op. cit.*, p. 103.

after 1946, it was still considerable. The increase in the average hourly rate of wages, including extra pay for overtime and before payroll deductions of any sort, was likewise much less in the second war period than in the first.

The rise in prices after the end of hostilities was distinctly comparable in the two periods (Cf. Chart XXI). The rise before and after our entry into war, however, was

CHART XXI. *Wholesale and Consumer Prices, First and Second World War Periods*

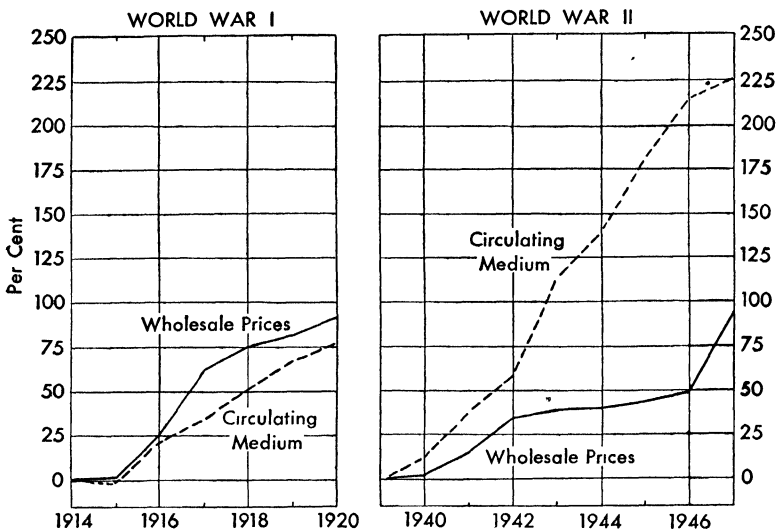


Source: Adapted from *Annual Report* of the Board of Governors for 1946, p. 29.

not. In many cases, also, substantial differences occurred in the behavior of different price groups within the general structure of prices. The disparity in the movements of wholesale and consumer prices which characterized the earlier period through 1920 was strikingly absent in the later period (Chart XXI). With the removal of price control in 1946, however, a considerable gap between the two price series again developed.

Substantial as the increase in prices appeared at the time, the period of the Second World War was unique in the moderate extent of the rise in prices compared with the rise which occurred in connection with other major wars. This was particularly true up to the lifting of O.P.A. con-

CHART XXII. *Increase in Wholesale Prices and Circulating Medium, First and Second World Wars (June 1939 = 100. Cumulated Annual Percentage Increases)*



Source: Adapted from C. R Whittlesey, *The Effect of War on Currency and Deposits*, New York, The National Bureau of Economic Research, 1943, p. 35.

trols in the summer of 1946. It is not to be accounted for by any failure of the circulating medium to expand as it typically does in wartime. However, where the increase in wholesale prices during the First World War was considerably greater than the increase in circulating medium, precisely the opposite relationship existed in the Second World

War, the rise in prices being much less than the increase in circulating medium (Chart XXII).

A number of factors help to explain why the growth in circulating medium failed to bring about as great a rise in prices as was to be expected in the light of the experience of other war periods. Among these factors were:

a. The existence of a large amount of unemployed productive capacity at the start of the war.
b. Certain banking developments which tended to retard the activity of demand deposits.
c. A reduction in the volume of consumer credit and other types of private credit.
d. Price controls and other restrictions on spending including rationing.
e. An increase in the proportion of the circulating medium diverted to the use of the government.

In addition, the public, mindful of the experience with inflation in the earlier war period and aware of the country's tremendous capacity for producing consumer goods in the future, refrained from engaging in the sort of reckless spending that would have led to an uncontrolled increase in commodity prices.

Other periods in history have witnessed instances of greater expansion in the circulating medium. In every other case, however, there was a more pronounced rise in prices. What was unique about the monetary experience of 1939–46 was not the increase in the money supply but the absence of a somewhat similar increase in the general price level. This unique combination of monetary expansion unaccompanied by a corresponding elevation of prices resulted in an unprecedented state of business liquidity.

When an increase in the amount of money relative to the volume of transactions is matched by a proportionate rise in

prices, there is no appreciable increase in the liquidity of the business community: the expansion in number of money units is offset by a decline in the purchasing power of each of them. If the relative amount of money expands without a rise in prices, however, the inevitable consequence is an increase in liquidity. An increase in the money supply relative to the volume of transactions leads necessarily to one result or the other—higher prices or greater liquidity.

The basis of such a rise in liquidity becomes fully apparent when currency and deposits are viewed from the standpoint of those who own them. If the total volume of currency and deposits were to double this would mean in effect that the average amount of circulating medium at the disposal of each holder had also doubled. If prices were the same, i.e., if each unit of money brought as much as it did before, the average holder would have the ability to exercise immediate demand for goods and services to double the amount he could before. Nor would this condition of extreme liquidity be changed by the spending of the liquid balances. The act of spending would shift ownership of the balances but would leave their average amount unchanged, and the community as a whole would be in as liquid a position as before.

There are two principal ways in which such a condition of extreme liquidity may be overcome. The former degree of liquidity might be restored through the volume of transactions increasing to a level corresponding to the expanded volume of circulating medium—what was once called "growing up to the money supply." Or, with the existing volume of goods and services, liquidity could diminish through prices rising in proportion as the expansion that had occurred in circulating medium was greater than the increase in goods and services. In addition, the liquidity of the com-

munity (in other than a purely technical sense) might be reduced through a change in the habits of holders of liquid balances; if, for example, people should come to prefer to hold larger sums than before in the form of liquid reserves, then the increased liquidity of the community would be apparent or potential rather than real. A contraction of the absolute volume of circulating medium, which was once regarded as the probable consequence following a period of pronounced monetary expansion, is no longer generally viewed as either probable or desirable.

The net result of the financial policies of the Second World War—more specifically, of the extent of government borrowing from commercial banks, the great expansion of demand deposits and the control of prices—was a condition of unprecedented liquidity in the economic system. This state of financial ease was at the root of the continuing inflationary pressure which characterized the period of reconversion to peacetime production. It was part of the condition that came to be known as "suppressed inflation," in which the usual manifestations of inflation were held in check by various means, without, however, eliminating the causes. At the same time, it was an important factor in the maintenance of the high level of demand which enabled the transition to peacetime production to be effected without the masses of unemployed which were generally anticipated at the time the war drew to an end.

20 ~ Economic Change and the Banking System

It is not too much to say that the changes which have occurred in recent years, and to which attention was directed in the preceding chapters, call for a revaluation of accepted views concerning the functions of banks and a re-examination of the traditional theory of banking. Among the principal developments, which have taken place largely since 1929, are the change in character of banking assets, the emergence of large excess reserves as a continuing phenomenon and the altered institutional and business setting in which banks operate.

The Setting

By the end of the Second World War the average size of banks in the United States as measured by assets was $11,176,000, compared with $2,830,000 in 1929, $1,750,000 in 1920, $970,000 in 1910 and 1,040,000 in 1900. While these averages help to suggest some of the changes which have taken place in the individual units that go to make up the American banking structure, they conceal the extremes which exist within the banking system of the United States. At the beginning of 1939 the eight largest banks held nearly

22 per cent of all deposits. A third of 1 per cent of the banks held 45 per cent of deposits.[1] At the other extreme, the smaller banks, including all those with deposits of $2,000,000 or less, numbered 81 per cent of all banks but held only 12 per cent of deposits. The geographical concentration of banking is also quite extreme. At the war's end, nearly 60 per cent of the country's deposits were in the banks of only six states. These states were New York with 27 per cent, Pennsylvania and Illinois each with 7 per cent, California with 8 per cent, and Massachusetts and Ohio each with 4½ per cent.

The structure of American banking is not, however, as diffuse or disparate as the foregoing figures might indicate. All these banks are included within one or more categories of banking organization. All national banks and most of the larger state banks are members of the Federal Reserve System, and all member banks and most of the nonmember banks are included within the Federal Deposit Insurance Corporation.[2] The organizational framework of American banking as it was shortly after the end of the Second World War is summarized in Table XXI.

The changes which have taken place in the structure of American banking are of less significance and of smaller immediate concern to bankers as a group than the developments which have occurred within the banks themselves. The former are manifest in the totals for the banking system as a whole and in the institutional setting within which the banks of the country function, but the latter changes are reflected in the balance sheet and profit and loss statement of probably every bank in the country. The substance of the matter is that a banking revolution has taken place in the

[1] In 1947 a single bank with its branches held nearly 4 per cent of total commercial bank deposits.

[2] In addition to the formal relationships mentioned here, correspondent relations are widely maintained among the banks of the country.

TABLE XXI. *Banking Structure of the United States and Possessions, December 31, 1945*

	Number	Per Cent of Total	Total Deposits [a]	Per Cent of Total
All Banks	14,598	100	$166,530,093	100
National Banks	5,017	34.37	84,939,347	51.01
State Banks	9,581	65.63	81,590,746	48.99
Member	1,867	12.79	44,730,487	26.86
Nonmember	7,714	52.84	36,860,259	22.13
Federal Reserve Member Banks	6,884	47.16	129,669,834	77.87
Insured Banks	13,494	92.44	158,174,205	94.98
Noninsured banks	1,104	7.56	8,355,888	5.02
Mutual Savings Banks	342	2.34	4,991,317	3.00
Commercial Banks	762	5.22	3,364,571	2.02

[a] 000 omitted.

last decade. The so-called "commercial" banks have largely lost their commercial character; old sources of income have declined and new sources have been tapped; changes in the character of assets have rendered many of the accepted rules and methods of bank management largely inapplicable; and the problems alike of bank supervision and of the responsibilities of constituted authorities have been fundamentally modified.

Recent Changes Affecting Commercial Banks

CHARACTER OF EARNING ASSETS

By the end of the Second World War the country's banks had been largely transformed from holders of private to holders of federal debt (see above, Chart IX). The total of loans and discounts—only a minor proportion of which were commercial in character—was less than a third the total of investments. Even with the expansion in loans which occurred during the period of reconversion after the Second World War, investments still amounted to roughly twice

the total of loans. All but a small fraction of these investments consisted of United States Treasury obligations.

The change from a loan-and-discount to an investment type of banking was not a new development, even though the magnitude and rapidity of the shift which took place after 1929 and particularly during the war years were exceptional. As early as 1934 the volume of investments had come to exceed the volume of loans and discounts. It was not until the first half of 1943, with the dollar value of investments approximately double the dollar value of loans and discounts, that the income from investments surpassed the income from loans and discounts. While, asset-wise, banking could be said to have become predominantly investment banking by 1934, it was still, as judged by income, based principally on loans and discounts until 1943.

Along with a decline in the relative importance of loans extended by banks went a material alteration in their character. At one time it was customary to think of bank loans —not altogether accurately, perhaps—as commercial loans. In recent years they have come to comprise substantial amounts of collateral, real estate, term and personal loans. They have very largely ceased to be commercial in origin or self-liquidating in character. In addition, income from services, particularly in the form of service charges on checking accounts, has come to play an appreciable part in bank earnings. This reflects not so much a change in the functions performed by banks as in the method whereby these functions are compensated.

EXCESS RESERVES

A second major change in banking was the emergence on a large scale of excess reserves, and their continuance year after year despite strong measures to reduce them. While excess reserves existed for short periods in the past, notably

following the establishment of the Federal Reserve System, their appearance as a permanent phenomenon constitutes a distinct departure from generally accepted banking tradition. In his *Treatise on Money,* Lord Keynes laid it down as a fact, demonstrable by both reason and experience, that "banks use their reserves up to the hilt . . . [and] seldom or never maintain idle reserves. . . . Indeed, why should they"? [3] In support of this conclusion, Keynes argued that to allow reserves to fall below the accepted figure would reflect discredit on the bank (suggesting "weakness or weak-mindedness"), while to allow it to rise above would be to forego unnecessarily a source of profit. He admitted that this reasoning assumed the availability of liquid income-yielding assets, but quite properly concluded that in England and the United States this condition was certain to be met.[4]

These views were presented in 1930. It is one of the minor ironies of the history of economic doctrines that beginning almost immediately thereafter events in the United States continuously and completely contradicted Lord Keynes' assertions. Since 1932 there has been no tendency for the reserves of member banks to be fully utilized; excess reserves have at times risen into the billions; reserve requirements have been greatly increased; and economy in the use of reserves ceased to exert any observable influence as a banking objective.

INSTITUTIONAL FACTORS

A third group of banking changes involves alterations that have taken place in institutional and environmental factors. Among the major institutional changes were the

[3] J. M. Keynes, *A Treatise on Money,* London, Macmillan, 1930, Vol. II, p. 53.
[4] *Ibid,* p. 54.

establishment of the Federal Deposit Insurance Corporation; the adoption by the Federal Reserve Banks of an active policy with respect, first, to the government bond market and, secondly, to the pattern of interest rates; and the extension of Treasury activities in the direction of fiscal policies to combat depression, the direct purveying of credit and large-scale financial operations growing out of the war and the defense program following the war. A further environmental change consists of a substantial alteration in the credit status of business. It was once customary to think of nonfinancial business enterprise as dependent upon the borrowing of working capital from banks. With the extraordinary increase in the liquidity of business enterprises, business is less dependent on banks and has even come to share with them, to some extent, the field of lending operations.

These are by no means all the important changes that have affected commercial banks since 1929, but they are surely among the most significant.

Relation to Banking Theory

Despite the changes that have taken place, the mechanics of banking operations are essentially similar to what they were in the past. The process whereby deposits are created —and may conceivably be destroyed—on the basis of fractional reserves and against changes in the volume of debts held by banks, is still fundamentally the same. What has changed is not the mechanics of commercial banking but the foundation upon which the mechanism functions, namely, government debt in place of loans and discounts. This change in basis is sufficient in itself to alter both the manner in which the banking system functions and the results that flow from it.

AUTOMATIC OPERATION OF THE BANKING SYSTEM

The changed basis of deposit creation has removed the last vestiges of a regulatory mechanism directed toward, or capable of, automatically adjusting the supply of circulating medium to changes in the volume of transactions. The former conception of such a system [5] was greatly impaired first by the stultification and then by the disappearance of the framework of an international gold standard. As long as commercial paper constituted a substantial part of bank portfolios, an important element of an automatic system still remained. The underlying idea was that an expansion in the volume of trade would result in an increase in commercial paper and more commercial paper would lead to more discounting at banks, thus creating additional deposits. The elements of this theory were that banks were assumed to play a passive role, the initiative in the extension of bank credit presumably resting with business borrowers; deposit creation was supposedly non-inflationary, the increase in circulating medium being paired against an increase in the volume of transactions; and the process was automatic. This theoretical model was highly idealized, but nevertheless it had a rational basis. No basis any longer remains for supposing that banks are necessarily passive with respect to the volume of credit they extend, or that the volume of bank deposits is appropriately elastic as regards the volume of trade. *In proportion as the logical ground for subscribing to a theory of the automatic regulation of currency and bank credit has weakened, the case has been strengthened for administrative control—by monetary management, central bank policy, fiscal policy or what not—if reasonable objectives of monetary policy are to be approached.*

[5] As presented, for example, in Gustav Cassel, *Theory of Social Economy* New rev. edit., New York, Harcourt Brace, 1932, Sec. 46.

BEHAVIOR OF THE STRUCTURE OF BANK DEPOSITS

Growth in the volume of federal debt outstanding has been determined in the present century at least, primarily by two factors, war and depression. The volume of federal debt, in contrast with the volume of commercial paper or bank loans, has shown the following characteristics: it increased greatly in time of war and business depression; it increased during the period of prosperity in the twenties; it showed fewer and smaller fluctuations in relative amount. The inference is clear that a deposit structure tied primarily to government debt, if this proves to be the case, will behave differently from one tied primarily to business, or to business and personal, debt. It will probably show a greater stability in amount, and instead of contracting at a time of business decline it may exhibit the opposite tendency.

A decrease in the volume of Treasury obligations held by banks could chiefly come about through a net repayment of debt by the government or a transfer of federal obligations from the banks to other investors. A decline in business activity will not automatically reduce the volume of federal debt held by banks, and it is questionable whether a worsening in the psychological climate is likely to produce as great a decrease in total earning assets of banks as was typical in the past. As a consequence, the volume of deposits is no longer subject to the same spontaneous tendency toward contraction during periods of falling business. Similar considerations apply with respect to conditions of business expansion. While the ideal of automatic elasticity in the volume of bank deposits was always something of a mirage, the clear-cut displacement of private commercial debt by government debt as the principal basis of demand deposits has dispelled even the mirage.

UNIFORMITY OF BANKING BEHAVIOR

The rise of a large and fluctuating volume of excess reserves is significant primarily because the assumption of a fixed reserve ratio underlies the entire theory of commercial banking. The conventional description of the process of deposit expansion rests on the assumption that reserves will be fully and promptly utilized. So also does the belief that banks are compelled by the nature of the banking process to move in step with one another, so that it is impossible for a bank to expand or contract deposits other than at approximately the same rate as other banks in the system.

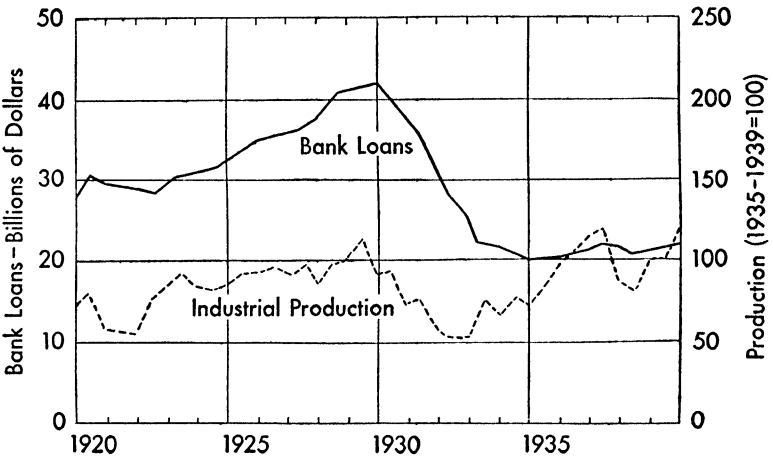
Studies made by the Federal Reserve authorities at the time of contemplated increases in reserve requirements in 1937 and 1941 disclosed wide differences in the volume of excess reserves held by member banks. These differences were a rough measure of the failure of the assumption to hold true that banks move in exact harmony in the matter of credit creation. Under such conditions the effect of bank reserves in bringing about similarity of policies among banks is probably exaggerated. On the other hand, there may have been too little recognition of the uniformity that results from a desire to avoid an appearance of unorthodox behavior that might have an unsettling effect upon the minds of their customers—and doubtless, also, upon their own.

THE FUNCTIONS OF BANKS

The change in character of bank assets signifies a shift in the economic functions performed by banks. At one time it was customary to regard banks as directly facilitating the production of goods and services. This view was supported by the tendency of the volume of bank loans to vary with changes in the volume of production (Chart XXIII). Dur-

ing the thirties, the correlation between bank loans and industrial production largely disappeared. In the period of the Second World War, the volume of demand deposits reflected changes in bank holdings of Treasury obligations and not of bank loans (Chart XXIV). The connection between deposits and bank loans would have been even more remote during the war period but for the fact that bank loans in-

CHART XXIII. *Bank Loans and Industrial Production, 1920–1939*



Source: Adapted from C. R. Whittlesey, *Bank Liquidity and the War*, p. 15.

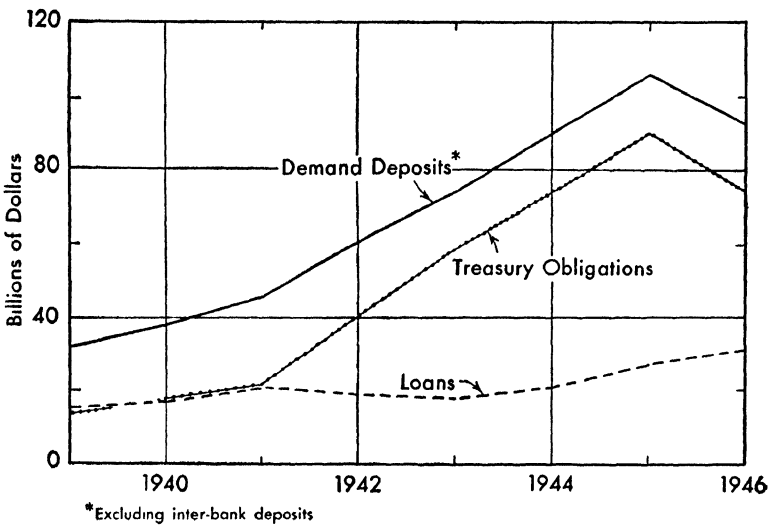
cluded a substantial volume of loans on the security of Treasury bonds. As was noted earlier, loans of this type increased materially during the war.

As referees of uses and users of credit, banks were part of the machinery for allocating scarce means among competing ends. Furthermore, as dealers in debts they exchanged their own highly regarded credit for the less widely known credit of their customers. In both respects the situation is now very different. As holders of government obligations the

credit operations of banks are only indirectly related to the productive process. And in acquiring obligations of the government in exchange for their own, banks can hardly be said to have provided credit of a higher quality than that which they received.

Thus the economic functions that were generally re-

CHART XXIV. *Demand Deposits and Commercial Bank Loans and Treasury Obligations, 1939–1946*



Source: Data from *Federal Reserve Bulletin.*

garded as of primary importance in entitling them to a share in the income of society have become greatly attenuated. What chiefly remains is the business of serving as the center of a clearing organization engaged in transferring and canceling checks. Does this mean, as is from time to time suggested, that banks "have largely gone out of the banking business"? The answer to this question depends on how one chooses to define banking, for the terms "bank"

and "banking" are by no means conceptual absolutes. In Daniel Webster's day the essential feature of banking seemed to be, at least to Mr. Webster, the issue of bank notes. In terms of the usage indicated above, it was lending to business.

The logic of the change in function is not that banks have ceased to be banks, or to be entitled to earn an income. But it raises a question as to the basis on which banks are to be compensated for the services they perform. When their chief function was the allocation of capital to productive uses, it was reasonable to look to interest for the income with which to maintain the banking system. If their chief function is to care for the community's liquid resources and to facilitate clearing operations, should they not look for compensation to those who are benefited by these services? *The Economist* of London has put this idea in specific terms:

> Over a period of years, the aim should be to shift the greater part of the burden of meeting the operating costs of banks—suitably abridged by all reasonable economies—onto the depositors, at least to the extent of charging, for the services performed, what they are worth to the recipient. If, after this has been done, there is any part of the total costs (including reasonable profits) which is not covered by (a) interest charged on advances, and (b) interest earned on securities purchased in the open market, then —but only then—a charge should be made for the remainder of the public debt held by the banks. In other words, the cost to the Exchequer of this portion of the national debt would be the net cost of operating the banking system, after all those for whom it performs services have paid for them. This net cost might well turn out to be nil, or even negative.[6]

[6] *The Economist*, Sept. 4, 1943, p. 312. In the same article *The Economist* declared that "the depositor cannot do anything else with his balances but leave them on deposit." Since it is through no fault of the depositor that he leaves such large deposits with the banks, one may perhaps inquire what justification there is for penalizing him for what he is powerless to

To suggest that some of the same considerations apply in this country is not to advocate the nationalization of banks or their abolition. It is merely to point out that as custodians of public debt (which they acquired through exercising the sovereign function of issuing money) it is by no means obvious that they are performing a service that warrants the compensation they are receiving for it, while as administrators of the money supply they are clearly performing a valuable economic service. What we now have is an arrangement whereby a large part of the cost of services performed for depositors is transferred to the Treasury.[7]

Relation to Bank Operations

REGIONAL SHIFTS OF DEPOSITS AND RESERVES

To suggest that the total volume of demand deposits is likely to be more stable as a result of the change in character of bank assets does not dispose of the problem of deposit contraction as it presents itself to the individual

avoid. *The Economist* is correct in saying that the total of deposits is not greatly dependent upon the action of depositors. But *The Economist* is quite wrong in suggesting that this was not the case formerly. For whether earning assets consist of the obligations of the government or of private debtors, the total volume of deposits is chiefly determined by the amount of earning assets and not by the choice of depositors.

While the total of deposits is largely independent of the action of depositors, except for the effect of their holding a larger or smaller amount of currency, the share of the total held by an individual bank within the banking system is very largely influenced thereby. Although the banking system as a whole could not expect to influence greatly the total of deposits through any inducements offered depositors, an individual bank might hope to affect materially the amount of its deposits. In the long run, of course, competition among banks to attract deposits might simply lead to a higher level of costs without lasting benefit to any bank. This may help to explain the resort to restrictions upon the more costly forms of banking competition, such as limitations on the payment of interest and on the granting of free services.

[7] To the extent that banking services are now performed free for the Treasury, a change in the basis of payment such as *The Economist* suggests would not result in a saving to the Treasury.

banker. For him it is a matter not so much of the total of bank deposits as of their distribution. He is concerned as to the possibility of a flow of funds from one part of the system to another. The change in bank portfolios is important to this question of regional or local shifts in deposits, even though the movement of banking funds within the banking system is determined by internal balances of payments and not by the type of security on which deposits are based.

If at some future time public and private disbursements in certain areas should fall below the payments these areas are called upon to make outside, a decline in their deposits and a drain of reserves to other parts of the country would ensue. Even though total deposits did not decline, it would be entirely possible for many individual banks to undergo a serious contraction of deposits. Nevertheless the strain would be less than it would if, as happened in the early thirties, the total volume of deposits were also declining sharply. And the strain on the system as a whole would be far less, for a condition of stringency in one area arising out of a decline of bank deposits in that area would have as its counterpart an expansion of deposits elsewhere. The strain would be easier to cope with simply because it was less general. In addition, banks in some areas would be in a position, because of expanding balances, to come to the aid of banks in areas losing deposits.

DEPOSIT CONTRACTION AND SOLVENCY, A CASE HISTORY

The predominance of government securities in bank portfolios has simplified one important decision which the individual bank must make in case an increase in liquidity demands makes it necessary to convert earning assets into cash. This is the question of which assets to liquidate. The possible importance of this change is suggested by the actual experience of a prominent western bank in the period

after the First World War. This bank was one of the oldest, strongest and most conservative banks in the state. It was also one of the largest. During the war it experienced a considerable increase in deposits. Unfortunately for the bank, the most important account, that of a wartime government corporation, constituted more than a quarter of the bank's total deposits. After the conclusion of hostilities it was decided that these funds should be transferred to eastern banks preparatory to terminating the affairs of the corporation.

The problem this presented to the bank was made the subject of discussion between the bank's officers and the officials of the war agency. A plan was worked out through mutual agreement providing for the liquidation of the account by withdrawals of $500,000 semiannually until the total deposit, amounting to $7,000,000, had been transferred. Since this meant allowing seven years to settle an account that had been built up in approximately two years, the agreement seemed to all parties not only reasonable but generous.

In tackling the problem of meeting the stipulated semiannual payments, the administrative heads of the bank decided against undertaking to convert their most liquid loans. They reasoned that to follow such a policy would mean driving their most desirable customers to other banks. While the immediate problem could readily have been solved in this way, in the end the fruits of years of effort would have been lost, making it necessary to start all over again to build up a suitable clientele. Steps were accordingly taken to liquidate loans of the types regarded as least permanent or least desirable to retain in the future.

At the time the bank held a good many loans that had to be renewed, including cattle loans which were nominally of

six months' duration but were used for financing breeding operations and therefore represented a somewhat longer use of the funds. These loans had expanded greatly under the pressure of the war but were not of a type that the bank, which was more of a city institution, regarded as adapted to its long-run requirements. The bank worked out arrangements with one of the agricultural credit institutions to take over much of this paper. To do so, it was necessary for the bank to agree to some scaling down and to accept secondary loans for the balance. Because of the 1920 collapse in agricultural prices it became impossible to thaw out these secondary loans. The same decline in commodity prices led directly or indirectly to difficulties with other loans the bank had outstanding. Eventually the affairs of the bank reached a point where it could no longer be kept in operation. The institution was taken over by another bank at heavy loss to the stockholders, and its identity was lost. Whether or not the subsequent history of the bank would have been happier if it had made a different decision concerning the procedure of liquidation is perhaps debatable. In any case the experience illustrates the dilemma of choosing among different types of assets.

The changed composition of banking assets has created a very different situation from that after the First World War. It differs first, as to the possibility of making a choice among types of assets, since the volume of non-governmental obligations is today relatively much smaller, and, second, as to the volume of assets that are subject to deterioration in value as part of a general decline in commodity prices. Differences in the maturity of bank holdings of government securities may call for policy decisions in case of future liquidation, but the decision as to what maturities to liquidate is considerably simpler than the choice

formerly required among types of obligations and classes of obligors. This aspect of the liquidity problem has been perceptibly simplified.

The significance of the change in character of assets can readily be seen by inquiring what might be expected if a bank at the present time were to find itself confronted by the certain prospect of a reduction of one-fourth in the total of its deposits. Assuming that the bank stands somewhere near the average of all banks, it would hold government securities equal to approximately two-thirds of its net deposits, a substantial share of them in short maturities. It could sell government securities equal to the amount of the decline in deposits without disturbing the bank's relations with any of its other customers. Assuming a fairly typical distribution of maturities, the contraction of assets could be accomplished within a fairly short period of time by simply allowing investments to mature, whether or not the support of the security market by the Federal Reserve Banks was maintained. Whether the bank could undergo this degree of shrinkage without jeopardizing its earnings position is perhaps another question, though even with a substantial decline in deposits many banks could expect to show profits as high as were customary in the past. In any case, it is clear that most banks are equipped, through the type and liquidity of assets they hold, to meet a contraction of deposits in a way that was not approached in the past.[8]

Our experience has repeatedly been that the amelioration of one phase of the banking problem has been followed by

[8] Furthermore, the higher ratio of cash to deposits means that a greater proportion of cash would become available through a contraction in deposits. Every decline in the volume of deposits would release reserves previously required to be held against these deposits. Since a higher reserve ratio is now required, a correspondingly greater amount of cash would be set free for every dollar of decrease in deposits.

the emergence of a new phase. This may happen again; but it would seem that the bases of some of our banking difficulties arising out of the instability of the total volume of bank credit cannot be regarded as inevitably bound to repeat themselves.

MANAGERIAL REQUIREMENTS

Such great changes in the character of bank assets and in the nature of business carried on by banks might seem to call for corresponding modifications in the personnel and methods of banks. Since banks in the past have developed staffs trained to pass on the quality of applications for loans, it might be expected that bank staffs would have to be reorganized to provide more bond experts and fewer experts on credit. In practice, this expectation has been only partially fulfilled.

In the choice of bond investments the personal judgment of a bank's officers ordinarily is relied upon to only a limited extent, much less than in the case of loans. In the case of Treasury obligations no credit problem is involved. For other types of bonds, banks have come to depend to a considerable extent upon recommendations of rating agencies such as Moody or Standard Statistics. The success of rating agencies in selecting wisely has thus become more important than before to the banking system, and by the same token the judgment of bankers would seem to have been rendered less important. The general tendency has not been greatly different with respect to a number of other recent banking changes. Of the newer sources of income, some, such as service charges, are of a purely routine character and once instituted call for no important decisions on the part of the bank's officers. Small loan business calls for considerable supervision and for a reshaping of banking

skill. Perhaps the greatest demands placed upon the managerial staff by recent changes lie in the search for new sources of income and for further economies.

Relation to Problems of Policy

THE INDIVIDUAL BANK

The rule of a 1-to-10 ratio between capital and assets is still widely mentioned as an ideal, but in actual application is chiefly honored in the breach. From June 1939 to June 1946, the ratio of capital to assets for all member banks fell from a ratio of 1 to 9½ to a ratio of 1 to 14½ (cf. Chart VIII above). For individual banks the ratio fell as far as 1 to 100, if not farther. The change in ratio of capital to assets has implications entirely distinct from the more usual question of safety of deposits. A low ratio signifies the pyramiding of earning assets. The greater this pyramiding, the lower is the rate of yield on assets that is required in order to provide a given return on capital.

The lowering of the ratio of capital to assets served to offset the effect on earnings of the decline in the rate of interest. It is obvious that if the return per hundred dollars of earning assets should drop to half what it was while the volume of earning assets doubled, earnings, *ceteris stantibus*, would remain the same as before. To say that a decline in the ratio of capital to assets helps to compensate for a fall in the level of interest rates is not to suggest that this is the only, or necessarily a desirable, way of effecting such an offset. But it is apparent that two of the methods favored by supervisory authorities for strengthening the position of banks, namely, raising the capital ratio and maintaining the ratio of earnings to investment, may be in conflict with one another.

It is possible to exaggerate the depressive effect on bank

earnings of the fall in interest rates. Along with the decline in rate of return on earning assets has gone a great decrease in the interest paid on deposits. The difference between the rate paid on deposits and the rate received on loans and investments during and after the First World War was frequently no greater than the net return received after the Second World War. In some instances it may have been less.

Judged by present standards, the rates formerly paid on time deposits were very high. In 1920 about two-thirds of all national banks were paying from 4 to 5 per cent on time deposits. In addition, it was common to pay interest on demand deposits. In that year roughly 10 per cent of all demand deposit accounts bore interest. In Boston considerably more than half of all demand deposit accounts bore interest. Since these were in general the larger accounts, the proportion of interest-bearing deposits by value was very much higher. Moreover, the rate paid was in many cases substantial: in 1920 aproximately a quarter of all national banks paid from 4 to 5 per cent on demand deposits and some paid in excess of 6 per cent. While it is important that the decline in rate of return on assets was partially compensated by the reduction in the rate paid on deposits, the further economies that can be made in this way are not large.

THE FEDERAL RESERVE BANKS

The safety and liquidity of banks are no longer problems of the banks by themselves. Their focus is on the Federal Reserve Banks. As long as the Reserve Banks provide cash freely against government obligations, the commercial banks are highly liquid. One important obstacle to stabilizing the market for government securities permanently is that guaranteeing the liquidity of longer term securities

would aggravate the problem of maintaining the differential in yields between longer and shorter maturities. The Federal Reserve would presumably prefer not to promise to continue indefinitely to protect the price of longer term government obligations, but abandonment of the policy will not be easy.

It is reasonable to suppose that the authorities will do all in their power to prevent an initial break in the price of government securities from taking place. The ideal policy, given the existing concert of interests, would seem to be a delicate balancing of confidence and fear with regard to the future of government securities. The purpose of such a balance would be to afford enough confidence to keep banks from any desire to dump government securities, while preserving sufficient uncertainty so that they would not lose all incentive to hold a substantial volume of short-term obligations.

The changed policies of the Reserve authorities with respect both to protecting bank assets and providing member bank reserves constitute a modification of the framework within which banks operate. This is by no means the only change in the banking environment. The establishment of the Federal Deposit Insurance Corporation amounted, in essence, to a move to render tolerable a situation in which more fundamental changes, even changes as mild as the authorization of large-scale branch banking, were precluded. To say this is in no way to disparage the usefulness of the F.D.I.C. But there is no use pretending that by this simple means we gave ourselves an intrinsically strong or efficient banking system. Even the easy assumption that it eliminated the danger of runs can scarcely be accepted as proved. Investigations by the Federal Reserve and others have shown that it is the large deposits and not the small that are withdrawn in time of uncertainty. Inasmuch as the F.D.I.C. protects the small rather than the large deposits, the stable

rather than the volatile, it remains to be seen to what extent the danger of future strains on banks has been removed.

With the reduction in private debt and the accumulation of currency, deposits and government securities, individuals and businesses have reached a state of liquidity never before approached. Largely because of this state of financial liquidity, monetary control may hereafter be concerned less than formerly with the quantity and more than formerly with the use of money. For there is the possibility, on the one hand, that the release of liquid funds under conditions of full employment might have seriously inflationary effects and, on the other hand, that under conditions of growing unemployment they might help to maintain consumption and possibly investment, thus producing an automatic compensatory effect that would lessen the need for fiscal policies of a compensatory character.

The logic of recent theoretical advances and the upshot of recent banking and monetary changes is that fiscal, monetary, banking and business cycle problems are today uniquely and inseparably intertwined. If there is ground for concern in the fact that the degree of this intermingling is greater than ever before, there is at the same time reason for encouragement in the realization that our cognizance of the interrelations has increased even more rapidly.

F ~ Proposals for Financial Reform

21 ~ Proposals for Banking Reform

Since, in the first place, economic life today is governed primarily by price relationships and, in the second place, the price system is a monetary phenomenon, it follows that the successful functioning of the economy is largely dependent on the orderly behavior of the monetary system. With the evolution of economic society, contracts and, especially, long-term credit have steadily increased in importance. This development has correspondingly increased the importance of money as a standard of deferred payments; yet this is precisely the function which money has performed with least success in the past. The leading proposals for monetary reform are directed toward improving the performance of money, in order that the economy as a whole may operate more effectively. This is true alike of those proposals which are concerned with the domestic and with the international aspects of money and of those which embrace the commercial banks and the Federal Reserve Banks.

The broad objective of monetary policy is the same as that of economic policy in general. In substance it is the attainment of the highest material well-being of society (as measured, say, by the average standard of living) that is compatible with such political and social goals as national

security, freedom of the individual and equal opportunity among the country's citizens. Attainment of these recognized goals is not the sole responsibility of monetary policy. But monetary policy should contribute toward their accomplishment if possible, and at least should avoid obstructing them.

The American banking system is distinguished from the banking systems of other countries by two principal features, the existence of the three federal and forty-eight state supervisory divisions and the large number of unit banks. A third feature, which only recently has begun to appear particularly distinctive of banking in the United States, is that both commercial banks and the system of central banks are privately owned. Suggestions have been advanced for changing all three of these features, the first through unification of banking, the second through the large-scale extension of branch banking and the third through the nationalization of banking. None of these suggestions is to be regarded as being at all likely of adoption in the foreseeable future, but all may be said to hold more than passing interest for both bankers and students of banking. Other suggestions, some of which would entail substantial changes in the character of banking, will be considered later in the discussion of proposals for monetary reform.

Unification of Banking

The American system of fifty-one different banking jurisdictions, each with its own laws, administrative staff and body of examiners, is the result of the evolutionary process through which banking in this country has developed. The National Banking System was superimposed on a structure of banking organization based on states' rights. At the time of its establishment the states were not inclined to surrender their authority or to disband the administrative personnel which had been built up. As new states were added to the

Union they followed the pattern already in existence, enacting separate banking laws and providing their own machinery of supervision. In view of the different and uniform pattern to which it adhered, the National Banking System could not utilize the administrative organization of the different states but had to have its own supervisory personnel. The Federal Reserve System, which had its distinctive functions to perform and in addition embraced banks not in the National Banking System, found it necessary, in turn, to create its own staff, and the same was true later of the Federal Deposit Insurance Corporation.

The end result of this evolutionary development was a scheme of administrative organization which represents the maximum in duplication of services and the minimum in uniformity of banking laws and procedure. Every state has its own state-chartered banks. The number of state banks ranges from over 500 in Iowa and Missouri and nearly as many in Illinois and Minnesota, to as few as seven and five in Arizona and Nevada. The great majority of state banks, however, are also included in the Federal Reserve System and the Federal Deposit Insurance Corporation, or in the F.D.I.C. alone. In 1947 banks in thirty-nine different states were not insured under the F.D.I.C. and therefore were included in no jurisdiction other than that of a state. In 21 of the thirty-nine States, however, the number of such banks was less than ten. Since all banks in the F.D.I.C. are examined by one or the other of the federal supervisory agencies, the small number of noninsured banks represent the only group of banks which are not already under some sort of federal supervision.

Unification of all commercial banks of the country under a single federal jurisdiction would render unnecessary the maintenance of a separate examining organization in each of the different states. Duplication of staff and of bank exam-

inations could to that extent be avoided. The effect of unification would be to provide more uniform standards, and in many cases higher standards as well. At different times competition between federal and state jurisdictions to attract banks into their fold is said to have resulted in a relaxation of banking requirements. The danger of such competitive depreciation of banking standards would be lessened by the unification of banking.

A major step was taken in the direction of unification by the Banking Act of 1933 which provided that after a specified date banks must join the Federal Reserve System if they were to be eligible for membership in the F.D.I.C. This stipulation was repealed, however, by a later amendment and the issue of unification has gradually receded into the background. A large measure of unification—of a relatively mild character—has, in fact, been achieved under the F.D.I.C. which embraces all but 5 per cent of the country's commercial banks; these 5 per cent hold only 2 per cent of the deposits of commercial banks. While this is still hardly to be considered unification of the character advocates of the policy had in mind, the urgency of genuine unification appears to have diminished as a result of the added protection afforded depositors by the F.D.I.C., and of changes in the assets of the banks which have contributed greatly to the safety and stability of the banks themselves.

Branch Banking

PRESENT STATUS OF BRANCH BANKING IN THE UNITED STATES

Branch banking was well known in the early history of banking in the United States. Both the First and Second United States Banks had branches, and various of the state banking systems also included branch banks. In the course

of time, branch banking fell into disrepute and in 1929 the laws of twenty-two states prohibited branch banks in any form. At the present time restrictions imposed on branch banking are somewhat less severe; branch banking is prohibited in nine states and allowed on a restricted basis in seventeen states and on a statewide basis in eighteen states. Four states have no provision on the subject.

Branch banking has exhibited considerable expansion during the present century and particularly during recent decades. The number of branches grew from about a hundred in 1900 to considerably over a thousand in 1920. Between 1920 and 1927, during a period when the total number of banks in the country was declining rapidly, the number of branches rose to nearly three thousand. At the end of 1933 the number of branches had fallen by not quite a hundred, whereas the decrease in total number of banks in the country was relatively very much greater. At the end of 1941 the number of branches was nearly 3,700 and at the end of 1945, it was 3,849. The growth in number of branches during these years occurred at a time when the total number of banks in the United States was declining.

Notwithstanding the steady. growth in number of branches in the United States, branch banking has remained extremely limited in scope (Table XXII). In 1945 over two-thirds of the branch bank systems [1] were on a county-wide scale only. Only a little over one-sixth of all branches were in counties noncontiguous with the county in which the head offices were situated. Branch banking on a scale as limited as this cannot be regarded as constituting branch banking in the sense that the term is used in foreign countries. De-

[1] The expression "branch bank system" is here used to refer to a particular head office bank together with branch or branches, in contrast to a unit bank or a chain of banks. The term "branch banking system" connotes the entire aggregation of banks with branches.

TABLE XXII. *Location of Branch Banks in the United States* (States with over 50 branch banks), End of 1945 [a]

	Total	In Head Office City	Outside City but Same County	In Contiguous Counties	In Non-contiguous Counties
California	839	220	80	113	426
Indiana	76	25	51		
Iowa	156		121	35	
Louisiana	56	24	28	3	1
Maine	67	6	32	29	
Maryland	102	57	18	21	6
Massachusetts	166	112	52	2	
Michigan	177	129	27	10	11
New Jersey	129	90	38	1	
New York	713	634	56	20	3
North Carolina	141	11	37	58	35
Ohio	171	118	48	5	
Oregon	72	11	5	7	49
Pennsylvania	128	94	25	9	
Tennessee	58	25	19	6	8
Virginia	72	24	27	14	7
Washington	104	21	13	27	43
Wisconsin	145	18	102	25	
Other	472	109	148	123	97
Total	3,849	1,728	927	508	686

[a] Excluding branches at military reservations.

Source: *Federal Reserve Bulletin*, June 1946, p. 673.

spite the numerical growth in branch banks in this century, therefore, branch banking of the type that is common in foreign countries can scarcely be said to exist in the United States.

BRANCH BANKING ABROAD

Under the system of unit banking which prevailed at one time in England that country had experience with bank failures which corresponded closely with our own exper-

ience a little over a hundred years later. Between 1814 and 1816, 240 banks suspended and 89 failed and about ten years later there was another wave of failures in which 70 banks failed within a period of six weeks. Thereupon legal changes were introduced which led to the organization of large branch bank systems. From that time to this England has had no further epidemics of bank failures. There has not been a failure of a British bank since 1890 and there was no loss to depositors even then.[2]

Because of differences in the economies of the two countries, experience with branch banking in England is of limited usefulness in drawing comparisons with American conditions. A more enlightening comparison is afforded by the record of branch banking in Canada. In the United States bank failures were particularly numerous in the agricultural sections of the west with their specialized, less developed economies and relatively sparse population. Notwithstanding similar or even less favorable conditions, Canada with its system of branch banking experienced not a single failure after 1923. Even allowing for the fact that the failure of a single branch bank system in 1923 corresponded to the failure in this country of a considerable number of unit banks, the record of Canada with respect to bank failures is incomparably superior to that of the United States.

THE CASE FOR BRANCH BANKING

The first and perhaps most persuasive argument in favor of branch banking is its superior record in other countries where it has been tried. A further argument in favor of branch banking is that it automatically provides diversifica-

[2] A British-chartered overseas bank doing business in Chile failed during the depression of the thirties because it became involved in nitrates which underwent a drastic decline in price.

tion. Even if every branch in a branch bank system were to make only local loans, the fact that the branches were in different parts of the country and dealing with different types of business would mean that the system as a whole had a diversified portfolio.

Branch banking is said to allow a number of important economies in bank operation. Less capital is required for a branch system than for a collection of unit banks doing a comparable volume of business. Buildings can be simpler since the fact that a bank is part of a large branch bank system affords the prestige and impressiveness that unit banks may attempt to provide by the buildings they occupy. More capable and higher paid management can be afforded since the cost of paying for it is distributed over a relatively large volume of business. Similarly, technical services such as those of security and credit analysis are relatively less expensive since duplication is avoided and they are more fully utilized. In short, a branch bank system can in general both afford more expert administration and employ it more effectively. Aside from these and other economies resulting from size, the greater aggregation of resources provides one of the most effective means of advertising since size itself tends to attract customers.

Because of the ease of communication and transfers among different parts, a system of branch banks facilitates the mobility of banking resources. Thus branch banking makes it possible for funds to be shifted about within a particular branch bank system. It tends by this fact to bring about greater uniformity of interest rates between different parts of the country and among different classes of borrowers.

The mobility of banking resources is improved in that branch banking makes it possible to provide additional facilities at relatively little expense. Under the unit system

no community can expect to obtain the services of a bank unless it can provide a volume of business sufficient to maintain a bank on a full-time basis. A branch bank system, on the other hand, may send its representative to a community for only a day a week, it that is as much as the volume of business available there justifies. The representative may arrive, a gentleman with a suitcase, and set up bank at a table in—literally—one corner of a barber shop for that day. On this unpretentious, inexpensive basis a tiny hamlet may command the services of the richest, strongest bank in the country.

A writer describing the Canadian system of branch banking has commented on the rivalry of the different banks in opening new branches. The net effect of this sort of competition among branch bank systems has been that:

"All areas have been given banking service and have been well served. In many cases the first bank in a new mining field has been a tent with the bank's name on a board beside it. The ability to offer the immediate service of a well-established organization has been a great advantage in the development of a new and expanding country." [3]

Mobility of resources is also facilitated in that a reduction of facilities can likewise be effected more easily by branch banks than by unit banks. As experience in this country during the twenties disclosed, a contraction of banking facilities under the unit system may be at the cost of bank failures with resulting loss to bank investors and possibly to others. Comparable experience in Canada indicates that under branch banking, contraction may be effected with little or no destruction of capital since it is possible to reduce banking services to as short a period of time as the community can afford; for example, the gentleman with the

[3] C. A. Curtis, "Evolution of Canadian Banking," *The Annals of the American Academy of Political and Social Science,* September 1947, p. 123.

suitcase may remain for a half day, rather than all day. The ready adjustability of banking services to the requirements of the community, including the possibility of a reduction in services without having to go through a merger or the very painful process of bankruptcy, constitutes one of the unique advantages of the branch over the unit banking organization.

Finally, branch banking provides an effective means for the training of banking personnel. Officers who rise to positions of responsibility are likely to have had long and varied experience in different parts of the country and with different types of business. Branch banking operations lend themselves, to a much greater extent than is true of unit banking, to a policy of affording promising employees the type of experience and the degree of responsibility which their qualifications and capacities warrant. The tendency to clothe banking with the characteristics of a professional career is sometimes regarded as the most significant advantage of branch banking.

OBJECTIONS TO BRANCH BANKING

It is often maintained that branch banking would tend toward monopoly. There does not, however, appear to be noticeably more tendency in this direction in England, where the so-called "Big Five" handle four-fifths of the banking business of the country, than in the United States with over 14,000 commercial banks. Branch banking still allows latitude for a great deal of competition among the different branch bank systems, and the possibility of competition is facilitated by the ease with which a branch bank can provide additional banking services in a particular locality as soon as the volume of business and the level of prospective return seem to justify. The monopoly argument against branch banking tends to underestimate the degree

of probable competition among branch bank systems and to exaggerate the extent of competition provided by unit banks. A majority of unit banks are in communities where there is no other bank. Even where more than one unit bank exists agreements between banks and the ties of loyalty between banks and customers may restrict the area of effective competition rather narrowly.

The charge that branch bankers would not take the same interest as unit bankers in the development of the community in which they are situated ignores the fact that the prosperity of a branch bank system is dependent on the long-run prosperity of all the local communities it serves, just as surely as a unit bank depends on the development of its particular locality.[4] If it is true at times that local representatives of a branch bank system may lack the "personal touch" of a unit banker who has grown up in a particular community and who knows all his customers personally, it is likewise true that for that very reason his judgment may be somewhat more objective; there may be less tendency for him to base his decisions on personal considerations or to step out of the role of a banker and into that of a promoter of local enterprise.

A final objection to branch banking is that such a system would be difficult or impossible to examine adequately. The experience of England and Canada is of little help in this connection since they do not follow the same practices as this country in the examination of banks. At one time Cali-

[4] An article on the Bank of America which appeared in the *Wall Street Journal*, April 15, 1947, described the activities of this large branch bank system in the following terms:
"The bank constantly is busy drumming up new businesses and industries for California—which, in the long-run, means more business for itself. . . Specialists roam the country, selling companies on the glories of California as a market place for their products. . . . Each branch manager is the local head of the bank's sales department. He is expected to go out and sell loans to businessmen before they even realize their need to borrow."

fornia found itself confronted with this problem and tried to solve it by setting all its own examiners to work on the affairs of the branch bank system, calling in accountants from private business and even using examiners from neighboring states. When experience demonstrated that these methods were unsatisfactory a compromise was worked out whereby examination of branches is made by selecting at random a limited number of branches and examining them thoroughly. Thus far, the compromise appears to have worked with entire success.

PROSPECTS FOR BRANCH BANKING IN THE UNITED STATES

A strong logical case exists for authorizing branch banking on a scale large enough to allow its advantages to be fully realized. Both theory and historical evidence seem to indicate that branch banking is a more efficient form of organization than unit banking. On the other hand, an apparently insuperable obstacle exists in the existence of a large body of unit bankers who are individualistically inclined and who view the extension of branch banking with strenuous opposition. It is not at all clear that the opportunity for individuals entering the banking business would be any less under the branch banking system than under the present system of unit banking. The number of bankers required would presumably be substantially the same and the opportunity to rise to positions of high responsibility would be even greater.

Authorization of branch banking on a national or Federal Reserve District scale would constitute a basic reform of the American banking system. Such a reform could even be regarded as a conservative step, on the ground that branch banking affords a safer, more secure, form of financial organization than that provided by the unit banking system.

It is conceivable also that the adoption of large-scale branch banking might forestall far more drastic changes in case the present system of banking should fail to perform successfully in the future. Nevertheless, the prospects for branch banking on the scale suggested appear remote.

Nationalization

Until recently, any interest there may have been in this country in the question of nationalization of banks was confined to a small group of socialists. The spread of nationalization in other countries, however, and the fact that banking institutions abroad have been an early object of nationalization attempts have brought the issue much more prominently to the fore. In addition, certain changes in the character of banking operations in this country, particularly the great expansion in bank holdings of government securities, have increased the apparent likelihood that in the future recommendations may be advanced for increased socialization of banking.

NATIONALIZATION OF THE FEDERAL RESERVE BANKS

For many years governments throughout the world have occupied an important place in central banking, extending in some countries to complete governmental ownership and control of the central banks. In the period of political and economic reorganization during and after the Second World War, both central banks and commercial banks were nationalized in various of the continental countries, the most notable instance, perhaps, being that of France. The principal interest in this country, however, attached to the action of the British government in nationalizing the Bank of England; not only is the British financial system much more closely akin to our own than that of France, but also the

Bank of England has served throughout its history as a model for central banking in other countries.[5]

The principal reason offered to justify the nationalization of the Bank of England was that the importance of credit and money in the modern economy requires that control over them should no longer reside in private hands. Accordingly, the Labor government took over the Bank of England, compensating the former owners by exchanging Treasury bonds for outstanding shares in the Bank. Average market quotations during a representative period were taken as the basis for compensating shareholders and no serious complaint was made that the extent of compensation was other than fair and adequate.

The effect of the nationalization of the Bank of England was to alter the form of the Bank, but to make little change in its basic character. By the very nature of its operations a central bank is essentially a public rather than a private institution. To all intents and purposes the Bank of England had, for many years, been virtually an arm of the Exchequer. As far as anyone can judge the conduct of the affairs of the Bank would not have been appreciably different in the years from 1914 to 1946 if nationalization of the Bank had occurred at the start of that period instead of at its end. The limited immediate effect to be anticipated from the alteration in the Bank's organization was indicated by the fact that following the shift in ownership from private to governmental hands the same officers and directors continued in charge of the affairs of the Bank.

Nationalization of the Federal Reserve Banks—if such an unlikely event should occur—would probably lead to as little

[5] The fact that the Bank of Canada was nationalized in 1938 made surprisingly little impression in this country and is seldom referred to even in those circles where nationalization of the Bank of England aroused the greatest comment.

immediate change in the basic character of the system as has apparently resulted from the nationalization of the Bank of England. The Federal Reserve is likewise essentially a public undertaking. Provisions which relate to the selection of principal officials and to the limitation of dividends completely subordinate the element of private enterprise in the administration of the Reserve Banks. At least from the early twenties onward, the Federal Reserve authorities have sought to govern their actions solely on the basis of the public interest. It is improbable, therefore, that the existence of nationalization would have made any serious difference in the general lines of Federal Reserve policy throughout most of its history.

The chief significance of nationalizing the Federal Reserve Banks would lie in what it would mean in terms of a change in public opinion on the United States. The tradition of private enterprise and the resistance to drastic change in our financial institutions are so strong that transfer of the Federal Reserve Banks to government ownership could occur only after a complete reversal in the attitude of the public generally and a collapse in the influence of bankers.

NATIONALIZATION OF THE COMMERCIAL BANKS

Despite the precedent of France, Australia and other countries, the question of nationalization of commercial banks in the United States is purely hypothetical. Nevertheless, suggestions of this character have already been advanced in England—and not merely by socialists. The nationalization of banking has been a frequent topic of discussion among bankers in the United States, not, it is true, as a change to be desired, but as the type of proposal that may receive strong public support in case banking and budgetary difficulties should assume serious proportions at some future time.

Support for a policy of nationalization rests partly on the feeling that the traditional function of commercial banks as "referees of credit uses and users" has largely disappeared. While many valuable services continue to be performed by banks, their operations have assumed much more of the routine, standardized character which John Stuart Mill and other writers before and since have regarded as capable of being satisfactorily discharged by the government. There is also the fear in certain quarters that because so large a proportion of the income of banks is received as interest on Treasury obligations, the government may seek a corresponding share in their ownership and operation.

The chief ground for anticipating an attempt to bring about the nationalization of banks, however, is that it could result in a large reduction in the size of the national debt; it is primarily from this standpoint that the proposal calls for analysis. The way nationalization of banks would work is presumably somewhat as follows. As of a given date, the government would give Treasury bonds in exchange for outstanding bank capital.[6] When the exchange was completed, the government would own the banks and Treasury obligations held by the banks would legally be owed by the government to itself. Actually, of course, these assets are held by the banks as security for their deposit liabilities to the public. Would not this mean that the government would owe just as much as before—or even more, since it would now owe a large sum to the former owners of bank stock? To this question there are two answers. In the first place, the amount of the bonds which the Treasury would be called on to redeem

[6] At the end of 1947 the capital of all commercial banks in the United States amounted to about $10 billion and the market value may have been somewhat higher. The value of the bonds offered in exchange for bank capital would presumably be determined on some such bases as these.

would be confined to a possible contraction of deposits, which would presumably be a relatively small proportion of the total debt held by banks. For the remainder, the obligation of the government to itself (or to depositors) would impose no actual burden on the Treasury, other than for current interest payments, and therefore could largely be disregarded.

In the second place, it is said that the Treasury might substitute non-interest bearing demand obligations in place of the interest bearing obligations of the Treasury now held by banks. The interest bearing debt would accordingly be reduced by that amount. The issue of so much paper money would not, according to the argument, be inflationary since additional notes could enter into circulation only through exchange for an equivalent reduction in the amount of deposits outstanding. Moreover, the assumption by the Treasury of the obligation to pay cash on demand would represent less of a change than might be supposed, since already a considerable proportion of deposits are guaranteed by the F.D.I.C., which is a federally established, owned and operated institution.

In determining the extent of the reduction in national debt which could be effected by this means, it would be necessary to subtract the amount of additional Treasury obligations issued to the former owners of the banks. It is to be supposed that these newly issued obligations would be of fairly long term so that the rate paid on them would be higher than the average now paid on bank-held debt. In addition, the Treasury would be compelled, presumably, to pay directly out of its general funds a large part of the expenses of running the banking system expenses which had formerly been paid indirectly out of the interest received by banks on their investment in Treasury securities. These

would be offsets to the saving that might seem likely to result from a reduction in the principal amount of the federal debt.

In any event, nationalization of the commercial banks would be a far different matter from nationalization of the Federal Reserve Banks. Extension of bank credit is still an important factor in the carrying on of private enterprise in this country. To place the granting of bank credit in the hands of governmental employees would give them great power to influence the direction of economic activity. Many public officials might themselves be reluctant to accept so great a responsibility, and certainly the dangers of abuse which it would introduce would be extremely grave. Where nationalization of the Federal Reserve Banks, therefore, would be of little direct effect, nationalization of the commercial banks would constitute a social and economic change of the utmost consequence.

CONCLUSIONS ON THE NATIONALIZATION OF BANKS

At the end of the fiscal year 1947 the interest bearing debt of the United States was approximately $255 billion. Treasury obligations held by banks other than the Federal Reserve Banks totalled $82 billion, of which $70 billion was in the portfolios of commercial banks. Another $22 billion of federal debt was held by the Federal Reserve Banks. The capital sums involved in the question of nationalization, even when all allowances are made, are very substantial. However, the debt held by banks, and this is particularly true of that held by the Reserve Banks, is predominantly of the shorter maturities on which the interest rate is relatively low. All in all, the possible saving to the Treasury in current maintenance charges would be far smaller than might appear from a consideration of the total magnitudes involved. Moreover, if it is probable that the Treasury would

not be called upon to redeem more than a small proportion of bank deposits in cash, it would also seem to follow that even without nationalization the Treasury can expect the banks to be willing, for the same reason, to retain a large proportion of their present holdings of governments. To the extent that the Treasury is not going to be called upon to redeem its promises to pay, the wiping out of the obligation through nationalization of the banks would be little more than a formality.

The idea, therefore. that from a fiscal standpoint a great deal would be gained through nationalization of the banks is highly dubious. The concluding observation to be made with respect to nationalization, however, is that it is altogether too foreign to past and present conception of banking in the United States to seem capable of enlisting sufficient support to secure its adoption within the foreseeable future. Even if the fiscal and financial benefits of such a move were considerably more certain and substantial than now appears, it is likely that we would still prefer to get along within the framework of a predominantly private, free enterprise banking system.

22 ~ Proposals for Monetary Reform

Because of the major position occupied by the commercial banks and the Federal Reserve Banks in the operation of the monetary system of the United States, various of the suggestions which have already been considered in connection with the Federal Reserve System and commercial banking could as well be included broadly under the topic of monetary reform. The present chapter is confined primarily to two proposals which have attracted wide attention since 1930, the one for a 100 per cent reserve behind demand deposits and the other for composite commodity reserve money. These plans are directed toward fundamental modification, respectively, of the method of creating bank deposits and of the basic monetary standard. There is no apparent prospect that either of these proposals will be enacted into law, but they have had considerable influence on thinking along the line of monetary policy and have not been without their effect on policies actually put into force.

Before taking up these two plans it may be observed that recommendations for the simplification of the currency structure of this country, which once attracted considerable interest, have now been pushed to one side. This is not be-

cause our currency is any less diverse than it was in the past. Monetary statistics still report types of money in circulation, such as the Treasury notes of 1890, which few people have ever seen in use. They include National Bank notes which have not been issued since 1936 and greenbacks which were originally issued during the War Between the States and are now perpetuated on sentimental grounds rather than for any compelling monetary reason. The continued use of silver dollars and silver certificates is likewise determined by other than purely monetary considerations.

Currency in circulation is now dominated by Federal Reserve notes which constitute over four-fifths of the total, and a substantial part of the remaining currency supply is made up of fractional coins. From a monetary viewpoint all other types of currency are incidental and inconsequential. If simplification of the currency were carried to the point of eliminating every other type of currency now carried on the books, the historical clutter of so many different kinds of money would be removed without impairing the operation of the circulating medium in the slightest degree. By the same token, however, failure to simplify the currency structure likewise makes no significant difference in its functioning.

The changes embodied in the proposals for 100 per cent money and commodity reserve money, are of a very different order from the proposed simplification of the currency. Both of these plans contemplate changes of a most fundamental character and the introduction of either one would alter basically the operation of the American monetary system.

One Hundred Per Cent Reserve Money

The fundamental purpose of the 100 per cent reserve plan is to take away from commercial banks the power to

create circulating medium. It is designed to abolish, as far as commercial banks are concerned, the third stage of the art of lending.

PROVISIONS

Abolition of fractional reserves. Recognizing that the basis of deposit creation is the so-called Goldsmiths' Principle of holding fractional reserves against demand deposits, legislation would be enacted to require commercial banks to hold 100 per cent reserves against all demand deposits. The additional reserves to meet this requirement would have to be provided by some central monetary authority, perhaps the Treasury or the Federal Reserve Banks, issuing new reserve money in the desired amount. This could presumably be done by the same means as are at present employed by the Federal Reserve when additional member bank reserves are needed. The commercial banks would obtain whatever amount of reserves was necessary to bring reserves up to the 100 per cent requirement by selling existing assets, such as investments and loans and discounts. Thereafter, demand deposits would increase or decrease as bank customers chose to hold larger amounts of cash in the form, respectively, of deposits or of currency, but they could not be changed simply as a result of a change in the scale of lending and investing by banks.

Volume of circulating medium. The creation of so large a volume of reserve money, which would, of course, be immediately available at any time in the form of currency, would not, it is alleged, be inflationary. The currency could be obtained only by the cashing of demand deposits. The total quantity of money in circulation would not be increased, since the one form of money would increase only as the other form of money was diminished. Since the rate of turnover of currency is a little less than that of demand

deposits, an increase in the volume of currency in circulation might even tend to be mildly deflationary.

Once the system had been instituted, changes in the form of circulating medium, i.e., from currency to deposits and vice versa, could take place freely at the initiative of the public. An increase in the total volume of circulating medium, however, could occur only through an equal expansion in reserve money. This could come about presumably by the normal working of the monetary standard causing an inflow of basic monetary reserves, or by action of the responsible monetary authorities creating additional reserves. The total supply of circulating medium—demand deposits and currency combined—could not, however, be increased through the activities of the banks in making loans and investments.

Lending activities. The effect of the reform would be—and this is its intention—to divorce the money function from the lending function of banks. It would still be possible for individuals and business enterprises to borrow, but the funds borrowed could be obtained only from funds voluntarily saved by others.[1] Banks would operate more or less after the manner of savings banks; they would continue to exercise the first and second stages of the art of lending, and their activities as intermediaries would be expected to experience considerable expansion. But they could no longer lend funds which they created as part of the act of lending. Since additions to the supply of loanable funds would be confined, except for the action of the central monetary authority, to voluntary savings, the interest rate, it is said, could operate much more successfully as the regulator of the supply and demand of loanable funds. The supply of funds available at a particular rate of interest would continue to

[1] Leaving out of consideration the possible creation of additional money by the central monetary authority.

be affected by changes in the public's willingness to abstain from consumption and its preference for liquidity, but would no longer be subject to the legerdemain of commercial banks manufacturing circulating medium by their credit operations.

Bank earnings. Under such a system the commercial banks, because 100 cents in cash was held against every dollar of demand deposits, would be completely liquid and completely safe. They would also be almost equally profitless since they would hold reserves where formerly they held earning assets. It is proposed that banks be compensated for the loss of income yielding assets by imposing charges on deposits proportional to the cost of the services performed. Conceivably, an open, outright subsidy at governmental expense could also be provided. Alternatively, the central monetary authority to whom the banks transferred their earning assets might be required to administer them as trustee and turn over the income to their former owners. This would allow the main objective of the 100 per cent proposal to be achieved, while enabling the banks to receive more or less the same income as at present.

BASES OF THE ONE HUNDRED PER CENT RESERVE PLAN

The case for the 100 per cent plan rests on three principal bases—the philosophical, the historical and the economic. These basic reasons for the reform are here presented in substantially the form in which they have been advanced by advocates of the proposal.

Supporters of the 100 per cent reserve plan maintain that the issue of money is a sovereign function which should be fully restored to the State. For the sake of effectiveness, the issue of all money including demand deposits should be taken out of private hands, just as was done centuries ago in the case of standard money and most forms of currency.

And in the interest of justice, profits from the issue of money should accrue to the State and not to any favored group of private citizens.

The Constitution of the United States granted Congress the power to issue money and control its value. The states were explicitly enjoined from coining money or issuing "bills of credit." Failure to make similar mention of bank notes and demand deposits may be explained by the fact that at the time they were either unknown or unimportant. At any rate, it is generally agreed that demand deposits and bank notes are money and that their volume affects the value of money. Accordingly, it is argued by advocates of the 100 per cent reserve plan that compliance with the original intentions of the Founding Fathers requires that the issue of all forms of money—and specifically of demand deposits which now constitute much the largest element of the money supply—must be confined to a federal agency under the authority of Congress. While the Supreme Court held in 1837 that the chartering of banks by states was not contrary to the Constitution, the privilege of bank note issue was later taken away by the tax imposed in 1866 on the notes of state banks. Since demand deposits today occupy much the same position in the circulating medium and in the affairs of banks that was then held by bank notes, the proposal would carry out the purpose of that reform by accommodating it to present day conditions.

The principal economic argument for the 100 per cent reserve plan proceeds from the assumption that changes in the volume of circulating medium may disturb business activity and contribute to inflation and deflation. Changes in the volume of circulating medium result from the fractional reserve system. Therefore, economic disturbances originating in this cause would be avoided if the fractional reserve system were abolished. Without saying that this is

the only cause of economic fluctuations, advocates of the plan regard the elimination of deposit creation by commercial banks as a major contribution to the promotion of economic stability.

CRITICISM OF THE ONE HUNDRED PER CENT RESERVE PLAN

Rigidity. It is sometimes maintained that the requirement of 100 per cent reserves would render the monetary system so rigid as to stifle economic progress. The answer generally offered is that the power to expand the money supply would not be abolished by this requirement but would merely be taken out of the hands of thousands of independent bankers and confined to the responsible monetary authority whose duty it is to administer monetary policy in the interest of the country as a whole and with recognized objectives in view. As far as technical factors are concerned, it would be possible to provide just as great expansion of the circulating medium as at present. The probability, however, that in practice changes in its volume would be less than under the fractional reserve system, far from being an argument against the proposal, is exactly what is intended, since the "inherent instability of bank credit" which results from that system is viewed as a primary cause of business fluctuations.

Velocity. A criticism of an opposite character is that the plan would still permit substantial fluctuations in business activity since, while it would bring the quantity of money under control, it would not control the rate of turnover or velocity of money. In the relatively short periods of time which correspond to the phases of the business cycle, changes in velocity may be as important as changes in the quantity of money. This criticism is formally valid and is a

reminder that the plan is not to be regarded as a panacea. The task of monetary management would be simpler, however, with only one variable where there are two variables at present. And it is quite possible that instability of the velocity of money has been aggravated by variations in the quantity of money. On rigidly logical grounds it could be argued that perfect control of the quantity of money (M), would give the monetary authorities control over the quantity $M\ V$, since adjustments in M could theoretically be used to offset any possible changes in V. No such perfect control is to be expected, and it may be assumed that under the 100 per cent reserve plan, fluctuations in business activity arising out of monetary causes would still occur. Nevertheless, it would no longer be possible for Reserve Bank policies to be neutralized as they sometimes have been in the past by spontaneous changes in the quantity of circulating medium resulting from the lending operations of commercial banks.

Acceptability. A final criticism is that the proposal is too extreme and unconventional to secure sufficient support from the public in general and bankers in particular to allow it to be adopted. While this observation is not based on rational grounds, it may be entirely correct; there is no apparent likelihood that the plan will be put into effect in anything like its present form.

Composite Commodity Reserve Money

In contrast with the 100 per cent reserve plan which relates to the issue of circulating medium and more particularly to abolition of the power of commercial banks to create demand deposits, the proposal for composite commodity reserve money is directed toward establishing a new type of monetary standard. Its purpose is to improve upon and take the place of the gold standard.

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A composite commodity unit would be established comprising fixed quantities of a considerable number of staple commodities. The precise commodities, proportions and amounts would be determined only after thorough study, but the guiding principle would be to make the selection with a view to the probable effect in promoting stability in the economic system. The list shown in Table XXIII has been prepared not as a final choice but as an example of the type of composite commodity unit that might be employed.

TABLE XXIII. *Illustrative Composition of Commodity Reserve Unit* [a]

	Quantity	Value
Meat	12 bu.	$ 13.40
Corn	12½ bu.	8.40
Cotton	87 lb.	10.50
Wool	25 lb.	7.50
Rubber	24 lb.	4.50
Coffee	34 lb.	3.00
Tea	9¼ lb.	2.10
Sugar	300 lb.	7.80
Tobacco	16.3 lb.	5.20
Total agricultural	63 bbl.	$ 62.40
Petroleum	3.4 l. ton	$ 7.80
Coal	204.0 lb.	13.70
Wood pulp		4.20
Pig iron	0.23 l. ton	5.30
Copper	35.0 lb.	4.50
Tin	4.0 lb.	2.10
Total nonagricultural		$ 37.60
Grand total		$ 100.00

[a] Based on 1937 prices in terms of $100 total unit. From Benjamin Graham, *World Commodities and World Currency*, New York, 1944, pp. 44–45.

Once the hypothetical "bale" of commodities had been decided upon, it would be made the legal monetary unit of the country in exactly the same way that a given weight of gold may be made the monetary standard. Two-way convertibility would be maintained between currency and the composite commodity unit. Currency would be issued at a fixed rate against commodity units presented to the monetary warehouses (corresponding to the issue of currency against gold deposited at the mint) and the currency would be redeemable in the commodity unit at a fixed rate. Conversion in either direction would be in fairly large amounts, say $10,000, after the general pattern of the gold bullion standard. The effect of the two-way convertibility would be to maintain an absolutely stable value in terms of dollars for the composite combination of commodities. This would correspond to the fixed price for gold which exists under the gold standard. Individual commodities comprising the "bale" would be free, however, to change in value relative to one another. If certain commodities became cheaper, it would mean that other commodities would be dearer, since the algebraic total of the stipulated amounts of all the commodities would always be the same in terms of dollars. Supply and demand would thus continue to operate freely with respect to the individual commodities comprising the monetary unit; the plan would not involve "price fixing" as that term is customarily understood.

THE CASE FOR COMMODITY RESERVE MONEY

Stabilization of prices. While the price of individual commodities would not be fixed, the price of the entire group (in the prescribed proportions) would be stabilized at the legal conversion rate. This would constitute price stabilization for a restricted group of items. The commodities in the standard unit would have been selected with a

view to assuring that stabilization of this basic monetary group would contribute as fully as possible to stabilizing commodity prices in general. They would consist of such things as foodstuffs and raw materials which play an important part in the cost of producing finished goods. The attempt at price level stabilization would be less specific than in plans, like that of Irving Fisher's "Stabilized Dollar," which set a stable price index as the goal to be achieved. However, the commodity reserve plan is intended to afford a much closer approach to price stabilization than was ever attained under the traditional gold standard.

Stabilization of economic activity. By increasing the stability of prices, the composite commodity reserve plan would be expected to promote economic stability in general. Its effect in stimulating business activity in periods of depression, however, it intended to be much more direct and powerful. The unique prosperity enjoyed by gold producers when the economy as a whole is suffering severe depression has long been recognized. The reason for the contrary reaction of the gold mining industry to general deflation and depression is simple enough. Since the monetary value of gold was fixed at the mint, its price did not decline during a period when prices in general were falling. At the same time, the drop in other prices caused a decline in the cost of producing gold. With declining costs and a fixed selling price for their product, gold miners were naturally greatly benefited.

Under the composite commodity reserve plan, the stimulus heretofore afforded by the falling price level to the one industry, gold mining, would be extended to the entire group of commodities constituting the standard monetary unit. Again the basis for judging the probable effect of the proposal is the analogy with gold. The selling price of the "bale" of commodities would be fixed at the legal con-

version rate and an unlimited demand at that price would be assured, while the decline in the general price level would tend to lower the cost of producing these commodities. Producers of the monetary commodities could, therefore, expect to experience increasing prosperity at such a time. Both because of the number of commodities involved and because the particular commodities in the unit are to be chosen with a view to the sustaining influence which prosperity in those industries would have on business activity in general, it is contended that the stimulus given to the production of the monetary group of commodities would be felt strongly throughout the entire economy. The result, it is said, would be to render any deflationary movement relatively short-lived and moderate.

While major emphasis has been placed on the stimulating effects of the plan's operation in times of depression, it should be added that a rise in the general level of prices would have a retarding effect on industries producing the monetary group of commodities. Moreover, rising prices would presumably lead to increased redemption of currency in commodity reserve units as the price of commodities rose. The result of such redemption would be to reduce the volume of currency in circulation and to expand the supply of goods (those comprising the composite reserve unit) on the market. The combined effect would thus be to place an immediate damper on any inflationary tendencies manifesting themselves in commodity markets. The over-all effect of the scheme's operation, then, would be to counteract automatically any inflationary or deflationary trend, and so to promote stability of general business conditions.

Emergency use of reserves. A further, though subordinate, advantage attributed to the plan is that it would constitute a supply of staple commodities which could be drawn on for use in case of emergency. Monetary reserves

would form a stock-pile of useful commodities rather than, as heretofore, of useless gold. No one can deny how helpful it would have been to be able to turn to such a source for tin, rubber, copper and the like, which were so vitally needed during the Second World War. Under such exceptional circumstances, commodities would be released for temporary use against IOU's having a value equal to that of the goods released. The commodities so released would be fully replaced as soon as practicable.

CRITICISM OF THE COMPOSITE COMMODITY RESERVE PLAN

Administrative difficulties. The composite commodity reserve proposal has been chiefly attacked on the grounds that it would be costly and difficult to administer. Not only would a large volume of commodities be withdrawn from actual use to create the reserves, but the task of physically storing so vast a stock of goods, some of them fairly bulky, would be far from simple. Moreover, some of the goods would be subject to deterioration, and for these it would be necessary to devise methods for continuous replacement of old with new products to assure that quality was maintained at a satisfactory point. Difficult as these technical problems might be, they could undoubtedly be solved if the merits of the plan seemed to justify. And, however great the cost of maintaining such a system, the expense would be warranted if it succeeded in its aim of automatically providing stability of economic conditions at maximum levels of production. An ideally functioning monetary system would be of such great value to society that its expense, within conceivable limits, should hardly be considered.

Rigidity. A more fundamental type of objection is that the proposed plan would involve the same rigidity and be subject to the same operational limitations as the tradi-

tional gold standard. Assuming that the problem of international exchange relationships were solved—which would not be easy in view of the improbability that the same selection of commodities to comprise the monetary unit would be appropriate to all countries—there would again be the tendency for price level disturbances originating in one country to be transmitted to other countries. The increased inflexibility of the wage structure which interfered with price and other adjustments under the gold standard could be expected to complicate adjustments under the composite commodity reserve system. If the authorities then undertook to improve on the automatic operation of the plan—as was done under the gold standard—by departing from strict adherence to its provisions, the door would be open to the same sort of complications that cumulated under the gold standard. Fundamental maladjustments could remain uncorrected and conceivably we might find ourselves embarked on the endless accumulation and sterilization not of a single relatively useless commodity such as gold, but of all the highly useful commodities constituting the commodity reserve standard.

Miscellaneous. It is further maintained that from a practical standpoint no suitable time could be found for introducing such a plan. Its introduction under boom conditions would only add to the relative scarcity of goods available in the market. On the other hand, to set aside goods in a depression for the purpose of building up a reserve might meet with the approval of producers of the particular commodities affected but would contribute nothing in a direct way to satisfying the needs of consumers. To introduce it when economic conditions were reasonably stable would be to run the risk of upsetting the existing satisfactory balance.

The proposal for diverting commodities from the monetary reserve in time of emergency has been criticized as

involving a dangerous tampering with reserves, which is inconsistent with the fundamental purposes of reserves. The time when a reserve is most important is during an emergency. To put written IOU's in place of the physical commodities in a crisis would be to dilute the monetary base at the very time when strength was most needed. The issue here is less fundamental, actually, than might appear, since critics are thinking of the type of emergency, such as a run, which would place a severe strain on monetary reserves, while the advocates of the plan have in mind an emergency such as war which might involve no particular monetary strain. It is nevertheless relevant to ask why, if the system could be maintained on the basis of IOU's under these conditions, it would not be possible to dispense with a physical commodity basis of the monetary system at other times as well.

CONCLUSIONS ON COMPOSITE COMMODITY RESERVE MONEY

The key to an understanding of the commodity reserve proposal is to be found in the analogy between this plan and the traditional gold standard. Not only are the operational features essentially similar, but so also are the bases of the strong and weak points of each.

The most attractive feature of the plan is the manner in which it would automatically help to relieve depression. The tendency to bring about a wide dispersion of the sort of stimulus which in the past was confined to the gold mining industry is a consideration of very substantial importance. On the other hand, the public seems pretty well committed, for the present at least, to attempting to combat depression by methods of a fiscal character. A great advantage of the composite commodity reserve plan is that it would operate automatically, while the advantage of the

use of fiscal measures is that they would not withdraw from current use the additional goods which they were responsible for bringing into production.

The possibility that the composite commodity reserve plan will be adopted in this country appears remote. While it has enlisted support not only from those interested in economic stabilization but also from a number of former adherents of the gold standard and from others interested in the idea of stockpiling basic raw materials, it seems likely that in case of a return to a commodity standard, the familiar gold standard would receive more general endorsement than a new and untried system such as this.

Conclusions

The chief importance of the 100 per cent reserve and the composite commodity reserve proposals lies in the contribution their study makes to an understanding of the nature and operation of the monetary system, and the type of changes that might be introduced to meet certain current problems. The two plans are in no way to be regarded as alternative solutions. Since one relates to the role of commercial banks in providing circulating medium and the other to the basic monetary standard, either could be adopted by itself or the two could be used in conjunction. The greater likelihood, of course, is that neither plan will be adopted in anything like its present form.

It is not to be supposed that proposals such as these are without influence on policy, even though they are not directly enacted into law. The discussion they engender and the ideas they help to clarify, quite as much as the ideas they embody, are all part of the milieu in which policies are formed—and policy is seldom impervious to its environment! The raising of member bank reserve requirements as a means of limiting the expansion of bank deposits, which is

now established Federal Reserve practice, is different only in degree from the plan for raising reserve requirements to 100 per cent in order to abolish altogether the expansion of deposits by commercial banks. The extent to which the introduction and use of this instrument of credit control was influenced by discussion of the 100 per cent reserve proposal is, of course, impossible to determine. It is possible to find in suggestions advanced by the Board of Governors and others for strengthening the powers of the Federal Reserve to control credit a close resemblance to principles of the 100 per cent reserve plan. Again the similarity may perhaps be coincidental rather than causal. Both of these parallels relate to the 100 per cent reserve proposal. No such concrete indication of the influence of the composite commodity reserve plan is yet to be observed.

23 ~ The Income-Expenditure Approach to Monetary Theory and Fiscal Policy

Reference was made earlier to the great interest which has developed since the early thirties in the factors governing the behavior of money and in the effect of monetary behavior on the functioning of the economy. The development of ideas along these lines was largely a product of the period of serious depression abroad and in this country, and for that reason tended to be associated with proposals of an expansionist character such as deficit financing and cheap money. The theories need not, and indeed should not, be so narrowly construed. Particular policies depend not only upon the theories on which they are based but also upon the conditions under which they are applied. The same theory may provide support for orthodox policies at one time and for unorthodox policies at another. But more than that, "the technique of analysis is neutral on policy questions." [1] Theory is to be judged not on the basis of policies which may be developed out of it but on its

[1] Cf. Paul Samuelson in *Postwar Economic Problems* edited by S. E. Harris, New York, McGraw-Hill, 1943, p. 31.

helpfulness in explaining actual phenomena which we see about us. This is as true of the behavior theory of money in the realm of social and economic phenomena as it is of the nebular hypothesis or the quantum theory in the realm of natural phenomena.

The analysis which follows is intended primarily as an elucidation of the body of thought relating to monetary behavior which was developed chiefly in the decades of the thirties and forties. Where questions of policy enter in, that fact will be clearly indicated. For the most part, however, the discussion of policy will be reserved for presentation in the ensuing chapter.

Supply, Demand, and the Price of Individual Commodities

Fundamentally, price is a link between supply and demand. There are three separate but related factors to be considered, namely, price, supply and demand. Any influence which affects any one of the three elements necessarily involves the other two. An analysis of the determination of a particular price necessarily rests upon an analysis not only of the supply and demand, in a static sense, of the commodity in question, but also of the dependent effect of any change in price upon supply and demand.

Failure of past attempts to fix the prices of individual commodities have resulted from the absence or inadequacy of direct control over the supply of and the demand for the commodities concerned. The very considerable success of the efforts of the Nazis to control the level of individual prices during the period of their regime in Germany may be attributed to the firmness, even ruthlessness, of the methods they employed to control supply and demand. Likewise when the American authorities undertook to control prices in the United States following our entry into the

Second World War they adopted many of the methods for regulating supply and demand, such as rationing and priorities, which had proved successful in Germany and elsewhere. The sharp increases in prices which occurred when the various controls were relaxed afforded dramatic proof of the effectiveness of such measures in accomplishing the purposes for which they were intended.

Supply, Demand, and the Level of All Prices

The problem of explaining—or of controlling—the level not of a single price but of all prices may likewise be analyzed in terms of supply and demand. Another name for fixing the general level of prices is, of course, the prevention of inflation and deflation. In discussing the general level of prices it is necessary to think of supply and demand much more broadly than when we are considerating particular commodities. Demand may then be said to consist of the total monetary expenditures of the community,[2] and supply to consist of all the goods and services purchased, or available for purchase, by the community.

Both the nature of the problem and the source of the principal difficulties in controlling the general price level were clearly demonstrated at the start of heavy war financing in 1941–42. Expenditures by the government contributed to a very large relative increase in incomes of workers and the public generally. The increase in incomes provided consumers with the means of greatly expanding their monetary expenditures. But since the growth in incomes originated in payments connected with the production of war equipment and materiel, there was not a corresponding increase in the supply of goods and services available for purchase.

The spread between the sharply rising consumer income

[2] This is the connotation of "total effective demand," which is analyzed in the next section.

and a much less rapidly increasing supply of available goods and services was referred to as the "inflationary gap." The potential supply, at the existing level of prices, was considerably smaller than the potential demand represented by the higher level of income. Assuming, therefore, that the expanded volume of income had been spent, the result would have been a corresponding rise in the general level of prices. It is to be noted that the high level of income relative to the supply of available goods represented merely potential demand; only by being spent would it have become actual demand.

Failure to spend currently all of the increase in income would have served to reduce the inflationary pressure at the time, but, to the extent that the funds represented by the unspent income were held in liquid form, they would have increased by that much the potentiality of inflation at a later period when they might be spent. The seriousness of the subsequent inflationary pressure would depend upon the relationship existing later between total effective demand in the form of actual expenditures by individuals in the community, and the supply of goods and services then offered in the market.

Total Effective Demand and Its Determination

The basis of the income-expenditure approach to the behavior of money is the idea of a flow of money payments through the economy: income resulting from the expenditure of others becomes available for spending; if it is in fact spent it thereby generates incomes for others.

RELATION OF EXPENDITURE TO INCOME

Since all income originates in expenditure and expenditure necessarily generates income, it follows that income in any period must be equal to previous expenditures. In this

gross sense it is not possible for income to be insufficient to cover past expenditures. That is what is meant by the statement that "any level of production is potentially self-financing at the existing level of prices." In other words, if all the incomes generated by that production were spent on what was produced, they would exactly cover the expenditures incurred in the process of producing. But it does not at all follow that expenditures in the ensuing period will always be equal to the income received in any period.

While expenditure automatically generates income—income and expenditure are in fact the same thing, looked at from the side of the receiver and the payer respectively—income is not necessarily all spent, nor, as will be shown presently, is total expenditure necessarily limited to the income received in the preceding period. That is, income cannot be more or less than the amount of prior expenditure, but expenditure may be more or less than previous income. If expenditure were just equal to income in the preceding period, then income would likewise be just equal. In that case the income-expenditure stream would just maintain itself and, assuming no change in the flow of goods and services, there would be no resulting tendency toward inflation or deflation. It is because of the possibility of expenditures being greater or less than incomes in the preceding period that it is possible for the stream of money payments—and therefore the level of total effective demand —to become larger or smaller.

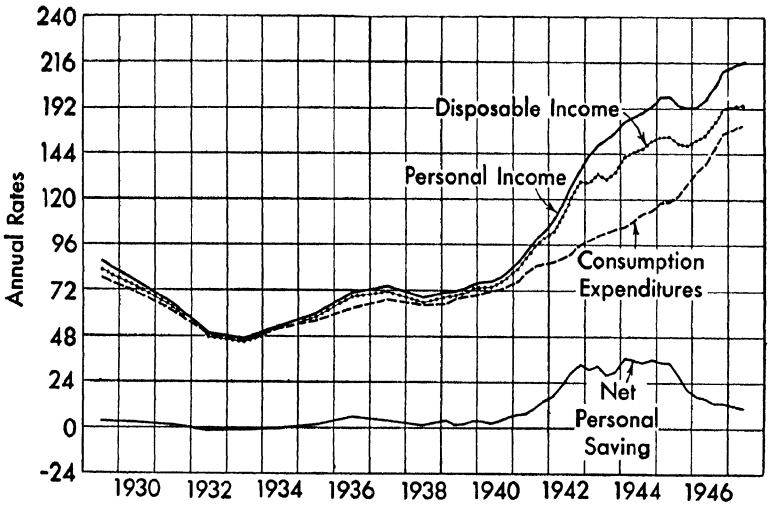
CHANGES IN EXPENDITURE AND INCOME

Since the failure of expenditure to correspond exactly with income in the preceding period gives rise to variations in the flow of money payments through the economy, the reasons for the lack of such correspondence becomes a question of central importance. The reasons why expenditure in

a given period may differ from income in the previous period may be seen by examining, first, what becomes of income and second, how expenditures may originate other than out of income.

When income is received, just two things may happen to it; it may be spent on consumption or it may be saved. The

CHART XXV. *Income, Consumption and Personal Saving in the United States, 1929–1947*



Source: *Federal Reserve Charts.*

part that is spent on consumption automatically generates income and so maintains, to that extent, the flow of the income-expenditure stream. The part saved, however, is not necessarily spent during that particular period, since it may be held idle, perhaps in order to spend it later for consumption or investment. The manner in which disposable income, i.e., income after taxes, was in fact divided between consumption and savings in the period from 1929 to 1947 is

shown in Chart XXV. Since the part of income which is saved does not automatically become expenditure (and therefore generate income in the next period), it creates a gap in the flow of money payments. The gap can be closed only if money equal to the net amount withdrawn by having been saved is returned to the stream by a similar volume of investment, i.e., if Saving equals Investment.

These ideas are presented diagrammatically in Figure III. This diagram is intended to suggest that income is equal to previous expenditure and that it may be devoted to two purposes only, consumption and saving. Expenditure, in turn, which constitutes the income of the next period, is derived from two possible sources, consumption and investment. The fact that investment does not necessarily equal saving is indicated by the dotted line. The expression "circular flow of money" which is sometimes used to describe this process seems to imply a continuity, free of interruptions, which is very misleading. Figure III is designed to suggest a flow of money payments from one expenditure-income period to the next. The variation that may occur between these successive periods is of the essence of this approach to the theory of money.

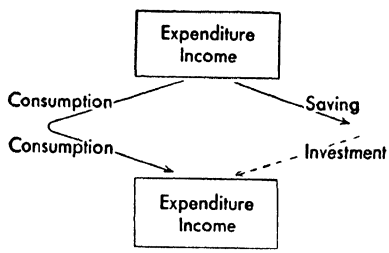


FIGURE III. *The Flow of Income Payments*

An increase or decrease in the income-expenditure stream, whether it comes about through a change in consumption or investment, will have further effects on the stream because of the fact that one payment ordinarily gives rise to subsequent payments. On account of the secondary effects,

any change in expenditures will ultimately alter the total volume of payments by more than the amount of the initial change.[3]

If the money saved exceeds the money invested ($S > I$), it follows that the income-expenditure stream, and therefore total effective demand, is growing smaller. That signifies a tendency toward falling prices and dwindling employment. It the money saved is less than the money invested ($S < I$) the income-expenditure stream, and therefore total effective demand, grows larger with a resulting tendency toward rising prices or increasing employment. If the money saved is just equal to the money invested ($S = I$) there is presumably a tendency toward stability at the prevailing level of prices and employment.

The effects of monetary behavior are dependent upon the total quantities involved. Since the totals are the resultant of the combined actions of all individuals, what the individual does is, of course, important. Emphasis throughout, however, is on the total view of the economy, what is sometimes called the "macroscopic" as contrasted with the "microscopic" (individualistic) approach to economic problems.

Among the principal factors which would tend to cause saving to exceed investment would be the holding of money idle by hoarding it, or the reduction of the volume of money by paying off indebtedness (loans or investments) at a bank with the result that the volume of demand deposits is reduced. On the other hand, investment could exceed saving as a result of dis-hoarding or through spending funds newly created, for example, by an expansion of demand deposits.

[3] The nature of the secondary effects is ordinarily explained in terms of the so-called "multiplier" and "acceleration" principles. These principles are briefly described in G. Halm, *Monetary Theory*, Philadelphia, Blakiston, 1947, Chapter 18, and A. H. Hansen, *Fiscal Policy and Business Cycles*, New York, Norton, 1941, Chapter 12.

By means such as these it is possible for investment to take place other than by spending funds received as income in the preceding period.

For purposes of this analysis, incidentally, "investment" includes more than what is ordinarily thought of as investment, such as construction of buildings and machinery, the accumulation of inventories and public works. It also includes expenditures such as those for the construction of battleships which may be sunk or for ammunition which is shot away. In the case of durable consumer goods such as automobiles where a considerable investment element is present, it is largely a matter of choice whether to classify the expenditure as primarily consumption or investment, but it has become customary for the sake of simplicity and convenience to put them under consumption.

The term "investment" in this context does not include the purchase of investment securities such as bonds, where the effect is merely to transfer money to someone else. If the recipient of the funds uses them to build a factory or a battleship, it becomes investment at that time. To be called investment it must be "clothed," to return to the original connotation of the term, in physical things such as are part of the current flow of goods and services.

The assumption that investment thus broadly defined is the critical factor in maintaining the level of total expenditure (total effective demand) explains the resort to governmental expenditures for public works as a means of combatting depression. It has frequently been interpreted as providing a justification for deficit financing at times of declining business activity. This, however, is a question of policy and is not part of the theory itself. It is true, of course, that the theory has been appealed to as the basis for many of the well-known proposals for maintaining a high level of employment.

"THE FUNDAMENTAL PSYCHOLOGICAL LAW"

One may ask why—assuming the validity of the analysis outlined up to this point—it cannot be expected that investment will tend automatically to equal saving, so that ordinarily no positive policy is called for to bring them into harmony. Such an expectation is, in fact, implicit in the writings of the classical economists and of those who disagree with the newer doctrines. However, the view that saving and investment will tend, if left to themselves, to reach equilibrium under conditions which will assure high level employment was specifically and categorically repudiated by Lord Keynes.

The contrary view, that there is a natural tendency in wealthy countries for saving to exceed investment, is based primarily upon the so-called "fundamental psychological law." This principle states that an individual or a nation will devote only a part of any increase in real income to consumption. While an increase in income will result in an increase in consumption, it will also result in an increase in saving.[4] The increase in income which automatically leads to an increase in saving, however, does not necessarily result in a corresponding increase in investment.

In an economy with a relatively low level of incomes, the classical assumption of an equality between saving and investment may tend to hold. But in the same economy with a high level of incomes, it is maintained that saving would tend to exceed investment. If left alone the excess of saving

[4] "The fundamental psychological law, upon which we are entitled to depend with great confidence both *a priori* from our knowledge of human nature and from the detailed facts of experience, is that men are disposed, as a rule and on the average, to increase their consumption as their income increases, but not by as much as the increase in their income."—J. M. Keynes, *The General Theory of Employment, Interest and Money*, London, Macmillan, 1936, p. 96.

over investment would lead to a contraction of the stream of income and expenditure. The dwindling total effective demand would result in rising unemployment of labor and other economic resources. Eventually a point would be reached where, because of the resulting decline in income, saving was so reduced that it would become equal to investment, even though in the meantime investment would also have declined somewhat. At that point the economy would again be in equilibrium, but it would be an equilibrium under conditions of partial employment, with national income below what the basic conditions—apart from the fundamental psychological law—would make possible.

The emphasis placed upon the fundamental psychological law helps to explain the basis for some of the other policies, to be discussed more fully later, which have been advocated by those who adhere to the theory. One suggestion is a continuing program of public works designed to maintain investment at a higher level than would otherwise exist. Taxation, made necessary in part by the large scale of public expenditure designed to promote investment, would be featured by a high degree of progression. The effect of such a policy would presumably be to discourage saving, since individuals in the high income brackets, who would be hardest hit by taxes, tend to save a disproportionately large share of income while those in the lower income brackets, who spend most of their income on consumption, would largely escape taxes. The steeply progressive tax rate would be designed to check saving by the wealthy without at the same time discouraging consumption by the large group of people with moderate incomes.

Thus the socialistic and equalitarian policies—such, for example, as limiting income to $25,000 a year—embodied in many of the plans for promoting high level employment are not necessarily based, as were the proposals of Karl Marx

and his followers, upon a particular class philosophy. Instead they are likely to be founded upon economic theories (conceivable just as open to question!) which assume that in rich countries there is an inherent tendency for the flow of income and expenditure to produce an excess of saving over investment, and for this to result in idle men and unused productive capacity. The same theories would support the view that in less wealthy countries a considerable inequality of income might be desirable in order to promote the accumulation of capital through encouraging saving.[5] A recent writer has declared that, "only a rich society can afford to be equalitarian. A rich society *must* be equalitarian or it will spill its riches in unemployment." [6]

SPENDING OUT OF ACCUMULATED CASH BALANCES

While the focusing point for the income-expenditure analysis is the volume of monetary outlay, i.e., total effective demand, there has sometimes been a tendency, as the foregoing analysis may tend to indicate, to treat income as the sole source governing the potential volume of expenditures. Since the end of the Second World War, however, increased attention has been accorded to accumulated liquid reserves as a source of spending. In point of fact, the possible movement of funds into and out of reserves has always been too important to be ignored, but the tremendous expansion in liquid reserves which resulted from the financing of the war greatly enhanced the importance of this factor.

[5] One student of the subject writing during the recovery period after the Second World War declared that the Keynesian argument concerning an inherent tendency toward economic stagnation applies "only to wealthy capitalist economies of which the United States is presently the only surviving example."—Lyle C. Fitch, "Comments on Keynesian Economics," *Political Science Quarterly,* September 1947, p. 420.

[6] Kenneth E. Boulding, *The Economics of Peace.* New York, Prentice Hall, 1945, p. 111.

Reserves of cash and other liquid assets affect the flow of monetary expenditure in two principal ways. In the first place, they constitute a source other than current income out of which spending can take place. As was noted earlier, the volume of income generated by a given volume of production is always just sufficient, if appropriately utilized, to pay for what is produced and to effect these payments at the existing level of prices. The larger the amount of liquid balances relative to current income, the larger is the possible spending that may take place. A large volume of such balances, in other words, provides a greater margin for sudden expansion in the relative volume of monetary outlay. In the second place, accumulated reserves, which constitute past savings, may have an effect on the inclination of the public to save out of current income. To that extent they may tend to alter the saving-investment relationship compared with what it would otherwise be.

The stimulative effect of an enlarged volume of liquid assets is to be observed in the behavior of money after the Second World War. Total effective demand was maintained at a high level despite widespread expectations to the contrary, and the prophets of an early postwar slump with millions of unemployed were entirely discomfited. It was also an important influence in the continuing inflationary pressure which led in the United States to a serious postwar rise in prices and in other countries to a prolongation of rationing and other controls designed to hold prices in check.

The bases of the inflationary problem have been clearly stated by Mr. Hawtrey:

> Incomes are generated by production, and the total of incomes is equal to the total of the output of goods, services and capital outlay. So long as consumers do not spend more than their incomes, demand just disposes of output and there is no infla-

tionary effect. It is when they draw on reserves of money, and *spend more,* that stocks of goods are depleted; orders given to producers who are working to capacity cannot be met without delay, and prices threaten to rise. When prices rise, income and output reckoned in money units rise with them.[7]

Inflation occurs when expenditure exceeds income; demand then exceeds output, and prices are driven up. Incomes are increased, but are still equal to output at the higher price level. . . . The excess demand is made possible because people can supplement their incomes by drawing on balances. Inflationary government finance cannot cause a disparity between income and production, but, by creating money out of nothing, it adds so much to the balances to be drawn on.[8]

Before leaving the subject of liquid balances, attention should be directed to what is probably the strongest case yet made against the fiscal policies derived from the Keynesian doctrine.[9] It is that the policies in question will lead to the emergence of a large volume of liquid balances, and therefore that a situation may develop in which the inflationary tendencies resulting from these reserves can be held in check only by the imposition of severe limitations on the freedom of businesses and individuals to spend. These restrictions constitute a serious impairment of individualism and free enterprise.

According to Professor Haberler, it would be impossible to reduce unemployment to a maximum of 3 per cent, as has been recommended by Sir William Beveridge, "without maintaining a tremendous inflationary pressure, which

[7] *The Economist,* March 15, 1947, p. 373.

[8] *The Economist,* March 22, 1947, p. 413. Mr. Hawtrey's recommendation for a solution of the problem is likewise interesting. Remarking that "the new money created merges in the existing stock and ordinary budget surplus would make little impression on so vast a total," he concludes by advocating "resort to a forced loan on holdings of currency and bank credit, such as has been applied in Belgium and some other countries since the end of the war."—*The Economist,* March 15 and 22, 1947.

[9] To be described in the next chapter.

would necessitate extensive regimentation." [10] The problem is one of balance: we must attempt to escape the evils of deflation while avoiding the dangers of "over-full" employment. "If we do not adopt a monetary and fiscal policy of expansion—monetary policy alone would not be enough—to cut short the depression, if we do not apply these policies which can be conducted in a way which makes them perfectly compatible with the free-enterprise system and avoid any undue regimentation of industry, we can be sure that the pressure for the adoption of much more drastic policies of regimentation will become irresistible." [11]

The Place of Interest in Monetary Theory

In the theory of monetary behavior just outlined, investment occupies a peculiarly strategic role. Whether or not the gap in the flow of monetary payments caused by saving will be closed depends upon the scale of investment. The importance of investment lends importance to the interest rate, which, as the price paid for loanable funds, is intimately related to investment.

DETERMINANTS OF THE INTEREST RATE

From the side of supply of available funds, one of the principal factors influencing the interest rate is the volume of saving. The amount of money saving (which consists of that part of income not spent for consumption) is said to be determined by the "marginal propensity to consume." [12] Earlier writers were accustomed to express somewhat the

[10] Gottfried Haberler, "The Economic Systems of the Democracies and Totalitarian States," *Proceedings of the Academy of Political Science,* May 1947, p. 57.

[11] *Ibid,* p. 58.

[12] Marginal propensity to consume is defined technically as the percentage of an additional increment of income which the public chooses to devote to consumption.

same idea by relating the supply of loanable funds to abstinence, i.e., abstaining from consumption. The other principal determinant of the supply of loanable funds, which was neglected by the older theories, is what Lord Keynes called "liquidity preference." People may not be willing to tie up in the form of investment the entire amount of money they save; they are likely to want to retain part of it in the form of cash where it will be immediately available to meet current or emergency needs or to take advantage of special opportunities for profitable employment. "Liquidity preference" refers to the public's preference for holding wealth in the form of cash. The payment of interest may be looked upon as simply a means of inducing people not to hold money in the form of idle balances.

Thus the rate of interest is related both to the desire for liquidity and to the supply of money available in the community. According to Lord Keynes: "The rate of interest is not the 'price' which brings into equilibrium the demand for resources to invest with the readiness to abstain from present consumption. It is the 'price' which equilibrates the desire to hold wealth in the form of cash with the available quantity of cash." [13] The essential condition which makes liquidity preference possible is "the existence of *uncertainty* as to the future of the rate of interest, i.e., as to the complex of rates of interest for varying maturities which will rule at future dates." [14]

From the side of the demand for the use of loanable funds, the rate of interest is governed primarily by the marginal efficiency of capital, since this may be thought of as measuring the yield of loanable funds if they are invested. At any given time, however, it is *anticipations* concerning the future marginal efficiency of capital rather than the efficiency ratio

[13] *The General Theory of Employment, Interest and Money*, p. 167.
[14] *Ibid.*, p. 168.

currently prevailing that is likely to control the actions of businessmen.

THE INTEREST RATE AS A PRICE

The function of any price, as was indicated above, is to bring supply and demand into equilibrium. The rate of interest is far from being a satisfactory regulator of supply and demand in this sense. Two examples will illustrate why this is so. First of all, in the case of other prices the supply of the commodity is limited by physical considerations. The supply of money, however, is capable of being suddenly and unpredictably altered, e.g., through the creation or destruction of demand deposits as a result of the operations of the banking system. Moreover, because of the manner in which bank money can be created, the rate of interest is largely divorced from considerations of cost such as apply in the case of commodity prices.

In the second place, the interest rate is particularly subject to changes which take place in the psychological attitude of the public. For example, any alteration in expectations concerning the future level of the interest rate would be likely to disturb liquidity preference. Likewise anticipations concerning the marginal efficiency of capital can change suddenly as a result of allowance for abnormal gains or losses. Because of prevailing pessimism there might be little or no desire to make investments, even though the rate of interest were to fall to zero. The risk of loss of principal might be sufficient to prevent investment from taking place.

For these and similar reasons, the interest rate is an unsatisfactory regulator of the supply and demand of loanable funds. It follows that the interest rate cannot be counted on with certainty to adjust investment to saving in a way that would automatically provide a stable or rising flow of income

and expenditure. If the interest rate were a perfect regulator of the supply of and demand for capital, saving and investment would always be equal or capable of being brought into suitable equilibrium. There would be little or no need for public policies designed to promote a suitable adjustment between saving and investment. Policies for artifically influencing the scale of current investment expenditure arise out of the lack of confidence in a satisfactory automatic adjustment of saving and investment.

Income and Expenditure Analysis as the Basis of Monetary Policy

Under the income-expenditure approach, policies would be governed with special consideration, first, for the stream of money payments, i.e., the pattern of monetary behavior, and second, for the character of prevailing conditions. The importance attached to external conditions is illustrated by the fact that where under the quantity theory any substantial increase in the quantity of money was looked upon as tending to be inflationary, under the income-expenditure analysis a sharp distinction is drawn between an increase in the quantity of money in a state of full as contrasted with a state of partial employment. If there is an abundance of economic factors seeking employment, inflation would be automatically checked, it is maintained, by the goods which the increase in effective demand represented by the expenditure of the additional money would bring on the market.

In time of war, as we have seen, direct controls such as rationing may be exercised over expenditures by individuals. While such methods may be accepted readily enough during an emergency they are not favored in this country as a basis of peacetime policy. Rationing is to be thought of, however, as a means of directly influencing the income-expenditure stream through regulation of consumption.

Among the more conservative of the proposals based on the idea of stimulating the flow of money payments through the economy are various suggestions for encouraging business enterprise. The point of departure of these suggestions is an implicit acceptance of the view that investment must equal saving if a stable equilibrium is to be achieved. It is then maintained that if suitable policies are adopted, investment expenditures from private sources can be counted on to expand by enough to effect a balance with savings, or at least to hold to a minimum the need for further expenditures from governmental sources.

Specific recommendations of this character have included a relaxation or reversal of the hostile attitude reputedly adopted toward business, and particularly big business, by the government under the New Deal. Somewhat more concrete are the suggestions for removing taxes which are of a character to depress business or discourage new investment. Numerous plans, ranging from repeal of the excess profits tax and reduction of corporate income taxes to "incentive taxation," have been devised for carrying into effect the suggestion of tax reform as a means of promoting investment. Easy money policies, whereby the central bank, perhaps with the aid of the Treasury, attempts to hold interest rates at a low level, likewise have as one of their principal purposes the stimulation of private investment.

The planning of public works in such a way as to increase public spending in depression and reduce it in booms has long been under discussion, and has even been attempted on a rather limited scale. Such a policy would represent essentially a device for adapting public investment to the stabilization of the stream of money payments. Measures for maintaining the flow of money payments may also be directed toward a different element in the behavior pattern of money, namely, consumption. Plans for social

security, for example, are frequently defended on the ground that, by providing workers with income in old age and during periods of depression and illness, they would help to stabilize consumption at a higher level than would otherwise be possible.

By far the most important set of recommendations for monetary policies which have arisen out of the newer theories are those associated with the names of Lord Keynes and Sir William Beveridge in England and Professor Alvin Hansen in this country. The substance of the proposals is the adoption of far-reaching changes in federal fiscal policies for the purpose of maintaining a stable flow of income and expenditure at a level which would prevent the emergence of mass unemployment. The deficit spending policies of the thirties represented only a mild gesture in the direction of what later plans have in view. Taxation would be framed in such a way as to help check saving by the wealthier members of society while interfering as little as possible with consumption by people in the lower income brackets. Consumption at government expense would be promoted by means such as public health services, free milk for the poor and free lunches for school children.

The heart of the newer monetary proposals, however, lies in what is sometimes called "compensatory fiscal policy." The essence of this idea is that the government shape its policies with a view to equalizing saving and investment at a point consistent with a high level of business activity. In effect, the government would undertake to *compensate* for the failure of private and normal governmental spending to effect a satisfactory balance between saving and investment.

24 ~ Fiscal Policies for Full Employment

The result of developments in monetary theory during the thirties and forties which were traced in the preceding chapter has been to give an entirely new direction to monetary policies. The theory of money itself has been integrated much more closely with economic theory in general and with the theory of employment and public finance in particular. Inevitably, current proposals for public policies, based, as many of them are, on these theories, have been correspondingly broadened.

Monetary and banking policies as conventionally defined have been affected in two ways by this reorientation of public policy. In the first place, some of the policies suggested by the newer trend in thinking are to be regarded as alternative to the more traditional methods. In the second place, central bank policies and similar measures have taken place along with the newer policies in the broad arsenal of policies designed to promote a high level of economic activity. The newer methods may be viewed, then, partly as a substitute for the more orthodox methods and partly as a supplement to them.

As was noted earlier, fiscal policies are concerned with maintaining gross monetary expenditures ("total effective demand") at a level appropriate to a satisfactory volume of

economic activity. Central bank policies have been directed primarily toward the volume of circulating medium (quantitative credit control) and secondarily toward its distribution (qualitative credit control). Fiscal policies, on the other hand, are concerned generally with the behavior of money, and particularly with influencing the stream of money payments by means of the fiscal operations of the national government. Devices of a fiscal character may operate directly on the stream of payments, or may attempt to influence it indirectly through their effect on the expenditures of individuals, businesses and local governments.

Recent trends in central bank policies were indicated earlier. An analysis of easy money policies, which have also been an important part of the policies of the thirties and forties, is presented in Chapter XXVI. The present chapter is devoted to policies which are primarily of a fiscal character. While it has seemed necessary to break up the treatment of public policies in this manner, it must be remembered that they are by no means distinct and independent in their application. The interdependence of the different types of policy will be apparent in the description of actual and proposed legislation which follows.

The Background of Fiscal Policy

In a sense, the existence of fiscal policy, which signifies broadly the financial operations of governments, is as old as organized government itself. While the collection and disbursement of funds by the government have always had economic repercussions which extended beyond the immediate transactions involved, fiscal policy as a major instrument of economic policy—with the indirect effects on the economy regarded often as more important than the monetary aspects of the operations—dates at the earliest from the middle thirties. Within hardly more than a decade,

provisions for major reliance on fiscal policy found their way into the statutes of a considerable number of important countries and were accepted as basic procedure by the International Labor Organization and other international bodies and conferences. Never before in history did major policies, equally new and comprehensive, spread with so great rapidity. The sudden vogue for fiscal policies is sufficient evidence of the importance of discussing them, no matter how controversial they may appear. But it is also a reminder that the actual testing of these policies on a scale that can be accepted as significant still lies ahead.

BEGINNINGS

Traditional conceptions of governmental policy, since they were based primarily on a belief in laissez faire, would presumably have recognized no need to resort to fiscal measures for influencing economic activity. As long as there was assumed to be an automatic tendency toward equilibrium at full employment, no apparent necessity existed for supplementing economic forces by the operations of the Treasury. Accordingly, it was assumed that the actions of the government in controlling revenues and expenditures should be determined primarily by narrow financial considerations.

In a few instances, such as sumptuary taxes, the tariff and subsidies, fiscal devices were employed to accomplish nonfinancial results, but these were directed toward specific objects and not toward influencing the behavior of the economy as a whole. For effects of a general character, principal reliance was placed in central bank policy. Even the resort to central bank policies constituted, of course, a departure from strict principles of laissez faire. During the twenties considerable interest developed in the possibility of postponing public works to periods of depression as a

means of promoting greater stability in business activity. While little use was actually made of measures of this type, the attention devoted to them reflected an appreciation of the imperfection of laissez faire as a regulator of economic activity and of the possible usefulness of fiscal means to remedy the imperfections.

FORMULATION OF FISCAL POLICY AS A CONTROL DEVICE

Crystallization of the idea of employing fiscal policy to provide full employment may be said to date from the publication of the *General Theory of Employment, Interest and Money* by John Maynard Keynes (later Lord Keynes) in 1936. The ideas there presented were elaborated and extended in books by Professor Alvin Hansen, Sir William Beveridge and others,[1] as well as in a voluminous body of periodical literature.

In a more formal sense, the ideas were incorporated in the so-called Philadelphia Charter of the International Labor Organization adopted by representatives of over forty nations in 1944. Somewhat earlier Sweden had announced a policy of balancing the federal budget over the period of the business cycle. This program called for dividing the budget into two parts, labeled respectively the current budget and the capital budget, with the latter directed toward promoting greater stability in the level of combined governmental and private expenditures. In 1944 Great Britain adopted a comprehensive policy, to be described below, for using fiscal policy to maintain full employment. Somewhat similar proposals in the United States were rejected by Congress which substituted in their place a much more generalized program for economic stabilization.

[1] Notably Alvin Hansen, *Fiscal Policy and Business Cycles,* New York, Norton, 1941, and Sir Wiliam Beveridge, *Full Employment in a Free Society,* New York, Norton, 1945.

The Terminology of Fiscal Policy

The expression "*full employment*" has tended to become a shibboleth among both friends and enemies of the policies whose main object it describes. For the one group it has served as a rallying cry and to the others it is a red flag. The essence of full employment is the avoidance of mass unemployment such as prevailed in the United States in the thirties. More specifically, it means the avoidance of involuntary idleness, i.e., of a situation in which qualified workers are unable to obtain employment at the existing level of wages. The idea of full employment as ordinarily understood is compatible with the existence of, say, three million unemployed in the United States. In the accepted meaning of the term, there was a situation of over-employment in this country during and after the Second World War. Full employment applies not only to labor but also to other economic resources. It signifies, in essence, the utilization of productive capacity, material as well as human, at a high and continuing level.

Fiscal policy embraces three main divisions, namely, receipts (including taxation and borrowing), management of the public debt and expenditure. The fact that a considerable degree of latitude is possible in all three phases of fiscal policy—with respect, for example, to the magnitude of each, to specific policies within each of the three divisions and to the relation of one division or subdivision to another—provides the basis for the use of fiscal policy to promote full employment. It signifies that, within the latitude afforded, the choice among different alternatives of action may be governed by the anticipated effect on general business conditions. Fiscal policy is distinct from central bank policy, use of the tariff and activities of other governmental departments, such as the Departments of Agriculture and

Commerce. On the other hand, it is not incompatible with them but may, and in some instances should, be utilized in conjunction with the other types of policies.

Deficit financing signifies spending by the Government in excess of receipts from taxation. Such an excess may result from an increase in expenditures relative to taxation or from a reduction in tax receipts at a time when expenditures remain the same. Deficit financing is by no means synonymous with fiscal policy, even though the two are often confused with one another. The reason for the tendency to confuse the two expressions is that fiscal policy for influencing employment in the United States was first embarked upon during the depression phase of the business cycle when the state of business activity was regarded as calling for spending in excess of tax receipts. If fiscal policy for influencing business conditions had been first introduced during a boom period, it would in all likelihood be associated not with deficit but with surplus financing.

Other terms frequently encountered in connection with fiscal policy, such as *pump-priming*, *compensatory finance* and *functional finance*, will be identified as the discussion proceeds.

Theory of Fiscal Policy

BASIC PREMISES

The basic assumption underlying fiscal policy is that production depends upon the *total effective demand* for what is produced. Total effective demand in turn is described as *aggregate expenditure* on consumption and investment. If industry is unable to sell all that is produced at prices which cover cost of production, it is because of an insufficiency of total effective demand. Conversely, if sales take place at

rising prices, it indicates that there is too large an aggregate of expenditures.

According to the theory, an insufficiency of demand, with its accompaniment of falling prices and increasing unemployment, can be overcome by an increase in government spending. The effect of government spending is to increase directly the volume of investment and indirectly to expand consumption. The increase in consumption expenditures is expected to result from an expansion in the incomes of consumers caused by the higher level of government spending. An excess of effective demand, on the other hand, with its accompaniment of rising prices and other inflationary disturbances, may be combatted by fiscal policies designed to reduce total expenditures. The measures would be directed toward reduction of government expenditures relative to income, contraction of the circulating medium and restriction of monetary outlay by individuals and businesses.

The function of Treasury policy, according to the theory, should be to influence effective demand through altering investment and the disposable incomes of consumers in such a way as to assure aggregate expenditures just sufficient to absorb capacity production of the economy at the prevailing level of prices. By capacity production is meant that level of production which corresponds to the accepted criteria of full employment.

PUMP-PRIMING AND COMPENSATORY FINANCE

According to the theory of "pump-priming," the function of fiscal policy should be that of a starter. That is, the Treasury should spend enough to start the ball rolling, in the expectation that spending by the public on consumption and investment will keep the ball rolling. Pump-priming relates to the depression phase of the business cycle and conceives

of fiscal policy in terms of a stimulative factor only. While a great deal of attention was directed toward pump-priming in the early days of the New Deal, interest has shifted since that time to the broader conception of fiscal policy which is identified with the term "compensatory finance."

Compensatory finance regards the function of Treasury policy to be that of providing a balance wheel or, to keep the analogy, of serving as a starter at one time and as a brake at another. It looks upon fiscal policy as a continuing rather than a temporary expedient, and it embraces not only deficit financing but also "surplus financing." Where deficit financing is an anti-depression policy, compensatory finance is either anti-depression or anti-boom, the difference depending upon the state of the economy existing at the time. The expression "functional finance" is substantially similar to compensatory finance but has certain broader implications. More particularly, it implies great emphasis on taxation and subsidies as means of influencing business activity.

The Record of Fiscal Policy in the United States

The spending policies of the New Deal Administration are often cited as an example of fiscal policy to promote full employment. Actually, however, they provide a very imperfect test of the theory. They were initiated before the publication of Lord Keynes' momentous book, and while they may have been influenced by the ideas contained in the book it is more likely that it was seized upon as tending to justify an improvised program which had been adopted on a rather opportunistic basis with no thoroughgoing foundation in theory. It would be a mistake to identify the New Deal policies too closely with the theory of fiscal policy as an instrument of economic stabilization, whether the purpose of the identification was to praise or to condemn.

SEQUENCE OF EVENTS, 1934–1945

The inauguration of the deliberate use of fiscal policy to influence the level of business activity may be said to have begun in 1934. Deficits incurred before that time, including the substantial deficits in the last two years of the Republican administration, were the result not of intention but of the shrinkage of income which resulted from the decline in business activity and national income. The start of increased spending by the government in 1934 was accompanied by a rise in business activity. When the payment of a bonus to veterans was added to this spending, a mild inflationary boom ensued in 1936–37.

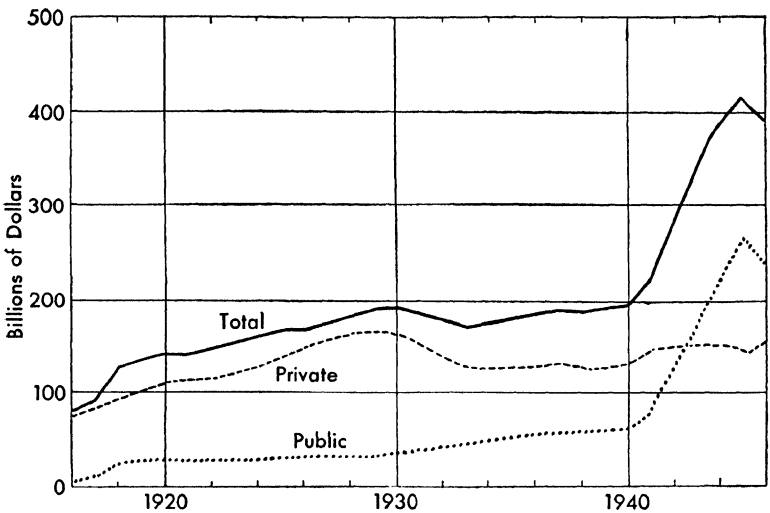
In 1937 net deficit financing may be said to have come to an end. In August of that year the net receipts from Social Security were equal to the net deficit in the federal budget. Thus total national accounts, federal budget and Social Security combined, were in balance. There followed a sharp recession in business activity. A revival of deficit spending in 1938 was followed by an increase in business activity. From 1939 to 1945 the great expansion in deficit financing caused by preparation for war and then the war itself was accompanied by an enormous rise in business activity.

FISCAL POLICY IN THE 1920's

The evidence of the decade of the twenties, which was a period of high prosperity at a time when the federal government was following orthodox fiscal policies, is frequently cited as disproving the argument of those who advocate fiscal policy as a means of promoting employment. The fact is that during the decade from 1920 to 1930, the federal debt was reduced by $8.1 billion. On the other hand, state and local debt rose during the same period by $10.2 billion. Instead of there being a net decrease in govern-

mental debt, there was actually deficit financing—federal, state and local financing combined—of $2.1 billion. In addition, private indebtedness increased during this ten year period by $39.5 billion. Thus there was a net "deficit" for the economy as a whole in the period 1920 to 1930 of $41.6 billion. During the decade of the thirties, by way of con-

CHART XXVI. *Net Public and Private Debt in the United States, 1916–1946*



Source: Elwyn T. Bonnell, "Public and Private Debt in 1946," *Survey of Current Business*, September 1946, p. 9.

trast, there was a sharp decrease in private and local indebtedness which largely offset the increase in federal debt. For the economy as a whole, in fact, there was less running in debt during the thirties than during the twenties (cf. Chart XXVI). In appraising the significance of these changes in the debt structure, it is necessary to bear in mind that the theory of fiscal policy turns not on government spending alone but on the composite of private and public expenditure.

LESSONS FROM THE EXPERIENCE WITH DEFICIT FINANCING, 1934–1945

Even though the period from 1934 to 1945 is not to be regarded as constituting a trustworthy testing of the theory of deficit financing, it was nevertheless productive of certain rather significant lessons. The first of these was to emphasize sharply the importance of timing. The overspending that occurred in 1936 illustrated the difficulty of reducing relief and other payments in an election year. The payment of the veterans' bonus at that particular time made all the difference between reasonable safety and clear excess in government spending. Congressional support for the bonus made it possible to pass the measure even over the President's veto.

In 1937, on the other hand, there was too great a reduction in expenditures, judged by the standards of fiscal policy for full employment. This was a critical time when maintenance of spending might, on the basis of the theory, have prevented a business slump. Instead, deficit spending was allowed to disappear—partly, no doubt, through failure to recognize the effect on the over-all position of the government's financial operations of payments received on account of Social Security. Later on, the overspending that occurred during the period of the war produced the inflationary pressures that found their expression in the middle forties. It is apparent that the experience in the period of the Second World War was not as bad as in other wars before the theory of fiscal policy had been developed. Moreover, it is hardly the fault of the theory or of the economists who propounded that theory that different policies were not adopted during the war period which might have ameliorated later difficulties.

In spite of all that has been said pro and con, no definitive

conclusion concerning the effect of fiscal policy during the thirties is possible. It is impossible to say with complete assurance what would have occurred in the absence of deficit financing. Defenders of the policy are likely to assume that the effect of government spending was to bring about a net increase in business activity. Critics of the policy, on the other hand, point to the possible deterrent effect on private investment of the long continued deficit in the federal budget. Moreover, they can show that despite the policies adopted unemployment remained at a very high level until some time after the start of the war. Perhaps all that can be said is that the evidence lends as much support to those who support the idea of fiscal policy as it does to those who oppose.

Full Employment Policy in Great Britain, the White Paper of 1944

In view of the influence of British writings on the formulation of the theory of fiscal policy, it is hardly surprising that the most elaborate program for applying such measures is that which has been enacted in Great Britain. The provisions of the British law as outlined in the White Paper of 1944 on Employment Policy constitute a striking example of the way in which economic principles and plans may be carried into practical application.

In one of his statements on full employment policy, Sir William Beveridge declared that the state must undertake to protect its citizens against mass unemployment just as definitely as against foreign enemies and domestic violence.[2] It is in this spirit that the White Paper declares in its opening sentence that "the government accept as one of their

[2] "It must be a function of the State in future to protect its citizens against mass unemployment, as definitely as it is now the function of the State to defend the citizens against attack from abroad and against robbery and violence at home."—*Full Employment in a Free Society*, p. 29.

primary aims and responsibilities the maintenance of a high and stable level of employment after the war."

BASES OF BRITISH FULL EMPLOYMENT POLICIES

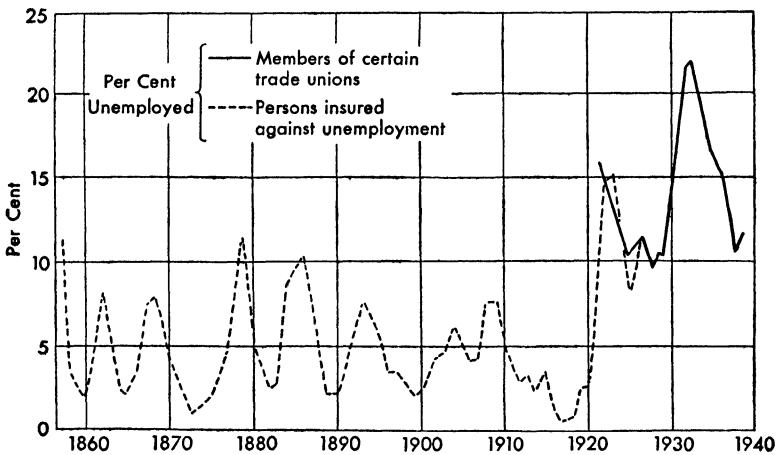
The basic assumptions underlying British full employment policy are that employment is dependent on the demand which exists for the goods and services currently produced, while demand in turn depends on the volume of monetary expenditure. The task of maintaining a high level of employment, therefore, is conceived of simply as a matter of assuring a suitable volume of monetary outlay. The task of the government with respect to employment then becomes one of influencing total expenditures so that they may be neither too little nor too great.

The belief that conscious policy is required to promote a satisfactory level of employment rests on an examination of the course of employment in recent decades. For sixty years prior to 1920, employment in England, while it experienced constant fluctuation, was consistently at a high level. The average amount of unemployment was about 5 per cent, fluctuating between the limits of 1 per cent and 11 per cent. From 1920 to 1940 a condition of chronic unemployment developed, with unemployment fluctuating around 15 per cent of the total working population and rising at times to a point in excess of 20 per cent (cf. Chart XXVII). The aim of British full employment policy is to assure that this situation of chronic unemployment is not allowed to recur.

Full employment policies embrace, as important though subordinate adjuncts, relative stability of prices and wages and preservation of a high degree of labor mobility. The major function of policy, however, is to maintain a suitable total of monetary expenditure for goods and services currently produced. The components of monetary expenditures

are divided into five parts as follows: Private consumption; public expenditures on current services; private investment; public investment; and the balance of international payments. The basis of the difficulty is found to lie in the fact that private investment and the foreign balance have shown

CHART XXVII. *Unemployment in Great Britain, 1858–1938*



Source: *White Paper on Unemployment Policy,* London, Macmillan, 1944, p. 29.

a tendency to fluctuate substantially, while at the same time they are extremely hard to control.

METHODS OF PROVIDING FULL EMPLOYMENT

The methods of maintaining full employment, that is, of assuring a suitable total of expenditures, fall into three main divisions, namely, the influencing of capital expenditures, the influencing of consumption expenditures and the management of the national debt. For influencing capital expenditure the first device proposed is use of the interest rate. A policy of maintaining cheap money is to be followed

during the period of transition to peacetime conditions and until a satisfactory scale of production under reasonably normal conditions has been achieved. Thereafter, reliance is to be placed primarily upon the use of the Bank of England's discount rate and similar policies. The second device for influencing investment is to encourage the planning of capital expenditures by private business in the hope that this will contribute to greater stability throughout the economy. The planning of private investment is to be supported by an appeal to business on the ground that it will prove more profitable in the long run to invest during periods of depression when costs are relatively low, rather than in periods of boom when they are likely to be high.

In the third place, capital expenditure is to be influenced by planning public investment in such a way to promote stability in the flow of monetary expenditures. Local government units and departments of the national government will be required each year to submit their plans for capital expenditures covering the ensuing five years. After coordinating the plans and studying them in the light of anticipated private expenditures, recommendations are to be made for increasing or decreasing the programs as outlined in order to assure an approximately steady flow of total monetary outlay. The decision on what adjustments appear necessary will be the responsibility of cabinet officers of ministerial rank. The purpose of this provision is to assure adequate administrative responsibility and authority. A prerequisite of these measures for effecting adjustments in public investment is speed and flexibility in carrying them out.

The second major group of policies are those designed to control consumption expenditures. In this case also, the importance of acting with dispatch is strongly emphasized. Provision is made for varying the weekly contributions to social insurance by both employers and employees. A reduc-

tion, at the outbreak of a recession, in contributions required from employers and employees is expected to help in maintaining consumption expenditures by wage earners and to make it easier for employers to defer the laying off of workers. Tax policies are to be administered with similar considerations in mind. Through a system of deferred credits, enterprises would be allowed at a time of declining income to postpone payment of taxes until a later period when income might be at a higher level. The use of tax reduction as a fiscal device furnishes an interesting contrast to the type of fiscal policy adopted in the United States during the thirties. In this country reliance was placed on an expansion of governmental expenditures, while in England it is to be placed, partly at least, on a contraction of governmental income. Either method results, of course, in deficit financing, but the difference between the two is both novel and significant. Under the British method the maintenance of total effective demand depends primarily on sustaining the expenditures by individuals and private business. Under the American method it depends more on an increase of spending by the government.

Resort to debt management as a means of maintaining full employment is described in skeleton form only. A policy of reducing the dead-weight debt is endorsed, but with the reservation that there is to be no rigid policy of balancing the budget, regardless of the state of trade. While variation from time to time in the size of the debt is countenanced, no support whatever is given to the idea of permitting an indefinite expansion in the size of the national debt. In this as in other respects, the British program for full employment impresses one by its tone of practical conservatism combined with firm reliance upon what a few years ago would have been regarded as an undue exercise of fiscal discretion.

The Full Employment Bill of 1945

Early in 1945 a bill was introduced in the United States Senate which was designed to establish in this country a full employment policy. While that bill was rejected, it is of significance as an example, along with the British White Paper, of the type of measures which might be embodied in a full employment program.

PROVISIONS

The Full Employment Bill of 1945 provided for the preparation of a so-called "human budget." This was to consist of the calculation of the number of jobs which would be necessary in order to provide full employment. An estimate would then be made of the total expenditures which would be required to provide the calculated number of jobs at the current level of prices then prevailing. The provision stipulating current prices was intended to prevent a scale of expenditures so large as to contribute to inflation. The authorities were to be required to indicate means of increasing or reducing private expenditures to bring them in line with the desired total of expenditures. Thereafter, the authorities would be instructed to recommend governmental action, such as taxation, public works and central bank policies, for reaching the desired total, in case it could not be done by private action alone. It was this final provision of the bill which would have committed the government to full-fledged compensatory financing. The framers of the bill emphasized, however, that the procedure was designed to facilitate the functioning of private enterprise, with government fiscal policies appearing only in a supplementary role. The purpose of the fiscal policies of the government, in short, would have been to add to or subtract from the level of expenditures that would otherwise be made in order to

assure a level just adequate to maintain full employment without any inflationary tendency.

CRITICISM OF THE FULL EMPLOYMENT BILL

The proposed bill was attacked on the ground that it would tend to be inflationary. This criticism was based on the requirement that the government engage in deficit financing under specified circumstances. The criticism seemed to overlook, however, the element of timing; the additional expenditures by the government were to be undertaken only in periods of depression when the existence of partial employment would act as a brake upon any inflationary movement. The criticism ignored also the clear stipulation that during a boom phase the government would practice surplus financing; the tendency of the measures applied at that time, far from being inflationary, would be deflationary.

The objection that the plan would call for an extension of bureaucratic methods contained, of course, an element of truth. Any extension of governmental authority is open to the same criticism, and the importance of the objection is to be judged only in the light of the anticipated advantages of such an extension of governmental action. Perhaps the most significant observation concerning the proposed bill was that it was oversimplified. The provisions of the law were extremely mechanical, and even if the general principles of the plan had been approved, the law would have required much elaboration and further study before it could have been brought into a workable form.

The Employment Act of 1946

Following the rejection of the proposed full employment bill, another bill was introduced for the establishment of a national policy on employment. This bill was enacted in

1946 and is the law under which the country has been operating since.

PROVISIONS

The Employment Act of 1946 called for the appointment of a Council of Economic Advisers. The duty of this Council is to analyze, interpret and appraise economic data and to formulate and recommend proposals for maintaining a satisfactory level of economic activity. The results of its deliberations take the form of an annual report to the President of the United States. On the basis of the recommendations of the Council, the President is instructed to report each year to a joint committee of Congress on the "economic state of the Union." It is then the duty of the joint committee to study the President's report and to submit recommendations growing out of it to both Houses of Congress. These recommendations are designed to prevent a recurrence of severe depression and to promote economic stability at a satisfactory level.

ANALYSIS OF THE EMPLOYMENT ACT OF 1946

Despite the Council's declaration that the Act is not a watered-down version of the rejected full employment bill, it is clear that the law does not embody a specific program for full employment or commit the government to the practice of compensatory finance. Even the term "full employment" is rejected, though instead the purpose is stated to be "maximum production, employment and purchasing power." Where the 1945 proposal relied primarily upon the Keynesian "effective demand" approach to the problem of maintaining full employment, the law that was finally enacted was designed to utilize a broad range of methods for combatting depression. No particular method is rendered mandatory. On the other hand, a body of experts, the Presi-

dent and Congress are required regularly to direct their specific attention to the problem of economic stabilization. While great latitude is allowed with respect to particular measures, and even with respect to taking any action at all, the responsibility of the federal government for promoting a high and stable level of business activity is clearly and explicitly affirmed. Both tone and provisions of the Act are relatively orthodox.

The establishment of a general economic council in close contact with the President and Congress is a desirable development. The coordination of economic study and economic policy in the federal government will doubtless be facilitated. There is nothing in the law, however, which embodies in any clear way the developments since 1934 in the field of economic theory and policy. The law could as well have been written in 1936 as in 1946. The effectiveness of the law will depend largely upon the quality of the Council and the cooperation given it by the President and Congress. In signing the Employment Act of 1946 President Truman declared that it was "not the end of the road, but rather the beginning." However inadequate one may regard the Act as a final assurance that full employment will be maintained, the law is by no means an inconsequential step in that direction.

The Outlook for Full Employment Policies

With the passage of the Employment Act of 1946, the United States faced the postwar world with a weak law and a strong precedent. The law authorized adoption of firm policies for dealing with a situation of inadequate aggregate demand or its opposite, excessive demand with resulting tendencies toward inflation, but afforded no mandate that such policies would in fact be applied. The strongest reason for expecting the government to adopt vigorous

fiscal measures for combatting unemployment, should the occasion arise, lies in the experience with spending and employment in the period from 1934 to 1945. Whatever conclusions may be drawn from the record of deficit financing in those years, it established a precedent of the utmost significance for the future. The probability of a return to deficit financing in the event of a severe decline in production is acknowledged even in the declarations of the Council of Economic Advisers.

Apart from the opposition to full employment policies which is based on doubt as to their probable effectiveness, there is a widespread feeling that so great an extension of governmental action is incompatible with the survival of individual initiative and free enterprise. While it is true that Sir William Beveridge speaks as an extreme advocate of the policies, his answer to this criticism is nevertheless worthy of consideration. According to Sir William, the claim that the individual would be subordinated to the State is precisely the opposite of the truth.

> If the State is regarded as more important than the individual, it may be reasonable to sacrifice the individual in mass unemployment to the progress and prosperity of his more fortunate fellows, as he is sacrificed in war by the dictators for their power and dominion or that of the race. . . . Acceptance by the State of responsibility for full employment is the final demonstration that the State exists for the citizens—for all the citizens—and not for itself or for a privileged class.[3]

In another connection Beveridge called attention to the difference between what he called "socialization of demand" and "socialization of production."[4] The latter, which involves public ownership and control of the means of production, is what is customarily meant by socialism and is

[3] *Full Employment in a Free Society,* pp. 251–52.
[4] *Ibid.,* p. 29.

what Karl Marx advocated. By socialization of demand, on the other hand, is meant the type of compensatory fiscal policy contemplated in the British White Paper on employment and the proposed Full Employment Bill of 1945 where the government accepts the responsibility for assuring that total effective demand, i.e., aggregate monetary outlay, is neither too small nor too great to provide full employment at current prices. Under this type of governmental interference, it is maintained, individuals would still be able to exercise full freedom of choice. Business men would be as free as now to compete for available markets and, as now, the most efficient producers would presumably prosper most and the least efficient would fail. Consumption and production would still be governed by the selective action of individual choice. The government would merely underwrite total effective demand to make certain that either extreme of inflation or deflation, boom or depression was avoided. Advocates of fiscal policy for full employment have insisted that their purpose is not to overthrow the capitalistic system but to enable it to survive. Without attempting to pass on the sincerity of such protestations or the validity of the inferences, it is important to remark once more that the general theoretical approach is independent of the policies which happen to be based on it. The income-expenditure analysis constitutes an interpretation, by one school of economic thought, of how the economic system tends to operate. It is to be judged on the basis of the reasonableness of that interpretation and not on the acceptability or inacceptability of conclusions as to policy which certain individuals may draw from the theory.

G ~ Current Financial Problems

25 ~ Inflation, Deflation, and the Banks

As the common denominator of economic values money is the basis of the price system. Movements in the general level of prices result in what is often referred to as the "money illusion," the appearance of an alteration in the worth of particular goods and services when what has actually happened is a change not in their value but in the unit of measure in which their value is expressed. Fluctuations in the general level of prices signify that money has failed to discharge adequately what is its basic economic function, that of measuring values.

Public interest has swung from one to the other of the contrasting types of price movement, inflation and deflation. The Revolutionary War, the War Between the States and the First and Second World Wars focused attention on the problem of inflation. In between, notably in the last quarter of the 19th century and again in the thirties, we became acutely conscious of deflation. Recognition of this changing focus of public attention is important enough in bringing into proper perspective the complex character of the monetary problem. It is doubly important if, as is entirely probable, extreme preoccupation with one horn of the price dilemma strengthens the possibility that we shall later find ourselves impaled on the other horn.

In what follows, primary attention will be directed toward inflation. Much of what is said about inflation applies also, though inversely, to deflation, but to regard deflation as simply the reverse of inflation is far from accurate. Some of the distinctive features of the problem of deflation will be examined later.

Inflation

THE MEANING OF INFLATION

For the purposes of the following discussion, the term inflation will be used to refer to any sharp increase in the level of prices. This description is intentionally vague as to what constitutes a "sharp" increase and how such an increase is to be measured. Nevertheless, it expresses well enough what is understood by the term—and the refinements and borderline cases may be left for more technical analyses of the problem of inflation.

Confusion has frequently arisen through extending the term "inflation" to specialized situations. In addition to *price* inflation, which is under discussion here, one encounters the expressions *monetary* inflation, *credit* inflation, *profit* inflation, *rent* inflation and the like. Anyone is free, no doubt, to use terms as he sees fit, as long as he identifies his usage and maintains consistency. But it is clear that the term "inflation" does not connote the same thing in each of these examples; monetary and credit inflation relate primarily to causes of price inflation, while rent and profit inflation may be looked upon as particular types or manifestations of price inflation. Confusion will be minimized in what follows by confining the term "inflation" to general price movements. In other connections different expressions will be employed, e.g., expansion of money or credit, an abnormal rise in profits or rents, and so forth.

EFFECTS OF INFLATION

The most important economic effects of inflation are those associated respectively with contracts, business activity and liquid assets. These divisions of the problem are far from exclusive, since the various effects are closely interrelated, but the breakdown makes for clarity and helps to emphasize significant differences.

Contracts. Perhaps the most widely recognized consequence of inflation is its effect on contractual relationships stated in monetary terms. As a class, debtors gain during periods of inflation, while creditors lose. The greater the contractual commitment in terms of length of time, the greater is the exposure to loss or gain. Holders of long-term bonds and owners of life insurance policies are among the most vulnerable groups in the economy; landlords dependent on fixed rentals and recipients of salaried income are somewhat less vulnerable; while debtors and persons dependent on profits may actually benefit from inflation. Formerly it was customary to assume a substantial lag in wage income during periods of rising prices, but this is less true than it once was, partly, no doubt, because of the increased power of trade unions. Experience in the German inflation after the First World War indicated that to the extent that certain wages lagged behind prices, the lag was less in the lowest income wage brackets than in higher brackets. For one reason, such wages are likely to be on the shortest term basis and, for another, workers in the lowest paid categories are nearest to a minimum level of subsistence and hence the resistance to a reduction in their real income is strongest.

In addition to causing an alteration in the shares of distribution of current income among the different factors of production, inflation also leads to a redistribution of capital

values. This may be illustrated by assuming a farm worth $10,000 on which there is a mortgage of $5,000. Before inflation the respective interests are:

Mortgagee's interest	$ 5,000
Owner's equity	5,000
Total value of farm	$10,000

Suppose that an inflation should raise the market price of farm products and this in turn should lead to a doubling of the value of the farm property. The respective interests would then be:

Mortgagee's interest	$ 5,000
Owner's equity	15,000
Total value of farm	$20,000

The effect of inflation has been to deprive the mortgagee of half the relative interest he had, even though the nominal value of the mortgage remains unchanged, and to transfer that amount to the owner. Inflation has arbitrarily altered the respective shares of mortgagee and owner in the property from a 1 to 1 ratio to a 1 to 3 ratio.

The same type of redistribution is likely to occur between bondholders and stockholders of a corporation. Assume a company with gross sales of $1,000,000 a year which yield a net return (exclusive of interest on bonds) of $100,000. Assume further that of this sum $50,000 is used to pay fixed interest charges on the bonds outstanding and the remaining $50,000 accrues to holders of common stock. As a result of a doubling of the general price level and with no change in physical volume of output, sales rise to $2,000,000 and return after expenses becomes $200,000. The share going to bondholders remains fixed at $50,000, the remaining $150,000 accruing to stockholders. Thus, a doubling of re-

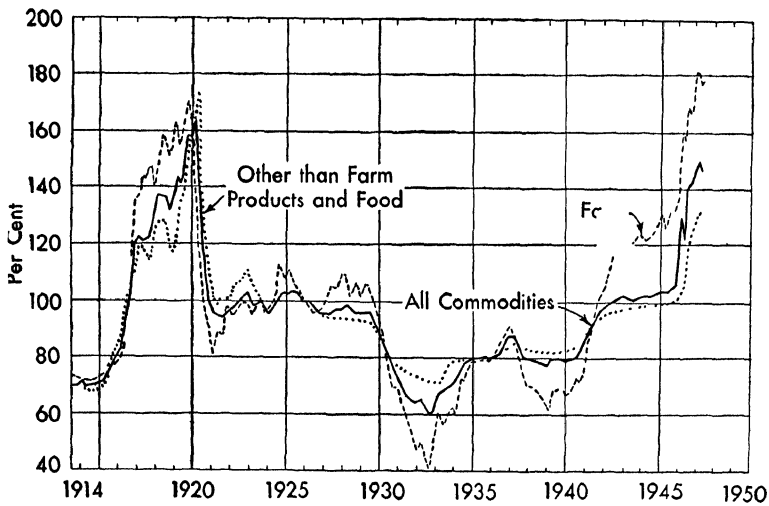
turn caused by inflation results in a tripling of the dollar income of stockholders. The real income of bondholders is reduced by 50 per cent and that of stockholders is increased by 50 per cent. With a capital structure consisting of common stock only, this would not occur; under the circumstances assumed, the doubling of dollar volume of return would lead merely to a doubling of stockholders' monetary income with no change in real income.

Business activity. The redistribution of current income and capital values caused by inflation can be expected to have considerable effect on business activity. At one time it was generally thought that the tendency during inflation for profits to expand relative to other shares would serve to stimulate total output. It has now come to be widely accepted that inflation can occur only in a state of approximately full employment; since the existence of such a state would prevent any substantial increase in total output, inflation cannot be expected to produce a significant expansion of output.

The chief result of inflation, therefore, is to alter the pattern of production, not to expand total output. The change in character of production is a natural consequence of the distortion of price relationships (cf. Charts XXVIII and XXI) and the redistribution of wealth and income caused by inflation. Marginal propensities to consume and to invest will presumably be different after an arbitrary alteration in the distribution of income from what it was before. Similarly, the uneven expansion in profits in different industries, consequent upon the change in price relationships and the altered pattern of expenditures, would both provide an inducement and afford a necessary means to bring about a shift in the pattern of production: enterprises which had earned more than the prevailing average of profits would be in a position to bid labor and materials away from enter-

prises which had earned less than the average. The changed character of production, resting as it does on abnormal causes, is hardly likely to contribute most effectively to satisfying the wants of the community. The situation which developed during the German inflation came to be known as

CHART XXVIII. *Wholesale Prices in the United States, 1914–1947 (1926 = 100)*



Source: *Federal Reserve Charts.*

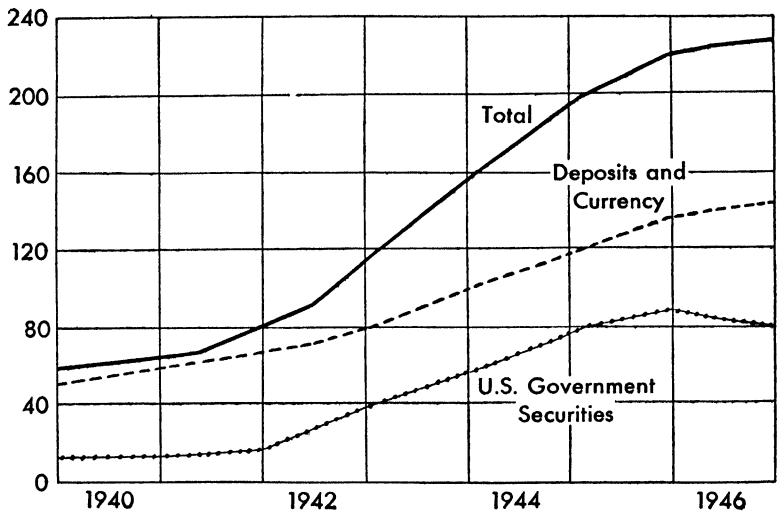
"mis-investment." In the end it entailed a vast amount of lost effort and wasted materials. It may also have contributed in some measure to the severity of the subsequent depression.

Backlog of potential demand. The great increase in liquid assets which occurred during the Second World War (Chart XXIX) greatly accentuated an aspect of inflation which formerly received little or no attention. This is the effect a rise in prices has on the community's ability to ex-

pand total effective demand beyond an amount determined by the level of current income.

Accumulated savings in the form of currency, deposits, redeemable securities and the like constitute latent purchasing power. From the standpoint of the individual owner, they are a claim on goods and services such as he refrained

CHART XXIX. *Growth in Liquid Assets of Individuals and Businesses, 1940–1946* (Billions of dollars)



Source: *Federal Reserve Charts.*

from consuming when he chose to add to his savings. From the standpoint of society, they are a safeguard against a situation such as developed after 1929 when total demand fell far short of the amount necessary to maintain full employment. The existence of a large volume of liquid assets is no guarantee that severe depression will never recur, but it is the greatest protection against severe depression that we now have—outside, perhaps, of governmental action—

and it constitutes the most important basic factor distinguishing the economic conditions of the postwar world from those of the 1930's.

Serious inflation would serve to destroy a large part of the purchasing power represented by existing stocks of liquid assets. It would thereby eliminate an important source of future demand for the products of American enterprise. At the same time, of course, it would remove what also constitutes the basis of an inflationary threat; for the same factor that is capable of offsetting a reduction in demand and thereby checking deflation is also capable of adding to an already adequate total demand and thereby inducing inflation. The difference between what is inflationary and what is antideflationary is likely to be principally a matter of timing. The fact that inflation would lessen the force of this potentially inflationary factor in the economy signifies that to this extent inflation is remedial—even though the preventive, as in the case of smallpox or mumps, consists in first having the disease.

In substance, the owners of liquid assets are part of the great creditor class. The difference between the holder of currency or demand deposits and the owner of a bond is that the claim of one can be exercised at once and the claim of the other only by waiting or by transferring the claim to someone else in exchange for cash. As a group, owners of liquid assets would suffer the same injustice as bondholders if the value of the monetary unit should decline. The unique feature of current assets is the direct effect they are capable of exerting, at any given moment, on total effective demand. This feature is at the base of their great importance for good and for evil. Not the least important effect of inflation is the fact that it can drastically reduce the real worth of outstanding liquid assets and thereby destroy a source of future demand.

Miscellaneous. As is indicated elsewhere, inflation may have an important bearing on the course of interest rates. Certain of the effects of inflation, as in the encouragement afforded speculation and other types of public behavior, may, at the same time, be part of the processes of inflation. Psychological effects, as the experience of Germany between the wars clearly demonstrated, can be both devastating and enduring. The German experience also disclosed how inflation, by sapping the strength of the middle class, can alter the entire social fabric of a country and contribute importantly to the course of subsequent political events.

CAUSES OF INFLATION

Basically, anything is to be regarded as a cause of inflation which contributes to an excess of effective demand over effective supply at the level of prices prevailing previously. If we think of demand as desire backed by the means of paying for what we want, the causes of inflation may be classified as those which increase the means of payment and those which add to the willingness of the public to part with money in exchange for goods and services.

Quantitative factors. Quantitative factors in the causation of inflation include the volume of means of payment in the form of currency and deposits. They also include, indirectly, governmental policies and other factors which may help to determine the volume of circulating medium. The size of the public debt, methods of Treasury financing, budgetary policy, deficit financing, may be regarded—at one stage removed—as among the causes of inflation.

While the volume of available supply of goods and services is subject to physical limitations which do not apply in the case of the volume of money of types now generally

current, changes in the volume of transactions may, nevertheless, be of sufficient magnitude to influence price behavior. During the War Between the States, a sudden contraction of trade occurred as a result of a reduction in the area within which United States currency was issued. Since United States currency which had circulated in the South soon found its way into the North, the reduction in volume of trade was not accompanied by a corresponding decline in the means of payment. The reduction in trade relative to means of payment, therefore, was one of the factors contributing to inflation during the greenback period. An increase in the physical volume of production which was without historical precedent occurred in this country during the Second World War. Both during and after the war, the increase in output continued to exert an important antiinflationary influence. The basis of this phenomenal increase in output lay, more than anywhere else, in the existence of a great amount of unused labor and productive capacity at the start of the period.

In any relatively short period of time, the existence of full or partial employment is the principal factor controlling the physical volume of transactions. Measures which would be dangerously inflationary under conditions of full employment have little or no inflationary effect when there is partial employment. At the time of rapidly expanding production during the Second World War, we encountered the phenomenon known as "bottlenecks." This amounts to a condition of "sectionalized full employment:" while a great deal of slack remains throughout the economy, stringency appears in particular areas or industries. Prices of certain products then tend to rise, even though the large majority of prices may remain fairly stable.

The possible effects of bottlenecks require an important qualification of the claim that inflation can exist only under

conditions of full employment. Idle labor and unused productive capacity are an effective check on inflation only to the extent that they can be called into use. If bottlenecks elsewhere in the system prevent them from being utilized, they are of little immediate effect. The early period of German inflation after the First World War was accompanied by a substantial degree of unemployment. The lack of balance in production caused by absence of necessary raw materials (i.e., a bottleneck) interfered with the absorption of the available labor supply.

Behavior factors. Almost continuously from 1933 to 1946, a large number of the more conservative economists, businessmen and writers were prophesying early inflation. These predictions were based almost entirely on quantitative consideration—departure from gold, deficit financing by the government, low interest rates and, especially, the expansion of currency and deposits. The predictions, at least in the degree and timing which were anticipated, were almost completely falsified by events.

The explanation of the failure of inflation to materialize as predicted lies partly in the unexampled rise in volume of transactions; the significance of partial employment was not part of orthodox calculations. The chief reason for the discomfiture of the prophets of inflation, however, is to be found not among quantitative but among behavior factors. The public generally—as individual consumers, businessmen and investors—showed more common-sense restraint in their spending habits than the predictions made allowance for. For a dozen years, forecasters overestimated their own intelligence and underestimated that of the public. Even when inflation came, it was considerably more restricted than the quantitative èlements in the situation had led many forecasters to anticipate.

It is not the quantity of available purchasing power but

the actual exercise of the power to purchase, i.e., actual expenditure, that determines total effective demand. Instead of spending to the limit of rising incomes during the war years, individuals greatly increased their rate of saving. The ratio of saving to income increased from about 7 per cent in 1939 to 25 per cent five years later (cf. Chart XXV). The change in consumer behavior was greatly influenced by patriotic considerations, rationing and inability to obtain the goods desired. There was an increased preference for holding assets in highly liquid form. Thus consumer behavior in those years operated in an antiinflationary manner. When it turns in the opposite direction, as happened during and after the First World War and in the German inflation, it becomes an equally important cause of inflation. Moreover, the liquid assets accumulated earlier by restraint in spending may then be released as additional fuel for inflation. The existence of accumulated savings in the form of liquid assets, even if they are not spent themselves, could stimulate demand by inducing a higher rate of spending out of current income.

The behavior of sellers is also capable of exerting an inflationary influence. To the extent that the rise is expected to continue, rising prices lead suppliers to hold back from selling because of the expectation of being able to sell later at still higher prices. Furthermore, buying to accumulate inventory in anticipation of price rises adds to the level of current demand. It has been estimated that the price rise in the United States during 1919–20 when consumption remained practically constant can be accounted for almost wholly by the growth in buying for inventory.

The idea that rising prices will curb inflation by stimulating supply has no standing in history or theory. *Inflation does not cure inflation.* Not only does inflation generate the high level of income which helps to sustain high prices; it

strengthens the inflationary pressure from both sides—tending to stimulate monetary expenditures and at the same time to diminish the volume of goods offered for sale. In short, inflation promotes the sort of behavior from the side of both money and goods which breeds continued inflation.

THE CONTROL OF INFLATION

The lines of approach to a solution of the problem of inflation are indicated by the analysis of its causes. Policies for preventing inflation include those directed toward suitable changes in quantitative factors, both monetary and goods, and those designed to restrain undue expenditures. After the Second World War, proposals for price control, rationing and subsidies were widely attacked as dealing with symptoms rather than causes, meaning by causes such quantitative elements as the volume of circulating medium and the supply of goods. It is important to recognize, however, that the act of spending is no less causal than that which is available for spending. Once the quantitative factors have grown to a potentially inflationary relationship, it is unwise to disregard the possibility of holding the inflationary potential in check while quantitative factors are being restored to a safe relationship. It is not that a permanent solution can necessarily be found in the behavior factors, but rather that control policies should be directed simultaneously along both fronts.

Limiting the volume of money. One of the most vigorous methods of contracting the money supply was that used by Greece in 1923. With no advance warning, it was suddenly announced that every piece of currency above the smallest denominations was to be torn in two, one half circulating as money at half the original face value and the other half being exchanged for government bonds. In effect, this amounted to a forced loan with the proceeds applied to

a reduction of the note circulation. During 1945–46 a number of countries, including Belgium, Holland and France, contracted the circulating medium by such means as calling in notes of large denominations and blocking a certain proportion of deposit balances at the banks. In part, these measures were directed against the war profits made by collaborationists and others.

In the United States, bank deposits were reduced by retiring government debt out of the large deposit balances held by the Treasury. To the extent that the balances so used had been built up previously by taxation or borrowing from the public, the net effect was to reduce total deposits, but to the extent that they had arisen out of borrowing from the banks, the two operations—borrowing and retiring debt—merely offset one another. Measures to reduce the volume of circulating medium are uncertain unless reserves can be controlled so that a reduction in one type of debt held by banks will not be offset by an increase in bank holdings of other types of debt.

Increasing the volume of goods. In the agitation over inflation after the Second World War a great deal of emphasis was placed on an increase of production as a fundamental remedy for the inflationary conditions then prevailing. An expansion of the supply of consumer goods was in every way desirable, but the widespread belief that by this means the ratio of money supply to goods supply could be restored to what it was in 1926 or 1940 was wholly illusory. The degree of expansion in output, at a time when there was comparatively little slack in the economy, that would have been required to bring the goods factor up to a level corresponding to the money factor was far beyond anything that could be accomplished in a short period of time. The most that could be hoped for in that direction was that there would be a gradual "growing up to the

money supply." It was not to be supposed, however, that the volume of money would remain unchanged while production was rising. A more reasonable expectation was that normal business borrowing to facilitate the expansion in output would cause the money supply to grow *pari passu* with the growth in production.

Restriction of expenditures. The foregoing observations suggest that the existence of a relatively expanded money supply was no passing phenomenon. The only hope for escaping the inflationary threat, therefore, lay in the possibility that the enlarged balances would be retained instead of being spent at the former rate. Deterrents to spending are partly administrative and legislative; they include such factors as taxation, sale of savings bonds to individuals, rationing and price control. Measures such as these serve either to limit the volume of retained income or to reduce the amount of current spending out of the income which is available.

Expenditures may also be restricted by psychological considerations. A large part of the effectiveness of a vigorous price control policy lies in the assurance it affords that prices will be prevented from rising unduly. It thereby removes an important incentive for spending beyond the rate determined by current requirements. During 1945–47 the recollection of the collapse of prices from the high levels reached after the First World War tended to discourage excessive buying, as did the public's awareness of the great productive potential of American industry. Restraint in the rate of public spending may be encouraged through educational efforts by the government or it may be more or less spontaneous. During 1920 loosely organized buyers' strikes developed and the same phenomenon appeared again on a limited scale in 1946–48. The weakness of such voluntary efforts to limit spending is not that they are ill-conceived

or necessarily ineffective, but that they are likely to collapse in the face of a really serious inflationary threat.

REVIEW OF ANTIINFLATIONARY POLICIES, PERIOD OF THE SECOND WORLD WAR

Prior to the entry of the United States into the Second World War, no significant antiinflationary policies can be said to have existed. Minor steps of a control character had been taken such as reducing excess member bank reserves, but with unemployment still continuing the public remained deflation rather than inflation conscious. Moreover, wholesale prices and cost of living remained relatively stable during the first year and a half of war. An average increase of more than one per cent a month then set in and, as a result, the government introduced price control with the issuance of the General Maximum Price Order in May 1942. The rate of increase in prices was slowed down but remained fairly serious until the Hold-the-Line Order one year later. From then until the relaxation of price controls in 1946, a remarkable degree of price stability was achieved. Over a period of two years and eight months, which embraced the critical part of the most costly all-out struggle of our history and then the beginning of readjustment to peace, consumer prices rose less than 4 per cent (Table XXIV).

Policies introduced to resist inflation included measures designed to restrict consumer expenditures. Taxation and borrowing from individuals served to limit the amount of retained income available for spending; rationing and maintenance of price ceilings, the actual amount that could be spent. Where rationing assigned the distribution of goods on some predetermined basis, price ceilings restricted goods to first comers. The effect of each was to limit the amount of money that could be offered for a given volume of consumer goods.

TABLE XXIV. *Index of Consumers' Prices for Moderate-Income Families and Per Cent of Change, January 1946 Compared with Earlier Periods*

Group	Jan. 1946	Jan. 1945	May 1943 HOLD-THE-LINE ORDER	May 1942 GENERAL MAXIMUM PRICE REGULATION	Jan. 1941 "LITTLE STEEL" DECISION	Aug. 1939 MONTH BEFORE WAR IN EUROPE
			Indexes (1935–39 = 100)			
All items	129 9	127.1	125.1	116.0	100.8	98.6
Food	141.0	137.3	143.0	121.6	97.6	93.5
Clothing	149.5	143.0	127.9	126.2	101.2	100.3
Rent	....	....	108.0	109.9	105.0	104 3
Fuel, electricity, and ice	110.8	109.7	107.6	104.9	100.8	97.5
Gas and electricity	93.8	95.5	96.1	96.6	97.5	99.0
Other fuels and ice	127.2	123.6	118.7	112.9	104.0	96.3
Housefurnishings	148.5	143.6	125.1	122.2	100.2	100.6
Miscellaneous	125.2	123.3	115.3	110.9	101.8	100.4
			Per Cent of Change to January 1946			
All items	....	+2.2	+ 3.8	+12.0	+28.9	+31.7
Food	....	+2.7	— 1.4	+16.0	+44.5	+50.8
Clothing	....	+4.5	+16.9	+18.5	+47.7	+49.1
Rent[a]	....	....	+ .3	— 1.5	+ 3.1	+ 3.8
Fuel, electricity, and ice	....	+1.0	+ 3.0	+ 5.6	+ 9.9	+13.6
Gas and electricity	....	—1.8	— 2.4	— 2.9	— 3.8	— 5.3
Other fuels and ice	....	+2.9	+ 7.2	+12.7	+22.3	+32.1
Housefurnishings	....	+3.4	+18.7	+21.5	+48.2	+47.6
Miscellaneous	....	+1.5	+ 8.6	+12.9	+23.0	+24.7

[a] Per cent of change to December 1945.

Source: *Monthly Labor Review*, March 1946, p. 478.

Business expenditures were restricted by maintaining a system of priorities and by allocation of materials for use

in production. These devices also constituted rationing, but at a different level from the rationing of consumers. Very little use was made of the central bank discount rate which in other times and places had been the principal means employed for regulating business expenditures.

Apart from patriotic appeals, measures designed to stimulate production were largely confined to increasing the production of particular types of goods. Apart from the use of allocation and priorities, the principal method adopted for influencing production directly was the payment of subsidies. Subsidies were used in the case of building materials, on a restricted scale in copper production, and for a variety of food items. They were highly effective in holding down the market price of particular items, though to a certain extent they did so by transferring the cost from purchasers to taxpayers. Other measures were suggested from time to time, such as tariff reductions, the release of stocks which had been accumulated by the government and the direct transfer of capital and workers to industries where bottlenecks existed. These devices were either not used at all or were used on too small a scale to be significant relative to the general structure of prices.

Compared with other war periods, the program for combatting inflation during the Second World War was conspicuously successful. Accomplishments were distorted to some extent by deterioration of quality, but it does not appear that this factor was more serious than in other comparable periods.

In connection with planning for conversion to peacetime production, the authorities proved spectacularly mistaken in their estimates of the probable volume of unemployment. Instead of reaching eight million, the number of unemployed remained under three million, hardly more than

what might be looked upon as normal. The reason for the error was an overestimate of the depressing effects of the reduction in governmental spending or, what amounts to the same thing, an underestimate of the speed with which business and consumer spending could fill the gap caused by the cutting of government expenditures. The principal effect of the miscalculation was to encourage undue haste in abandoning controls such as rationing, and in adopting counter-deflationary policies such as an increase in basic wage rates.

The abandonment a little later of the principal O.P.A. controls removed the restraining influence they had exercised over consumer expenditures and was followed by a rapid rise in prices. Indeed, the price increase in the six months following the lifting of O.P.A. restrictions was the sharpest inflationary movement, for that length of time, since the period of the Revolutionary War.[1] The fact that inflationary pressures had been forcibly restrained gave them all the greater impetus once the restraint was removed. Whether or not a more suitable time could have been found for effecting the return to a relatively free economy, the action, once taken, could not well be reversed and the effects of the inflationary spurt had to be endured.

Do miscalculations on transitional unemployment and the overhasty economic policies they may have inspired discredit price controls and other forms of "economic planning"? In terms of some of the more extreme claims for planning, the answer must be in the affirmative. Certainly the experience of 1945–48 demonstrated the difficulty of the task and showed how much still remains to be learned. But it does not follow that the situation would have been better if steps had not been taken to anticipate future prospects

[1] Not including the inflation in the Confederate States.

and to formulate policies accordingly. The conditions which developed in 1919–1921 and 1929–33 in the absence of such efforts were considerably worse than those prevailing in 1945–48.

The chief lesson to be drawn from the price episode of 1945–48 is that flexibility is an essential feature in this as in other fields of economic policy. Both because forecasting is still inexact and because forecasts, even though accurate when made, tend to defeat themselves, errors in calculations are certain to occur. Resulting mistakes of policies would not be so formidable, however, if policies could be modified when errors become apparent. Controls which appear to have outlived their usefulness would be more readily relinquished if it were known that they could be renewed should conditions change in a way to render their restoration desirable. By the same token, the opposition to accepting limitations on our freedom of action would be less if it were known that the limitations would endure only during the period of emergency. But over against this ideal of suitable flexibility in economic policy is the blunt reality that without a fairly high degree of stability and continuity of policy, forward planning by the business community may be rendered more difficult. Difficult as the task may be of establishing the proper balance betwen stability and flexibility, it is an essential part of price control policy.

Deflation

Deflation is ordinarily thought of as simply the opposite of inflation, i.e., as a sharp decline in the level of prices. Since much of what has been said on the subject of inflation applies in reverse to deflation, the comments which follow will relate principally to points on which reference to inflation provides an inaccurate or incomplete guide to the nature and significance of deflation.

EFFECTS

It would be natural to assume that since creditors and persons on incomes involving a substantial contractual element are likely to lose in a period of inflation, they can be expected to gain during deflation. Experience in major depressions indicates that this is by no means a valid generalization. The basis of the paradox is that, for reasons which should be obvious, falling prices retard economic activity, reduce business income and contribute to default on outstanding debts. While in the absence of default or downward revision of the terms of contracts, creditor groups gain from falling prices, more may be lost through default, reduction of rate of payment, loss of employment and similar characteristic features of deflation than is gained through a rise in the purchasing power of the monetary unit.

Rising prices afford a stimulant, often unhealthy, to economic activity but falling prices act as a depressant. Where the typical consequence of inflation is mis-investment, that of deflation is unemployment. The one leads to the misuse and the other to the disuse of human and material resources. The waste of labor resources that results from enforced idleness is particularly serious in that, unlike coal or iron ore left in the ground, labor which is not utilized is irretrievable. The days of labor lost through unemployment are not preserved for use at another time but are gone forever.

The effect of falling prices on liquid assets is likewise complicated by their tendency to bring about a contraction of credit and business activity. While the purchasing power of each unit of liquid assets increases, any influence this might exert toward increasing liquidity is likely to be more than offset by default, reduction of lending and a disposition on the part of individuals and businesses to hold on

to their liquid resources when possible instead of spending them as freely as before. The changed character of bank portfolios has somewhat reduced the automatic tendency toward impairment of liquidity during depressions. As was indicated elsewhere, demand deposits are now less likely to contract in times of depression and may even expand. Past experience under conditions of falling prices is an imperfect guide to what may be expected in the future.

CONTROL OF DEFLATION

The basis of deflation control is essentially similar to that of inflation control. It consists of influencing quantitative factors and public behavior in such a way that total effective demand in the form of monetary expenditures will correspond, at the prevailing level of prices, to the effective supply of goods and services.

The technique of influencing quantitative factors to combat deflation may include the familiar central bank policies of reduction in the discount rate, purchases in the open market and lowering of reserve requirements. Devaluation of the currency is among the less orthodox methods of facilitating expansion and the money supply, as is the issue of fiat money. During the thirties, fiscal devices for overcoming deflation were adopted, particularly spending on public works financed by Treasury borrowing from the banks. Measures to resist falling prices do not, ordinarily, include reducing the supply of goods offered for sale, since this is patently contrary to the economic objective of increasing production and consumption. During the thirties, it is true, the Agricultural Adjustment Administration sought to reduce the output of various agricultural commodities, but this was designed to effect a better adjustment in the available supply of different commodities and not to reduce in the long run the total supply of goods offered for sale.

In the past the technique of influencing popular behavior in an antideflationary manner was largely confined to issuing reassuring statements: "Conditions are fundamentally sound," "Don't sell America short," "Prosperity is just around the corner." Today greater emphasis is placed on fiscal policies, such as public spending and progressive income taxes designed to fall most heavily on those with a low propensity to consume and least heavily on those with a high propensity to consume.

During the depression of the thirties, policies which were intended to bring about expansion of the quantitative factors in the money supply proved relatively unsuccessful. Open market operations contributed to a reduction in the indebtedness of member banks but failed to prevent the volume of demand deposits from declining. In the face of lack of confidence among businessmen and investors and of unwillingness of consumers to spend beyond what was absolutely necessary, velocity of deposits and currency showed a consistent tendency to decline. The relative ineffectiveness of expansionist methods may have been partly the result of bad timing—if they had been resorted to with more promptness and vigor, less of their force might have been dissipated in what amounted to salvaging operation.

The net effect of the experience of the early thirties was to weaken confidence in the control of deflation by expansionist monetary policies or by attempts to improve the psychological climate through official pronouncements. There was a shift of emphasis from quantitative factors to behavior factors and from central bank policies to fiscal policies. "Effective demand" has taken the place of prominence once occupied by the quantity of money, and the key to total effective demand is now seen to lie less in the absolute amounts of money and income and more in who have them and how they enter the system. The disrepute formerly

attaching to such unorthodox antideflation methods as deficit financing and even the issuance of paper currency, on the ground that they are seriously inflationary, has been abated somewhat by acceptance of the view that as long as there is extensive unemployment a general inflation is impossible.

Finally, experiences of the thirties strengthened the conviction that while inflation may weaken the social structure by redistributing wealth and income among the different groups in society, it is deflation that puts the social system to its severest testing. There is no convincing reason for believing that political forms and economic systems as we know them would find it appreciably easier to survive another depression of the magnitude of the thirties than they did at that time.

Changing Price Levels and the Fundamental Banking Problem

In any situation involving debtor-creditor relationships, a bank occupies a unique position in that it is both debtor and creditor for substantially equal amounts. To the extent that debits and credits balance, it is hedged against the usual effects of price changes on debtors and creditors. A loss or gain to the bank as debtor tends to be offset by a corresponding loss or gain to the bank as creditor. That is, the real value of the bank's liabilities keeps pace with the real value of the bank's assets, since both relate to current dollars. This is on the assumption that all obligations are fulfilled, ignoring such other possible effects as an alteration in the cost of conducting the business.

In view of the unique character of banking, it might be supposed either that inflation or deflation would have no effect upon banks or that the effect would be the same, regardless of whether the movement of prices was up or down. Neither of these presumptions is warranted.

There is little or no probability that inflation will lead to default on loans and investments held by banks. Not only does the lower real value of the obligations make it easier for debtors to maintain stipulated payments, but, in addition, the stimulus to business activity afforded by rising prices is favorable to payment being made in full. During inflationary movements there is usually a feeling of general prosperity. While boom psychology may breed undesirable speculation, there is little likelihood that it will lead to anything in the nature of a run on banks. The improvement in liquidity of assets and reduction in liquidity of liabilities is conducive to solving the fundamental banking problem of maintaining assets equal to liabilities. The net result is that there is little danger of banks failing because of inflation; it is more probable that weak banks will gain a new lease on life and new banks will be established.

The effect of deflation, on the other hand, is just the opposite. A downward movement of prices raises the real value of both assets and liabilities, provided promises are fulfilled, but falling price levels cause a decline in business activity and make for dwindling profits and the emergence of losses which may lead to default. Where there are defaults or the prospect of defaults, there is very likely to be depreciation of bank assets. Furthermore, it is in periods of deflation and depression that runs on banks are most likely to occur. The result of this combination of circumstances is obviously an increase in the liquidity of banks' liabilities and a decrease in the liquidity of their assets.

A bank, then, is uniquely hedged against the effect of changing price levels—but only if the promises to the bank are fully kept. Since banks must fulfill their promises or close their doors, the crux of the banking problem is the maintenance of the dollar value of the promises of others which they hold as assets. It is falling prices rather than

rising prices that interfere with fulfillment of others promises and thereby render a solution of the fundamental banking problem more difficult. Today, however, banks hold mainly the promises of the federal government, which are not subject to the risk of default. Likewise this change in character of bank portfolios has reduced the tendency for the volume of bank credit to move with the business cycle and the level of prices. A closer connection now appears to exist between the volume of bank credit and Treasury finance than between bank credit and business activity. To the extent that government debt declines in periods of boom and expands in periods of depression, there may even be a tendency in the future for bank credit to vary in a contracyclical manner. How this development will affect the future of the business cycle and of bank operations remains to be seen, but it is certain that the relationship between banking and the price level has been fundamentally altered by changes in bank portfolios which have occurred since 1930, and especially since 1940.

26 Financial Implications of the Interest Rate

Interest rates occupy, in the business of banking, much the same place that commodity prices occupy in the business of manufacturing or trading. As dealers in credit, bankers are intimately concerned with the level of interest rates, which represent the price of credit. The prices that prevail for different types of commodities and for goods at wholesale and retail have their counterpart in the rates of interest on different classes of credit instruments, on the obligations of different types of borrowers and on securities of different size and maturity. The existence of differences among interest rates affords one of the bases for the income yielding operations of banks. Similarly, just as the behavior of commodity prices is likely to have a great effect on the fortunes of farmers, fabricators and merchants, so changes in interest rates may have an important influence on the prosperity of banks.

While there are many different interest rates, including a considerable number which are of a direct concern to banks, it is often convenient to speak of "the" interest rate. This expression sometimes refers in a general way to an average of different rates on interest. Or it may relate to some par-

ticularly important rate such as that on long-term Government obligations, with the implication that other rates of interest are to be thought of as pursuing a similar course.

It will avoid confusion to bear in mind that an alteration of the long-term rate of interest may be designated either as a change in the interest rate or as a rise or fall in the market price of high-grade long-term securities. Thus, a rise in the price of government bonds (the coupon rate remaining unchanged) is equivalent to a fall in the market rate of interest, and a fall in the price of the bonds is equivalent to a rise in the interest rate. Just as a rise in the price level, for example, *is* a decline in the value of money (rather than a *cause* of the decline), so a rise in the price of high quality long-term securities is identical with a decline in the rate of yield (and not a cause of the decline). The rise in price of securities and the fall in yield are different ways of looking at or expressing the same thing.

The Behavior of Interest Rates

The family of interest rates includes such diverse members as the rate on long-term government bonds, short-term Treasury bills, corporation bonds, commercial paper, savings deposits and advances or discounts by the Federal Reserve Banks. All these rates and others may be of direct importance to banks. With the change in the composition of bank portfolios in recent years, the relative importance of certain of these rates has altered drastically; where once the commercial paper rate was of chief concern to banks, the rates on Treasury obligations, particularly on those of medium or longer maturity, has come to be of greater importance for the large majority of banks than the rate on commercial paper. Moreover, the relation of different rates to one another has changed. It is by no means true that the different rates move together like knots on a string. At times the rela-

tive levels of different rates have reversed themselves, and frequently the spread between rates has narrowed or widened. These shifts within the pattern of rates, as well as the trend of the general level of interest rates, are matters of major importance to banks.

LONG-TERM INTEREST RATES

The yield on British Consols, which are perpetual bonds of the British Treasury bearing a fixed rate of interest, provides the best available measure of the long-term interest rate over an extended period of time. At about the middle of the 18th century, the rate on Consols stood at a point slightly under 3 per cent. After nearly two centuries, it was again just below 3 per cent in 1948, after having reached 2.55 per cent in the spring of 1946. In between, however, it had fluctuated most of the time well above this level, rising in certain years to around 6 per cent. The movement of long-term interest rates is indicated by Table XXV showing the yield on Consols at five-year intervals from 1755 to 1945.

Table XXV suggests that one of the reasons why the levels to which long-term interest rates fell in the thirties and forties appeared so low was that they reached unusually high level during the early twenties. Rates which were low compared with those of the decade of the twenties have prevailed many times in the past. In point of statistical fact, the high levels of the twenties were farther out of line with historical precedent than were the low levels reached in the thirties and forties.[1]

[1] Nevertheless, the interest rates prevailing in the twenties were considered at the time to be low, an indication of the difficulty of maintaining a reliable perspective with regard to the current level of interest rates. Two of the most highly respected financial authorities in this country, writing in the late twenties, declared that: "From the side of practical experience, the testimony of competent observers is that the period [1922–28], for the most part, was one of vigorous competition between banks to lend funds. It was a 'borrower's market.' This condition, as well as declining interest

TABLE XXV. *Yield on British Consols, at Five-Year Intervals, 1755 to 1945*
(Per cent per annum. Average of high and low quotations.)

1755	3.14	1855	3.31
1760	3.77	1860	3.19
1765	3.41	1865	3.35
1770	3.64	1870	3.25
1775	3.39	1875	3.20
1780	4.88	1880	3.05
1785	4.76	1885	3.02
1790	3.90	1890	2.85
1795	4.52	1895	2.59
1800	4.71	1900	2.76
1805	5.04	1905	2.78
1810	4.47	1910	3.08
1815	4.48	1915	3.82
1820	4.42	1920	5.32
1825	3.54	1925	4.43
1830	3.49	1930	4.46
1835	3.29	1935	2.87
1840	3.35	1940	3.44
1845	3.12	1945	2.87
1850	3.11		

Source: George F. Warren and Frank A. Pearson, *Prices,* New York, 1933, p. 273, and *The Economist.*

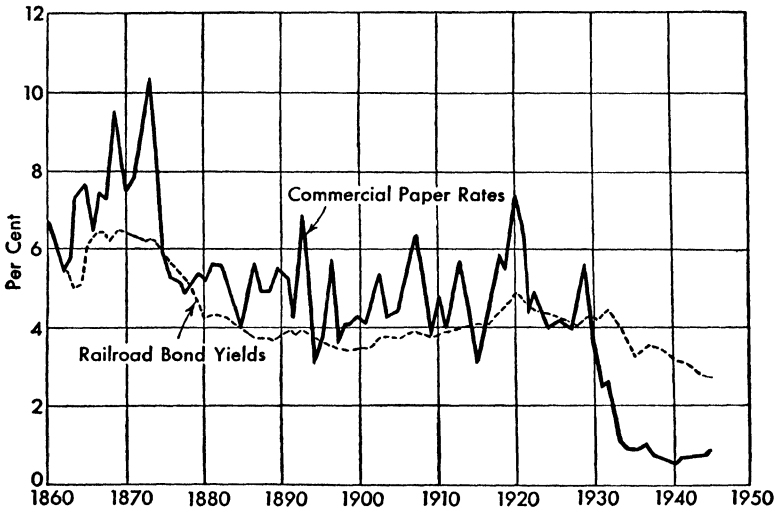
COMMERCIAL LOAN RATES

During the last half century the interest rate on commercial paper experienced a much greater decline than that on long-term investments (Chart XXX and Table XXVI). Between 1890 and 1947 the rate on prime commercial paper in the New York open market ranged, on the basis of annual averages, from highs of 7.64 per cent in 1893 and 7.50 per cent in 1920 to a low of 0.54 per cent in 1941. The rates

rates may, however, have been due to a reduced demand for bank funds rather than to an unusually ample supply of bank credit,"—O. M. W. Sprague and W. Randolph Burgess in *Recent Economic Changes in the United States,* New York, McGraw-Hill, 1929, Vol. II, p. 664.

charged by banks on the commercial loans actually made to customers are often quite different from those indicated by general averages of this sort. Moreover, they are likely to differ substantially for banks in different sections of the country (Table XXVII and Chart XXXI). It may be noted

CHART XXX. *Rates on Commercial Paper and Railroad Bonds, 1860–1947*



Source: Adapted from Committee on Public Debt Policy, *Our National Debt and Interest Rates*, New York, 1947, p. 7.

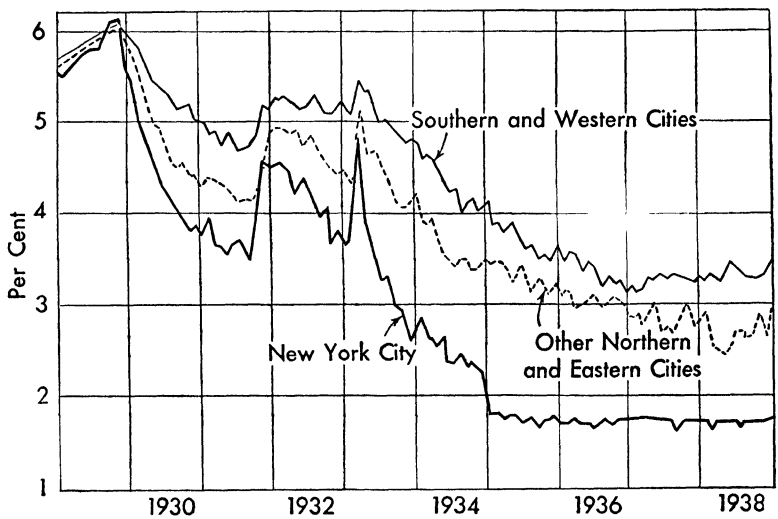
from Chart XXX that most of the decline in commercial paper rates and much of the decline in bond rates had occurred before the inauguration of the much discussed "easy money" policies of the Roosevelt Administration.

REGIONAL DIFFERENCES

Differences in the average rates charged by banks in different sections of the country are partly attributable, no

doubt, to differences in the character of the loans granted. They also reflect, however, a certain degree of regional compartmentalization of the capital markets of the country, a compartmentalization which was much more pronounced before the introduction of the Federal Reserve System. Dur-

CHART XXXI. *Regional Variations in Rates Charged by Banks in Principal Cities, 1929–1938*



Source: Adapted from *Federal Reserve Charts.*

ing the thirties, the average rate charged on commercial loans by New York banks was sometimes no more than half the average for banks in southern and western cities (Table XXVII). In 1929, on the other hand, the average in New York was approximately as high as in other leading cities. In other words, the decline in rates charged by banks after 1929 was considerably greater for New York banks than for banks elsewhere in the country, and was least in the South and West (Chart XXXI). Nor was the trend of rates

TABLE XXVI. *Interest Rate on Prime Commercial Paper, 4 to 6 Months, in New York City, at Five-Year Intervals, 1890–1945* (Per cent per annum)

1890	6.91	1920	7.50
1895	5.80	1925	4.02
1900	5.71	1930	3.59
1905	5.18	1935	0.76
1910	5.72	1940	0.56
1915	4.01	1945	0.75

Source: *Banking and Monetary Statistics,* p. 448, and *Federal Reserve Bulletin.*

TABLE XXVII. *Rates Charged on Commercial Loans by Banks in Principal Cities, 1928–1945* (Per cent per annum)

	Total 19 Cities	New York City	7 Northern and Eastern Cities	11 Southern and Western Cities
1928	5.17	4.96	5.16	5.41
1929	5.83	5.76	5.82	5.93
1930	4.85	4.39	4.84	5.40
1931	4.30	3.82	4.26	4.90
1932	4.71	4.20	4.81	5.21
1933	4.27	3.43	4.46	5.04
1934	3.45	2.45	3.71	4.32
1935	2.93	1.76	3.39	3.76
1936	2.68	1.72	3.04	3.40
1937	2.59	1.73	2.88	3.25
1938	2.53	1.69	2.75	3.26
1939	2.78	2.07	2.87	3.51
1940	2.63	2.04	2.56	3.38
1941	2.54	1.97	2.55	3.19
1942	2.61	2.07	2.58	3.26
1943	2.72	2.30	2.80	3.13
1944	2.59	2.11	2.68	3.02
1945	2.39	1.99	2.51	2.73
1946	2.34	1.82	2.43	2.85
1947	2.28	1.81	2.33	2.76

Source: *Banking and Monetary Statistics,* p. 464, and *Federal Reserve Bulletin.*

charged entirely consistent of all sections; in certain years the average rose in one section while it was falling in another.

DIFFERENCES BY SIZE OF BANKS

Marked differences are to be observed in the rates of interest charged on loans by banks in different size categories. An analysis of the earnings on loans by all member banks in the Third Federal Reserve District shows that during 1945 the average rates for banks in size categories up to those with deposits totaling as high as $10 million were close

TABLE XXVIII. *Rates of Return on Loans and Investments by Size of Bank, Third Federal Reserve District, 1945*
(Per cent per annum)

Size of Bank	Loans	Government Securities	Other Securities
$1,000,000 and less	5.3	1.9	3.4
$1,000,001 to $2,000,000	5.3	1.8	3.6
$2,000,001 to $5,000,000	5.2	1.7	3.4
$5,000,001 to $10,000,000	5.1	1.7	3.4
$10,000,001 to $20,000,000	4.8	1.6	3.3
$20,000,001 to $100,000,000	4.3	1.6	3.2
Over $100,000,000	2.6	1.4	3.0

Source: Federal Reserve Bank of Philadelphia, Misc. No. 138, March 25, 1946.

together (Table XXVIII). The averages for the next larger categories were somewhat lower, and for the largest banks, those with deposits over $100 million, the average rate was barely half that charged by banks in the smallest size category. Since the smaller banks are chiefly country banks and most of the large banks are city banks, the reasons for differences in rates charged are to be found in differences of location and size and character of loans as well as of size of bank. The same inverse correlation between size of banks and average rate earned applied also to interest on Government obligations and other securities, but in these instances the disparities were much smaller (Table XXVIII).

Interest Rates and Commodity Prices

A tendency for interest rates to vary in sympathy with commodity prices has long been recognized. According to the Bank of International Settlements: . . . "it is one of the most firmly established facts of economic history that, in a competitive economy, commodity prices and interest rates tend to rise and fall together—not only within the ordinary business cycle but in 'secular' price movements also." [2] The outstanding exception to this rule is the period from 1939 onward. Despite a considerable rise in commodity prices in all countries, and in some a rise of inflationary proportions, the reported rates of interest throughout most of the world moved downward. This period likewise provided an exception to the usual expectation, deep-rooted in financial circles, that interest rates would rise during war time.

COMPENSATION FOR CHANGES IN THE VALUE OF MONEY

The most familiar explanation of the historical tendency for interest rates to move in sympathy with prices is that lenders automatically adjust the charges made for the use

[2] *Fifteenth Annual Report,* p. 140.

of their money to compensate for changes in its purchasing power between the time of lending and repayment. If the lender, for example, is willing to accept a net rate of 3 per cent for parting with the use of his funds for one year and if he believes that the value of money will decline by 2 per cent during the year, he will demand, so it is said, 5 per cent, with 3 per cent representing payment for waiting and 2 per cent an offset to the anticipated depreciation of the monetary unit. No one would maintain that the process could be expected to work as precisely as this illustration suggests, but the existence of a tendency for some adjustment of this character to occur has been generally accepted. The tendency would doubtless be stronger if it were not that the public is seldom fully conscious of changes in the value of money until after they have taken place and never knows in advance just what the extent of the changes will be. Furthermore, many lenders, such as banks and insurance companies, are hedged against fluctuations in the purchasing power of money in that any change in the purchasing power of assets will be accompanied by a similar change in the real value of their liabilities. Their obligation is to pay dollars; consequently the fulfillment of their contract is dependent on having dollars and not on what the dollars will buy.

ALTERATION IN DEMAND FOR LOANABLE FUNDS

It is logical to suppose that the effect of changing price levels on business activity may serve to alter the demand for loanable funds and that this alteration in demand may be one of the factors contributing to the sympathetic behavior of interest rates and commodity prices. Rising prices favor an expansion of profits; the anticipation of larger profits stimulates investment and other forms of spending; growth of investment and other spending increases the demand for loanable funds and operates to force up interest rates.

Similarly falling prices provoke a sequence of events which tend to depress interest rates.

ALTERATION IN THE SUPPLY OF LOANABLE FUNDS

Changes in the level of commodity prices automatically induce changes in the supply of loanable funds which are also of a character to contribute to the correlation between interest rates and prices. The effective supply of loanable funds, it must be noted, depends both on the absolute amount of such funds and on the purchasing power of the monetary unit in which their amount is expressed. Any rise in prices represents a reduction in the purchasing power of the monetary unit. It therefore tends to reduce the supply of the existing volume of loanable funds, in the effective economic sense of what a given supply of dollars will accomplish. In the same way, a decline in prices serves to increase the effectiveness of a given amount of loanable funds. Conceivably, these tendencies might be counteracted by offsetting changes in the absolute amount of loanable funds offered in the market, but it is clear that the automatic effect of rising prices would be to decrease, and of falling prices to increase, the effective supply represented by a given volume of loanable funds. It is equally clear that the tendency of automatic effects of this character is to contribute to a direct correspondence between the movement of interest rates and of commodity prices.

FACTORS INFLUENCING INTEREST RATES, 1939–1946

Which of the three influences—changes in the value of money, demand for loanable funds and supply of loanable funds—has played the greatest part in the historical relationship between commodity prices and interest rates cannot be accurately measured, nor can their combined effect be assessed in comparison with other possible causes. The period

from 1939 to 1946 is unique not only in that the usual correlation was absent, but also in that prices failed to rise as much as they had in earlier wars or as much as the growth in the money supply seemed to indicate that they would. From 1915 to 1920, wholesale prices in the United States rose considerably more than in proportion to the growth in circulating medium; in the period from 1939 to 1946, on the other hand, they rose very much less than the money supply.[3] In large part, no doubt, the difference in interest rate behavior in the later period was the result of the greater control exercised over the supply of and demand for capital funds. In addition, however, the economic effectiveness of the supply of loanable funds available at any given time was not cut down, as it had been in similar periods in the past, by a decline in the purchasing power of the dollar. In the previous period, the expansion in the effective supply of loanable funds resulting from the growth in circulating medium was constantly being whittled away by the diminishing purchasing power of the monetary unit. This erosion of loanable funds through monetary deterioration was much less in the later period.

As was pointed out earlier, expansion in the supply of circulating medium relative to the volume of trade is bound to produce one of two results, either higher prices or greater liquidity. The condition of enhanced liquidity which developed out of the financing of the Second World War naturally tended to cause lower rates of interest. Had prices risen as much in relation to the increase in circulating medium as they did in the First World War, probably interest rates would also have been higher. The lower rate of return realized by investors in the later period may be looked upon as part of the price they paid for escaping more serious inflation.

[3] Cf. *supra*, pp. 365–68.

Other Factors Influencing Interest Rates

TIME DISCOUNT

One of the best known explanations of interest is to trace its existence to an inherent psychological predilection for consumption in the present rather than in the future. Time preference—or discount of the future, which comes to the same thing—results in a differential between what is offered for the use of money in the present and, say, a year from now. This difference is the rate of interest; thus interest is regarded as the tangible result or manifestation of a characteristic psychological attitude of the public. While psychological influences are undoubtedly of great importance in the determination of the interest rate, time preference is far from satisfactory as a basis for explaining the continuing wide spread between long and short-term rates in recent years or the downward trend of the long-term rates during the war years. No convincing case can be made to show how these extraordinary shifts in interest rates could have occurred in response to a change in the public's attitude toward the future.

LIQUIDITY PREFERENCE

The so-called "liquidity preference" theory of interest rates lays stress on a different psychological factor, namely the desire to hold assets in liquid form. The principal exponent of this theory, Lord Keynes, declared that interest should be looked upon not as the price charged borrowers for the use of money but as the price paid to induce lenders not to hold resources in the form of cash. The various reasons offered to explain why people desire to hold cash are classified under the headings of business, precautionary and speculative motives. Historical evidence seems to cast doubt on the liquidity theory as a final explanation of in-

terest rates, since much of the time in the decades before 1930 the rate on short-term securities, which were relatively more liquid, was above that on long-term securities. Moreover, interest has continued year after year on the so-called "money bonds," certain other types of securities and time deposits whose liquidity is, to all intents and purposes, as great as that of cash. At times a desire for liquidity may arise out of the element of risk or of the possibility that long-term rates may move upward, which would permit the investment of funds at a more favorable rate of return. But as Professor Hicks has remarked, to ascribe the interest paid on perfectly safe securities solely to uncertainty concerning future interest rates "seems to leave interest hanging by its own boot straps." [4]

LOANABLE FUNDS

Finally, there is the loanable funds theory with which some of the views already outlined frequently overlap. As the name suggests, what is involved is substantially a supply-and-demand explanation of the market for loanable funds, with the interest rate in the role of price. Different rates for different maturities or types of securities are the reflection of distinct, though not unrelated, market situations. There are peculiarities in connection with interest which render the market for loanable funds very different from that depicted in the conventional supply-and-demand analysis when applied to commodities. To the extent that savers are determined to provide a specific future income in the form, for example, of an annuity, it would be necessary to accumulate a larger principal sum if the interest rate was low than if it was high. Consequently, the supply of funds would tend, to that extent, to increase rather than decrease with a decline

[4] J. R. Hicks, *Value and Capital*, Oxford, Oxford University Press, 1939, p. 164.

in price (i.e., a fall in the interest rate). To the extent that the supply of loanable funds consists of demand deposits subject to creation by the banking system, that part of the supply is subject to no such physical limitation as applies in the case of commodities and may be largely independent of cost of production.

At one time is was customary to relate the supply of funds to current savings, and the interest rate was often referred to as the "reward for abstinence," i.e., for abstaining from consumption. The emphasis directed toward liquidity preference in recent years has served to call attention to the fact that the supply offered in the market at any given time may depend more on the willingness of holders to part with funds already accumulated than on the additional amount they will make available out of current savings. However one may question the adequacy of the reasons advanced to explain liquidity preference, it cannot be denied that the concept serves to highlight the importance of changes in public psychology through the effect of such changes on the supply of funds offered in the market at any particular time. It helps to explain the erratic movement of certain types of interest rates which have been a characteristic feature of periods of crisis or strain.

The useful features of other interest rate theories are capable of being integrated with the loanable funds explanation. The current tendency is to stress much more forcibly than in the past the interdependence of different factors in the interest equation. Saving is seen to depend in considerable measure upon the level of national income, while national income may be greatly influenced by the volume of investment. In short, the main features of the income-expenditure approach to the theory of money, namely, income, saving and investment, are among the principal influences acting upon loanable funds. It is equally

apparent that these relationships also apply in reverse, in other words, that liquidity preference and other factors entering into determination of the interest rate, as well as the rate itself, may have an important effect on the behavior of the flow of money payments through the economy.

Relation of Interest Rates to Business Activity

The bearing of interest rates on business activity is best examined in relation to cost of production including carrying charges, the so-called "natural rate of interest," and enterprisers' expectations.

COST OF PRODUCTION

Interest on borrowed or invested funds constitutes one of the costs of production. The influence exerted by changes in this particular cost differs widely for different types of enterprise: in some enterprises borrowed or invested capital is of small proportions while in others it may be very large; some businesses operate on much wider margins than others; often the fluctuations in price of the product may outweigh the importance of changes in the interest rate.

While a change of 1 or 2 per cent in the cost of borrowed money may be too small, relative to other elements of profit and loss, to exert a significant influence on the operations of the average manufacturer, in the case of traders it may be of greater importance. Some writers maintain that the efficacy of changes in the central bank discount rate turns largely on the effect they may have on the cost to traders of carrying inventories, and indirectly on the effect changes in inventories may have on the activities of other producers.

THE "NATURAL" RATE

A slightly different approach is to emphasize the relation between the market rate of interest and the "natural" rate,

which means the hypothetically ideal or "equilibrium" rate of interest. According to the argument, if the market or "money" rate is below the natural rate, borrowers will derive an extra profit because of that differential, with the result that borrowing will be stimulated and expansion, possibly inflation, will follow. With the market rate above the natural rate, borrowing will be discouraged and contraction, possibly depression, may be expected to result.

ENTERPRISERS' EXPECTATIONS

Historical evidence is sometimes called upon to support the view that changes in the interest rate have no appreciable effect on business activity. It can be shown, for example, that new investment was substantial in the late twenties when interest rates were relatively high, but was of negligible amount in the early thirties at a time when interest rates were extremely low. Individual instances are available without number where investment operations were undertaken in the face of relatively high interest rates or were not undertaken despite low interest rates. In every case, however, these illustrations relate to different periods of time and involve a change in enterprisers' expectations.

The varying receptivity of investment demand, which is the phenomenon involved in these examples, is an indisputable fact. It is anticipations which are determinant in deciding whether or not investments will be undertaken, and shades of optimism and pessimism concerning the future outlook of business may be far more important at different stages of the business cycle than the absolute height of the rate of interest.

What the varying receptivity of investment demand amounts to is a shift of the demand curve for loanable funds to the right or left. That such shifts can readily occur, particularly under the influence of psychological considera-

tions, is so familiar as to require no comment. The problem of the relation of interest rates to business activity, however, applies to a different situation; it is the question of whether, *at a given moment of time,* i.e., with no change in the psychological attitude of borrowers, more money would be demanded with a low than with a high rate of interest. On this issue evidence such as that just referred to, which is drawn from changes in conditions over time, throws no light. Without denying that the tendency may be offset by other factors, it is still to be presumed that, under constant conditions or at any instant of time, a low rate of interest is conducive to borrowing and business expansion, while a high rate of interest has the opposite tendency.

Control of Interest Rates and Easy Money Policies

The basis of attempts to control interest rates is the assumption that the level of interest rates is an important factor in determining business activity. If it could be assumed, first, that interest rates govern business conditions and, secondly, that all pertinent rates of interest can be controlled perfectly, most of our economic problems would be well on the way to solution. Neither of these conditions, unhappily, seem at all close to reality. Nevertheless, there is still enough in the idea that interest rates influence economic behavior to give interest rate policies a prominent place in most programs for improving the functioning of the economy.

Manipulation of the central bank discount rate is the most familiar form of control over interest rates and historically is one of the oldest and most respected means of influencing business conditions. As an interest rate device which functions by way of other interest rates it was counted on to ease or tighten credit conditions, depending on which way the economy was headed. During the thirties, the main-

tenance of the Federal Reserve discount rate at unprecedentedly low levels failed to bring about a revival of business conditions. It then came to be widely accepted that while discount policy might, if pursued vigorously enough, check a boom it was powerless to bring about revival.[5]

Notwithstanding this disillusioning experience, interest rate policy later came to be thought of as virtually synonymous with easy money policy. The maintenance of a low level of interest rates became one of the chief foundation stones of full employment policy. Economists began to discuss the possibility of the disappearance of interest and "the euthanasia of the rentier class." Sir William Beveridge, in his book *Full Employment in a Free Society,* incorporated an ingenious plan whereby the authorities could gradually reduce interest rates on the national debt to negligible proportions or even abolish the payment of interest entirely.[6] More moderate proposals have appeared in this country, some of them from high official sources, which looked not to the elimination of interest on government debt but to the exercise of control over the rate of interest payable on federal debt held by banks.

The appearance of proposals such as these indicates how great a distance responsible thinking has proceeded from the days when interest rate policy suggested nothing more than a mild use of central bank discount rates. An important reason for the formulation of proposals of this character is the belief that saving will tend to outrun investment in the future and, therefore, that in the long run there is little to fear from the old idea that low interest rates may produce inflationary consequences. Another reason, doubtless, is an

[5] Contrast the view expressed by Lord Keynes in his *Treatise on Money* published in 1930 that the discount rate is more effective in stimulating expansion than in forcing contraction (Vol. II, p. 253).

[6] Pp. 337-41.

attitude of increased tolerance toward the imposition of fairly stringent governmental controls in case, contrary to expectations, such undesired results should develop.

During the war the principal motive for the cheap money policy was to hold down the cost of borrowing at a time when the government was spending vast sums of money for unproductive purposes. In peacetime, cheap money is favored in order to limit the fiscal burden of carrying charges on the public debt and particularly as a way of encouraging private investment. In addition, a decline in the price of long-term securities which would accompany a rise in the interest rate is opposed as likely to prove disturbing to orderly business conditions and as tending to penalize investors in government securities, including the small saver who puts his money in War Savings Bonds.

The technique of cheap money policy during the Second World War was very simple. Aside from the factor of patriotism, the Treasury held a virtual monopoly of borrowing and was in a position to direct investment more or less at will through priorities and the allocation of materials. By borrowing as much as the Treasury wished from commercial banks and the Reserve Banks—with the commercial banks creating the desired deposit credit and the Reserve Banks the necessary reserves—the authorities were able with no difficulty at all to prevent rates from rising above the levels agreed upon.

In the United States, the cheap money policy was continued after the conclusion of hostilities. In England and Canada, the policy was carried to even greater lengths than during the war. Within three months of V-J Day:

> . . . The British Government announced certain steps to lower short-term interest rates, the method adopted being that the Treasury reduced the rate paid on Treasury Deposit Receipts

from 1⅛ to ⅝ per cent. . . . In order to protect their position, the banks proceeded to reduce the interest rates paid by them. . . . The reduction in the Treasury Deposit Receipt rate was sufficient to bring about a general decline of ½ per cent in all short-term rates. . . . The Chancellor of the Exchequer re-emphasized his intention to examine the possibility of securing lower rates on medium and long-term loans.[7]

There was an immediate response in the gilt-edged market with the yield on Consols declining sharply. A writer commenting on the action taken in Canada declared that it constituted another demonstration that "the level of interest rates in any country will be what the government wants it to be." [8]

Instead of it becoming necessary for the Federal Reserve Banks to support the market for government securities, all except the securities of shortest maturities rose to a substantial premium. In part, the decline in the long-term rate was associated with the condition of excessive liquidity referred to earlier. In part, it reflected the continued creation of demand deposits by commercial banks. Underlying all else was the phenomenon of high savings in a high income society. The evidence suggests that government and central bank authorities may have given cheap money its original impetus and helped to feed it at certain stages, but that once it was well under way, it maintained itself of its own initiative. It may be questioned whether such a condition deserves to be described as being based on cheap money policy, inasmuch as the point was reached where apparently it was no longer dependent upon further policy action other than the maintenance of orderly conditions in the security markets.

[7] *Fifteenth Annual Report of the Bank for International Settlements,* pp. 141–142.

[8] *Finance,* March 10, 1946, p. 11.

Interest Rate Practices and Financial Operations

THE VOLUME OF EARNING ASSETS

In the face of declining interest rates after 1933, the commercial banks of the country earned continually rising profits. In the war years when interest rates in general were at the lowest point up to that time, bank earnings were higher than ever. The reason for this paradox, of course, is that the decline in yield per dollar of earning assets was offset by a proportionately greater expansion in the volume of earning assets. Since the expansion in assets was principally in the form of government securities, the rise in net profits was accompanied by an increase in both safety and liquidity. All this was a reminder of the simple fact that the interest rate on loans and investments is only one among several factors governing the net income of banks.

THE HOLDING OF CASH AND ITS ALTERNATIVES

During the early period of declining interest rates, there was a tendency on the part of many banks to remain in a highly liquid position, frequently by holding large excess reserves, for fear of being tied up with low yield assets in case the level of rates should rise. It frequently happened that the possibility of realizing a differential of ½ per cent if rates were to rise loomed larger in the calculations of investors than the current sacrifice of 2 or 3 per cent during all the time the assets were held in the form of cash—this in spite of the fact that the larger loss was real and current and the smaller loss hypothetical and in the future. Even if the anticipated rise in interest rates had materialized—which it did not—an accurate evaluation of the operation as a whole would have called for subtracting from the gain attributable to the higher rate the loss of income experienced during the time the funds were yielding nothing.

The holding of cash is often looked upon as the most conservative and cautious practice that can be followed, yet whether cash is the most desirable asset to hold in a period of changing money rates depends largely upon whether the change which occurs in upward or downward. Instead of holding cash while waiting for assets of a desired type or maturity to become available, it may be feasible to hold funds temporarily in the form of some other income yielding security and by so doing to realize a return. This can ordinarily be done without exposing the investor to any risk through a change in the level of rates to which he would not have been equally subject if the desired security had been available in the first place. The holding of cash or short-term securities is customarily looked upon as a logical stepping-stone to acquiring particular long-term securities. What is often overlooked is that the holding of other long-term securities may, under certain circumstances, be an equally logical—and a considerably more profitable—stepping-stone to the same end.

PROBLEMS OF YIELD DIFFERENTIALS

A problem of an opposite character is presented by the case of securities which have gone to a premium and on which a substantial capital gain can, therefore, be realized by selling the securities. If the funds obtained from the sale are reinvested in a lower-coupon security affording, on the basis of prices prevailing in the market, the same yield to maturity, there is no monetary gain in making the switch. The same number of dollars will be realized in either case and the only difference is that in one case the return would be received as interest only and in the other as a combination of interest and appreciation of principal. Under certain conditions that difference may be of significance to the investor, but except for these special circumstances the best

guide to the most advantageous course to follow is the number of dollars a particular course of action will yield over the life of the transaction. Differences in rate of yield to maturity as calculated on the basis of current market quotations for the security in question are a conclusive indicator of differences in anticipated net return.

On a given date the yield to first call date of a group of Treasury obligations having different coupon rates was as follows (in per cent): 0.58, 0.87, 1.26, 2.01, 2.27. The variation in yield was a reflection of the different characteristics of the particular issues, e.g., time to maturity, whether fully taxable or partially tax exempt, whether or not eligible for purchase by banks. If a security affording a lower yield was purchased in preference to one with a higher yield, it was presumably because advantages afforded by other features of the security were regarded as sufficiently important to compensate for the receipt of fewer dollars.

"A BUNDLE OF VARYING YIELDS"

It is customary for long-term bonds to carry a uniform contractual rate of interest. In a market where substantial differences prevail between short-term and long-term rates of interest, the fixed coupon rate ceases to be an accurate measure of the true yield on the security in each year from date of issue to date of redemption. Let us assume for the sake of simplicity that the rate of interest on comparable securities is 1 per cent up to one year maturity, 2 per cent from one to five years and 3 per cent from five to ten years. We may assume that a 3 per cent ten-year bond would sell at par for the first five years after issue; that it would then go to a premium such that the yield on the basis of the higher market price would amount to 2 per cent for the next four years, and that the premium would then adjust to the point where the yield for the last year was 1 per cent.

To regard the security under these circumstances as giving a steady 3 per cent income each year would be decidedly inaccurate; the 3 per cent coupon would constitute nothing more than an average for the ten-year period. The true economic yield would be something over 3 per cent in each of the first five years, i.e., 3 per cent income each year plus an allowance for the premium over par which would exist at the end of the fifth year. The true yield for the next four years would not be the 3 per cent coupon rate but would reflect the sum of these receipts less the decline in premium between the end of the fifth and the end of the ninth year. The true yield in the last year would be the 3 per cent coupon rate less the premium existing at the start of the year (which would disappear on the date the bond matured). In short, the bond might be looked upon as comprising not a series of equal annual payments corresponding to the coupon rate but a bundle of varying yields corresponding to the interest rates prevailing in the market.

While the foregoing illustration is greatly oversimplified, the same principle applies to all long-term securities in a market where substantial differences exist in short-term and long-term rates of interest. In such a market changes in premium and yield differentials are more gradual than the example suggests.

Not only does a long-term security under such circumstances constitute a bundle of varying yields, but also the bundle is capable of being divided into its different component parts through purchase and sale in the market. An investor who desires relatively high yield and has less need for liquidity can presumably meet his requirement by acquiring the security at issue and selling it when the yield falls below a certain point. Another investor with intermediate requirements with respect to yield and liquidity can satisfy them by holding the security during the inter-

vening period, while an investor who desires a short-term security, even though the yield is relatively low, can hold the obligation in its final stage before maturity.

The principle of separable yields just described indicates how the same security at different periods of its life can be made to serve the needs of different classes of investors. It is a warning also that the coupon rate may be a very deceptive guide to the net income that can be realized on a particular security. It shows that an investor who continues to hold to maturity a bond bearing 3 per cent interest annually may be earning an effective rate not of 3 per cent but of 1 per cent or less in the later stages of the operation.

27 National Debt and the Financial System

The most conspicuous change in the American financial scene during the past generation has been the rise of federal debt; from a position of negligible importance it has grown to a point where it overshadows every other element in the credit structure. This fact alone would be enough to render it of major significance to the country's banks. Indeed, the transformation of commercial banking in recent years is largely traceable to the increasingly dominant position which the federal debt has come to occupy. In addition, however, the rise in national debt has given to the art of debt management a new and expanded importance which reaches far beyond the banking system. This art, while only in its infancy, has already developed a substantial body of theory and public policy. Before turning to those aspects of the debt problem, it is necessary to have the principal facts relating to the national debt clearly before us.

Volume of Federal Debt

ABSOLUTE AND RELATIVE MAGNITUDES

The growth in absolute amount of national debt, while impressive enough, is primarily significant when related to

other concurrent changes in the economy. At the start of the First World War, for example, the federal debt was an insignificant proportion, only 1 or 2 per cent, of the combined total of public and private debt outstanding. By 1919 it had risen to over 20 per cent of the total. In 1930 it stood at 8 per cent and in 1940 at nearly 21 per cent, or about where it was in 1919. The heavy borrowing resulting from the Second World War raised the proportion to a peak of 66 per cent at the end of 1945.

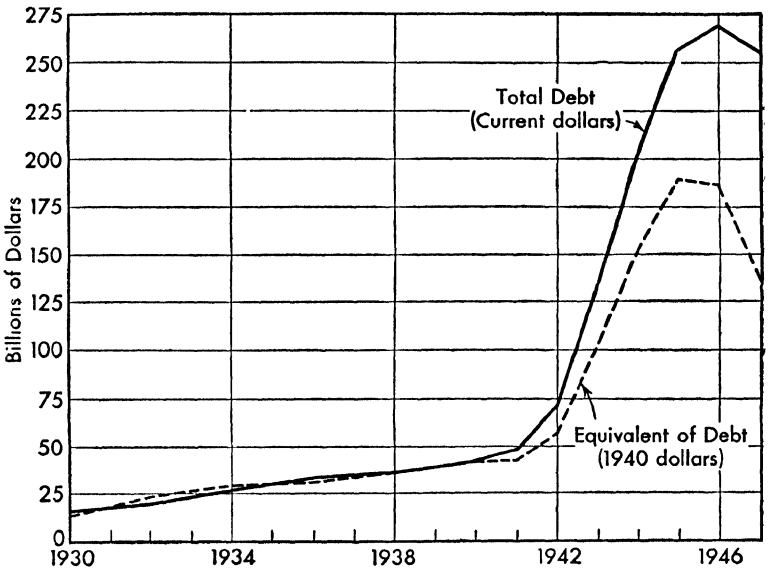
The amounts ordinarily shown for the national debt are total rather than net figures. Apart from a variety of other assets—e.g., supplies, war materials, surplus plants and equipment—whose realizable value is rather uncertain, the Treasury may hold large cash balances in the form of bank deposits. In certain years the total of such balances, which would have to be subtracted to show the net position of the Treasury, has been in excess of 10 per cent of the total federal debt, rising as high as $26 billion. Before the Second World War, on the other hand, Treasury cash was under $3 billion.

Comparisons of the size of debt expressed in dollar amounts imply a stability in the value of the monetary unit which is highly illusory. It occasionally happened in the period between the wars that the equivalent of the national debt in real terms, i.e., the total adjusted for changes in the purchasing power of the dollar, changed in exactly the opposite manner from the stated amount of the debt. This meant that the change in the purchasing power of the dollar more than offset the change in the magnitude of the debt (cf. Chart XXXII).

An extreme illustration of the effect of changes in the purchasing power of money on the real value of the national debt occurred between 1920 and 1932. Between these dates the dollar amount of the debt was reduced by approxi-

mately one-fifth. As a result of the decline in prices, however, its size at the end of the period when measured in what it represented in terms of commodities at wholesale, was nearly double what it was at the start. In other words, our efforts to reduce the debt by taxing to build up budgetary surpluses were frustrated by the change in the value

CHART XXXII. *Interest Bearing Debt of the United States, Selected Dates, 1916–1947*



Source: Basic data from *Banking and Monetary Statistics* and *Federal Reserve Bulletin.*

of the dollar, so that in real terms we were deeper in debt at the end of the period than at the beginning.

The rise in prices after 1932, on the other hand, had the effect of holding down the real value of the debt (Chart XXXII). The growth of national debt during the thirties and particularly after the start of heavy borrowing for war purposes was partially offset by the decline in the purchasing

power of the dollar. The dollar amount of the national debt rose thirteenfold from June 1932 to 1946, but in terms of what the debt represented in commodities at wholesale the rise was about half as great, or something over sixfold.

Since the national debt involves a claim against the future incomes of the citizens who will be taxed to carry it, it needs to be related to the level of national income. In June 1920 the federal debt represented about 35 per cent of the national income for that year. By 1929, as a result of paying off the debt and the rise in income, the proportion had fallen to a little over 20 per cent. By 1932, however, national income had declined to less than half of the 1929 level and the debt had begun to rise, with the result that in that year the national debt was equal to 50 per cent of national income. The proportion remained close to this figure for the next nine years as the rate of rise in national income kept approximate pace with that of the growth in debt. The ratio of national debt to national income at selected dates was as follows:

1932	50%
1937	54%
1940	57%
1941	52%

Thereafter, despite a great increase in national income, the ratio of debt to income rose rapidly. In June 1948 the federal debt was about 20 per cent above the anticipated national income for the year.

INTEREST ON THE PUBLIC DEBT

The total public debt indicates the gross liability of the government but it fails to show the charges which the Treasury has to meet currently because of the debt. The amount of interest actually paid by the government is governed by the size of the debt and the average rate of interest on it.

The average interest cost of Treasury borrowing declined from nearly 4¼ per cent in 1920 to well under 2 per cent in 1944. This drastic reduction was the result of three factors, a fall in the general level of interest rates, a shift in the pattern of rates whereby short-term rates declined much more than long-term and a deliberate policy on the part of the Treasury of borrowing a larger proportion on short term.

TABLE XXIX. *Computed Interest on National Debt Related to Federal Expenditures and National Income, 1920–1947* (Totals in millions)

June 30	Interest Bearing Debt[a]	Computed Annual Interest Charge[a]	Computed Average Rate of Interest[a]	Computed Interest Charge as a % of National Income[b]	Computed Interest Charge as a % of Federal Expenditures[c]
1920	$24,061	$1,017	4.225%	1.54	15.89
1925	20,211	830	4.105	1.14	27.10
1930	15,922	606	3.807	.77	17.91
1932	19,161	672	3.505	1.44	14.80
1934	26,480	842	3.181	1.81	14.01
1936	32,989	845	2.562	1.42	9.75
1938	36,576	947	2.589	1.41	13.08
1940	42,376	1,095	2.583	1.48	12.17
1941	48,387	1,218	2.518	1.45	9.58
1942	71,968	1,644	2.285	1.51	5.08
1943	135,380	2,679	1.979	1.97	3.31
1944	199,543	3,849	1.929	2.45	4.11
1945	256,357	4,964	1.936	2.95	4.94
1946	268,111	5,351	1.996	3.07	8.40
1947	255,113	5,374	2.107	2.87	12.64

[a] *Treasury Bulletin.*

[b] Based on national income for fiscal years calculated by adding one-half the total of the current year and one-half of the total of the preceding year. Data for 1920 and 1925 are from National Bureau of Economic Research estimates for current years; data for 1930 to 1947 from Department of Commerce estimates. The new series is employed for 1942–47.

[c] Based on data from *Banking and Monetary Statistics,* p. 513, 1920 to 1941 and from *Treasury Bulletin,* 1942 to date.

Not only has the cost of servicing the debt risen relatively less than the size of the debt (Table XXIX) but interest on the greatly expanded national debt absorbed a smaller proportion of total federal expenditures in 1947 than in 1920 or, indeed, in many other intervening years (Table XXIX). The explanation of this decrease lies partly in the lower rate of interest and partly in the growth of federal expenditures. On the basis of current expectations, it appears that despite the great increase in federal debt, interest on the debt will constitute a smaller proportion of federal expenditures in the late forties and the fifties than it did in the twenties. It will, however, represent a large fraction of the national income, a reminder that federal expenditures have expanded at a more rapid rate than national income.

OWNERSHIP AND MATURITY DISTRIBUTION

The federal debt consists of the three major parts, marketable securities, nonmarketable securities and special issues. Special issues consist of securities made available to government trust funds, often on relatively generous terms, to enable them to earn a rate of return provided for in earlier legislation. They may constitute an indirect means of granting a subsidy. At the end of February 1946, the month the federal debt reached the highest point on record, these special issues amounted to nearly $21 billion, compared with less than $5 billion at the middle of 1940. Nonmarketable securities represented a little over 20 per cent of outstanding federal debt on that date, the great bulk consisting of United States savings bonds, with Series E, which were sold widely to small individual lenders, the most important type.

The remainder of the public debt was in the form of marketable securities, comprising, on the same date, 72 per cent of the total. Of this amount $70 billion or over one-third was

scheduled to mature within one year.[1] While over half, 53 per cent, was due or callable in five years or less, only 13 per cent had a maturity of over twenty years. The maturity distribution of all marketable issues was as follows: [2]

Within 1 year	35.2%
1 to 5 years	17.7
5 to 10 years	16.5
10 to 15 years	8.7
15 to 20 years	8.9
Over 20 years	12.9

In June 1919, by contrast, Treasury obligations maturing within five years amounted to only 30 per cent of the total, while 26 per cent were of over twenty years maturity. In terms of volume, commercial banks constitute the largest single class of owners of government securities (cf. Table XXX). Over 40 per cent of total interest-bearing debt was

TABLE XXX. *Ownership of Treasury Securities, End of Fiscal Year 1947* (Par value, in millions)

Federal Reserve Banks	$21,872
Commercial Banks	70,100
Mutual Savings Banks	12,100
Insurance Companies	25,000
Other Corporations and Associations	21,100
State and Local Governments	6,400
U. S. Government Agencies and Trust Funds	32,811
Other Investors	65,800

Source: *Federal Reserve Bulletin.*

held by commercial and Federal Reserve Banks in February 1946. Insurance companies with 9 per cent and mutual savings banks with 4 per cent brought the total for institu-

[1] Treasury bills, which amounted to $17 billion, run three months and, therefore, could have been regarded as maturing four times during the year. If each series were considered separately, the total of all securities maturing during the year would have amounted to about $120 billion.

[2] *Treasury Bulletin*, May 1946, p. 52.

tional investors (not including government trust funds, educational institutions and the like) to 64 per cent of the total. About 23 per cent was held by individuals. Holdings by different ownership groups are shown in detail in Table XXXI.

TABLE XXXI. *Ownership of Treasury Securities by Maturity Classifications, End of Fiscal Year 1947*
(Percentages)

	Commercial[a] Banks	Mutual[b] Savings Banks	Life Insurance Companies[c]	Fire, Casualty and Marine Insurance Companies[d]
Within 1 year	26.0	5.3	1.9	12.3
1 to 5 years	49.7	13.3	9.1	24.6
5 to 10 years	18.4	10.5	7.4	15.0
10 to 15 years	3.5	24.9	10.0	25.5
15 to 20 years	.3	32.1	56.9	12.8
Over 20 years	4.1	13.9	14.7	9.7
	100.1	100.0	100.0	100.0

[a] Group of 7,318 leading banks.
[b] Group of 540 leading banks.
[c] Group of 309 leading companies.
[d] Group of 638 leading companies.

Source: *Treasury Bulletin.*

As is to be expected, the types of securities held by the different ownership groups differs widely. On the date mentioned, over three-quarters of all Treasury bills outstanding were lodged in the Reserve Banks and most of the remainder in commercial banks. In general, commercial banks tended to concentrate their holdings in short and medium maturities, while life insurance companies concentrated in long-term securities. Mutual savings banks and fire, casualty and marine insurance companies occupied an intermediate position, with the mutual savings banks closer

to the life companies and the other insurance companies closer to commercial banks (cf. Table XXXI). The holdings of other investors, including individuals, nonfinancial corporations and state and local governments, were considerably more evenly distributed relative to maturity classification.

The composition of the holdings of different investor groups is largely governed by the nature of their business. Life insurance companies have comparatively little need for liquidity and, since they are relatively free of taxation do not find it to their advantage to hold large amounts of tax-exempt securities. Commercial banks and fire and casualty insurance companies, requiring more liquidity than mutual savings banks, hold a larger proportion of short-term securities. In addition, custom may play a considerable role in determining the composition of portfolios of government securities. Between October 1943 and April 1946 Treasury bills held by reporting member banks declined from $4,575 million to $1,230 million, while Treasury bonds increased from $17,224 million to $27,210 million. Such an inverse movement in holdings of the two types of securities can only be accounted for on grounds of a change in accepted banking practice.

Public Attitudes Toward Public Debt

Four main points of view on the subject of national debt are encountered in current discussion of the subject. Not all of these views are mutually exclusive and the same individual may share more than one of them—sometimes consciously and sometimes, no doubt, without fully realizing it. Each of the lines of thought contains elements of validity, with its respective merit turning on questions of degree, timing and circumstance.

GOVERNMENT DEBT AS SIMILAR TO PRIVATE DEBT

To the average layman, the debt of the federal government appears substantially similar to the debt owed by an individual. Public and private debt are likely to be regarded as simply two different editions of the same thing; and easy reliance upon either is condemned as being contrary to established canons of thrift. In both public and private finance resort to borrowing is recognized as sometimes justifiable, but only as exceptions to a generally accepted rule. The usual exceptions are in the case of borrowing for emergencies and for making productive investments. For governments, the typical emergencies are wars and severe business depressions, while productive investments include enterprises, such as building the Panama Canal and highway improvement, which are not suitable for private investment.

GOVERNMENT DEBT AS MORE OBJECTIONABLE THAN PRIVATE DEBT

There is also the view that borrowing by governments, and consequently the debt which results from such borrowing, is more dangerous than its private counterpart. As a way to curry favor with the electorate through tax reductions and extravagance with federal funds, borrowing is unquestionably capable of political abuse, though the extent to which voters in this country are likely to be hoodwinked by such obvious tactics can be exaggerated. The necessity of making fixed annual payments on the national debt is said to impose a dead-weight burden on the budget and to introduce an element of rigidity into the administration of government finance. Although it is advanced as an objection to public debt, the problem of rigidity applies to any fixed income obligation, whether public or private. It is a serious

consideration only if the magnitude of the burden is out of proportion to the ability of the fisc to carry it.

GOVERNMENT DEBT AS BENEFICIAL

The conception that public debt may be not only preferable to private debt but intrinsically beneficial did not originate with the much criticized "new philosophy of public debt." [3] It dates, strangely enough, from the parent of so much that is conservative in American economic and political thought, Alexander Hamilton. In his famous *Report on the Public Debt,* Hamilton argued that the existence of a certain amount of public debt serves a useful economic function by affording savers a safe place into which to put their funds, whether temporarily or more or less permanently.

Later a balance of debt owed by the government came to be regarded as a buffer which would facilitate the orderly administration of treasury finance. A surplus of reserves over expenditures can always be applied to reducing outstanding debt until the budget can be brought into closer balance. In the absence of a debt, the government might be under pressure to dispose of funds unwisely during periods when there was a surplus.

Today it is frequently said that the large volume of Treasury obligations is essential to the continued existence of our financial institutions. Whether or not one regards that as an adequate justification for perpetuating a public debt, the importance of the debt to the financial community—at a time such as 1947 when Treasury obligations constituted nearly 100 per cent of the earning assets of the Federal Reserve Banks, about 65 per cent of the earning assets of

[3] Cf. book by that title by H. G. Moulton, Washington, Brookings Institution, 1943.

commercial banks, and 45 per cent of the assets of life insurance companies—is not to be denied.

GOVERNMENT DEBT AS AN INSTRUMENT OF POLICY

While minor applications of public debt as an instrument of policy were made much earlier—e.g., as the basis for issue of National Bank notes—its development into a major instrument of economic policy occurred in the thirties. Details, and even general principles, of its application will doubtless be modified from time to time, but certain general patterns of its use have now assumed recognizable form: in combination with taxation, administration of the public debt has come to be a device for redistributing income; in connection with such policies as taxation or spending on public works, it has come to be a means of directly influencing business activity.

During the thirties policies related to the public debt were oriented toward the creation of employment and expansion of business activity. In the war years, public debt policies, as in the emphasis placed on War Savings Bonds and payroll deduction plans, were geared to the control of forces which were regarded as unduly expansionist or inflationary. In order for debt policy to succeed as an instrument of economic policy in general, it must be flexible enough to vary with the business cycle, and most of all must be kept within such bounds that it is sure of remaining the servant rather than becoming the master of those charged with fiscal responsibility.

The Political Economy of Public Debt

THE QUESTION OF DEBT BURDEN

It is universally recognized by economists—even by those who fear that unwarranted conclusions may be drawn from

the observation—that an internal debt is essentially different from a debt held abroad. The basis of the difference is as simple as double entry bookkeeping; since debits equal credits, it follows that where debtors and creditors are citizens of the same country the *net* obligation of the community as a whole is nil.

Just as there cannot be more sales than there are purchases, so likewise there cannot be more debt than there is credit. Debt and credit are opposite ways of viewing the same thing; the one must, therefore, be equal to the other. In the case of an internally held debt, it is absolutely correct to say that "we owe it to ourselves." The amount *owed by* the taxpayers is exactly equal to the amount *owed to* the bondholders. In the case of an internally held debt, there is literally no net debt. These are undeniable truths. But it by no means follows—and this is apparently the reason why so many people resist accepting them as true—that the existence of a huge national debt is of no importance. It only means that the real significance of the debt, as will be indicated presently, lies elsewhere.

A minor aspect of the problem of debt burden lies in the possibility that an excessive debt might entail so large a redistribution of the national income, through taxation of individuals and business, as to prove burdensome to economic endeavor. The degree of burden in that case, would be influenced by the character of the tax structure and the efficiency of administrative organization. Federal debt calls for taxation, taxation requires administration, and administration involves cost. It necessarily follows that a domestic debt does impose a financial burden on society, even though no net debt can be said to exist. The magnitude of the administrative burden, however, is ordinarily not large relative to the total debt or even to the annual service on the debt. And certainly this is hardly what is in the minds

of those who speak most critically concerning "the burden of national debt."

THE SPECIAL CASE OF DEBT HELD BY BANKS

Repayment of debt held by individuals or corporations other than banks represents a simple transfer of funds from one owner to another. What the taxpayer gives up, the bondholder receives; the loss of disposable income to the one is accompanied by a corresponding gain of disposable income by the other. There is no net change in the volume of funds available for spending. There is, therefore, no effect on total effective demand other than that resulting from the redistribution of disposable income among different groups of the community. Moreover, the redistribution which does occur could operate in either direction, i.e., toward expanding or contracting total expenditures, depending upon the respective propensities of taxpayer and bondholder groups.

When debt held by a bank is repaid, on the other hand, there is no such simple balancing of gain and loss. As in the previous case there is a loss of disposable funds by the taxpayer; but what then happens amounts to a reversal of the process of creating bank deposits. On the books of the banks, the Treasury deposits which arose through the payment of taxes to the government are cancelled and bank holdings of Treasury obligations are reduced by an equal amount. Far from the loss to the taxpayer being offset by a gain to the bank, the bank also suffers a loss since its earning assets are reduced by the amount of the Treasury securities paid off.

The exceptional effect of the repayment of bank-held debt is merely one aspect of the unique character of the banking process. Instead of being a simple transfer of funds, what happens is a creation of funds when lending is expanded and a destruction of funds when lending is reduced.

As a consequence, at the time of borrowing—assuming that a net increase in bank credit takes place—the government gains dollars without any individual having to get along with fewer dollars; and at the time of repayment the taxpayer suffers a loss of funds without anyone experiencing a gain of funds.[4] The conclusion to be drawn from this peculiarity of bank debt is not that such debt should never be retired, but rather that the deflationary tendencies of repayment render the matter of timing the retirement of bank debt particularly important. It must be noted also that this feature of bank debt applies only to repayment of principal; the payment of interest on debt held by banks is a simple transfer corresponding to the payments made to individuals.

RELATION TO INCOME DISTRIBUTION

In recent years preoccupation with the question of debt burden has tended to divert attention away from the major aspect of the debt problem, namely the effect of the debt on the net disposable incomes of different individuals and groups within the community. For as long as the debt exists, one part of the population, the taxpayers, will have less money at their disposal each year while another part of the population, the bondholders, will have more money than would be the case if everything else were the same and there were no debt. In some instances, one's pecuniary interest in the public debt as taxpayer and as bondholder may balance, leaving his net position unchanged, but a considerable degree of redistribution of disposable income is inherent in the existence of a large body of debt. Moreover, the extent of the redistribution of disposable income —even though it is influenced by other factors such as the rate of interest, the volume of repayment of principal and

[4] It is by no means certain, of course, that the purchasing power of the monetary unit would necessarily remain the same throughout.

the incidence of taxation—may be assumed to be proportional to the magnitude of the debt.

Since the nature of the redistribution involved in carrying the public debt is from taxpayers to bondholders, the net effect of it depends on the saving and spending characteristics of taxpayers as one group and bondholders as another. Within limits it is possible for the fiscal authorities to control these effects through the policies they follow with respect to taxation and administration of the public debt. In recent years, tax policies have been featured by a rather high degree of progression, which signifies a tendency to siphon a higher proportion of income away from those with a relatively low propensity to consume. On the side of ownership, furthermore, the debt is more widely distributed than has been true in other periods. Partly because heavy taxation of the wealthy during the war limited their capacity to purchase bonds, no new rich bondholder class emerged from the war period. Of the higher yield Treasury securities, a high proportion are lodged in Trust Funds and insurance companies or are in the form of War Savings Bonds. This means that compared with the past there is a rather wide dispersion of payments on account of the public debt, with a higher proportion than formerly going to persons of moderate incomes. While the distribution of the public debt is by no means on equalitarian lines, the distribution of holdings is nevertheless characterized by a closer approach to equalitarianism than existed after former wars.

THE FISCAL PROBLEM

The statement is encountered again and again that continued expansion of the public debt would plunge the country into national bankruptcy. Even though we have passed more than once the point at which the danger was said to

be critical, the bogey of national bankruptcy refuses to down. Since bankruptcy is strictly a juridical concept and since the nation cannot be sued against its will or thrown into legal bankruptcy, it is clear that the term is not to be taken literally when applied to a nation. In 1922–23 Germany passed through one of the most extreme inflation experiences in history but was never legally chargeable with default on its bonds; the contractual obligation to pay was legally met—even though payment was effected in marks which were practically worthless.

The expression "national bankruptcy," then, is a figure of speech. While it is often employed recklessly, the meaning which it is intended to convey is not hard to define. It refers to a set of economic and fiscal conditions where the government loses control of its finances and the public suffers severe disturbances as a consequence. There can be no doubt that German finance reached such a state in 1922–23, and the same could be said of a good many other countries in that period and since. In the decade of the thirties, the United States Treasury lost control of its finances in the sense that it was unable to balance the budget. But borrowing remained orderly and the disturbances and dislocations imposed upon the public could not, at least in comparison with the conditions which had prevailed in Germany, be called severe.

The essence of fiscal exigency, then is a scale of expenditures which the Treasury can no longer succeed in covering by taxation and orderly methods of borrowing. To the extent that the public debt contributes to the emergence of such a state of affairs, it presumably does so primarily by the magnitude of the service charges arising out of the debt and, secondly, by its effect on the country's credit standing and ability to borrow through desired channels. The two critical elements as far as the public debt is con-

cerned are the size of the debt and the average rate of interest paid on it; these two factors determine the amount of the charge which the debt imposes on the national budget. Other things being the same, twice the debt could safely be carried with a 2 per cent average rate as could be supported with a 4 per cent rate. It follows, therefore, that the lower the rate of interest, given the size of the national debt, the less is the danger of national bankruptcy.

Debt Management

Fiscal policy comprises three main divisions: taxation, expenditure and debt management. Management of the debt, in turn, may be further divided into three logically distinct phases of creation, administration and liquidation. Each of these three stages in the life cycle of debt is capable of producing very different economic consequences, depending on how it is carried out. Each, therefore, involves important questions of policy and the three together have come to constitute a significant segment of the social control of business.

AIMS OF DEBT MANAGEMENT

The most familiar and still the most orthodox conception of debt management is to view it merely in terms of orderly fiscal housekeeping. The debt problem is conceived of as one of placing the public debt on a basis which approximately corresponds with the standards of debt administration in a private business: the rate paid should be as low as is compatible with the benefits received, maturities should be spaced to facilitate budgeting of federal finances; the Treasury should protect itself against the possibility of being embarrassed through too large an amount falling due at one particular time; a program should be worked out

and conscientiously observed for reducing the volume of outstanding debt.

The other principal conception of the purpose of debt management is to look upon it as an instrument of economic policy. In this capacity it may be used, first of all, to influence the volume of disposable income. An illustration of this application of debt management was afforded by the use made of Savings Bonds during the war period to withdraw cash from consumer groups as a means of reducing inflationary pressures. The reason for attempting to alter the pattern of disposable income is presumably in order to bring about desired changes in expenditures and therefore in business activity.

In addition, management of public debt has come to be looked upon by many economists and public officials, particularly when used in conjunction with expenditures on public works, as an instrument for directly influencing business activity. Those who defend the view that debt should be used as an instrument of policy have tended to treat the orthodox or budgetary aspect of debt as secondary or inconsequential. The apparent spurning of traditional considerations of financial management and thrift on which we are brought up as individuals has furnished one of the points of bitterest attack against the doctrines expounded by Professor Hansen, Sir William Beveridge and others.

PRINCIPLES OF DEBT MANAGEMENT

Economy. The substance of the orthodox rules of debt management was indicated in the preceding section. Standard procedure in the past was to fund the floating debt into long-term issues and then arrange maturities in such a way as to facilitate a gradual paying off of the debt. During and after the Second World War, however, the existence of a large floating debt ceased to be a source of

serious concern to Treasury officials in this country, and the same was true in England, Canada and elsewhere. The change in the official attitude toward floating debt is partly attributable to a belief that the greater control now exercised over security markets and capital movements has largely overcome the dangers formerly associated with a large floating debt.

Nevertheless, Treasury opinion remains strongly influenced by budgetary considerations. Not only were the demands from lenders during the war that interest rates be allowed to rise firmly resisted, but a deliberate policy was maintained of borrowing on short-term maturities in order to obtain lower rates. At the same time, it must be observed that low rates of interest are not necessarily a proof of the most economical method of Treasury financing. If, as is frequently predicted, the maintenance of low rates should produce inflationary consequences, the rise in prices could conceivably add more to the monetary cost of governmental operations than any saving which resulted from paying low rates of interest on Treasury debt. Despite repeated requests by investor groups, the policy of the Treasury during this period was governed by the belief that payment of higher rates on the government debt would not be a major factor in overcoming inflationary tendencies.

Private spending. The most important consideration relating to debt management has to do with the expenditure characteristics of the various bondholder groups. Differences in the effects which debt policies are expected to have on expenditures constitute the principal guide in all three phases of debt management, its creation, administration and liquidation.

During the war the sale of War Savings Bonds was preferred over other forms of borrowing primarily because it

would serve to take money out of the hands of persons who might otherwise have been inclined to spend on the limited supply of consumer goods. A continuation of inflationary pressures after the war led to further borrowing from individuals, even at times when there was no need to expand the total debt outstanding. Proceeds from this borrowing were used to facilitate a reduction in that portion of the debt held by banks. The net effect of the combined borrowing and repayment operations, which fall under the caption of debt administration, was to take spendable funds out of the hands of potential consumers and, far from diverting them to expenditures elsewhere, to apply them to the reduction of total demand deposits. In a deflationary period the reverse technique, namely, borrowing from banks to repay debt held by individuals, could be applied to stimulate expansion. With no net increase in the volume of federal debt outstanding, cash funds in the hands of the consuming public would by this means be increased.

A net reduction of debt is generally regarded as having a deflationary effect. The restrictive tendency of debt reduction is most pronounced if funds are obtained by means which impinge chiefly on consumption (as by taxing people in middle and lower income brackets) and are applied (as through a reduction in bank-held debt leading to a decline in demand deposits) in ways which add as little as possible to the expenditures of others. The maximum of deflationary effect would result ordinarily from reducing the amount of debt held by Federal Reserve Banks, for this would serve to decrease the reserves of member banks.

It is conceivable that debt reduction, far from being deflationary, could be actually expansionist. This would be the tendency, for example, if funds obtained by highly progressive income taxation, i.e., from individuals with a low

marginal propensity to consume, were used to repay bonds held by people in middle and low income brackets, i.e., persons with a high propensity to consume.

These illustrations of various policies which might be followed in the three stages of creation, administration and liquidation are designed to suggest merely the general outlines of debt management as relates to the expenditure tendencies of different categories of bondholders. Whether or not debt management is viewed with favor, it must, in any case, be recognized that the present wide distribution of federal debt has greatly extended the scope and possible consequences of such policies.

Relation to central bank policy. Through its connection with demand deposits, federal debt has an important bearing on the volume of circulating medium and through its connection with income distribution it may be a significant factor in the behavior of monetary expenditures. Moreover, Treasury obligations constitute a major segment of the security market and they comprise the bulk of the earning assets of the country's banks. For all these reasons the federal debt, and accordingly the way the debt is managed, is of major importance to the Federal Reserve Banks.

A large share of the responsibility for the conduct of the national debt has been assigned to the Reserve Banks. As fiscal agents of the government, they were in charge of many of the technical details growing out of the sale and redemption of Treasury securities. Since 1937 the Federal Reserve has undertaken to preserve orderly conditions in the government security market. From the early days of the war, the Reserve Banks were charged with maintaining the official pattern of interest rates on Treasury obligations.

After the end of the Second World War one of the most important aspects of debt management in relation to the Federal Reserve Banks was to prevent the debt from be-

coming an obstruction to the accomplishment of the main objectives of central bank policy. Ownership of government securities which the Federal Reserve Banks were committed, in one way or another, to purchase when called upon to do so gave member banks the power to determine whether or not bank reserves would be created. The continuance of a situation where member banks rather than the Reserve Banks were in control of reserves was obviously incompatible with the discharge of recognized responsibilities of the Reserve Banks, at least by the usual means at its disposal.

The art of debt management consists of effecting a desirable balance of yield and maturities on the public debt and of influencing in ways regarded as beneficial the flows of money payments which are necessarily involved in each of the different stages of the life of debt. The purpose of debt management is to contribute most effectively to recognized objectives including economy, stability and the maintenance of a high level of economic activity throughout the economy.

The economic consequences of federal debt touch all phases of the financial system, of which income distribution, expenditures and central banking are merely some of the most important. The scale of debt operations is so large that significant effects on the economy, whether intended or not, are almost inevitable. This all-pervasiveness is the source of the major complexities of debt management, and likewise of the possibility of affecting the economy so beneficially if the task is well handled or so injuriously if it is badly done. Whatever policy is adopted, the debt presents a responsibility which cannot be escaped.

H ~ International Finance: Principles and Problems

28 Foreign Exchange

The international aspects of money, credit and banking are concerned for the most part with two principal questions. The first is the problem of foreign exchange, which involves primarily the question of how an individual or business in one country is able to make payment in another country which has a different monetary unit. This is the phase of international finance which most directly concerns businessmen, bankers, investors, tourists and others who desire to remit or receive payments across national boundaries. It involves questions of the means by which payment can be made, the market for such means of international payment and the factors determining their price.

The other phase of international finance relates to the international functions of money, broadly considered. It involves the monetary standard and questions of national price levels, relative price level adjustments between countries, and national and international financial policies, including such measures or institutions as exchange control, clearing agreements, exchange stabilization funds, the International Monetary Fund and the Bank for Reconstruction and Development.

The fact that international financial problems may be

separated into these two divisions is not intended to suggest that the two aspects are entirely distinct and unrelated. The relationship between them is analogous to that which exists internally between problems of price and credit which are the immediate concern of the individual members of society, and the broader questions of price level behavior with which governmental policy, including Treasury and Federal Reserve Bank policies, is chiefly concerned. These internal issues may involve the question of the monetary standard, problems of inflation and deflation, rationing and price control. The same questions impinge upon, or have their counterpart in, the broad problems of international finance.

The Balance of International Payments

Finance has been defined as the "providing of the means of payment," a characterization which fits fairly well in such contexts as "public finance," "corporation finance" and "real estate finance." Similarly, international finance may be described as the providing of the means of payment between countries. If we stop to ask ourselves why it is that we may want to pay money to someone in England, a number of reasons at once suggest themselves. It may be because we have bought goods in England, because we plan to visit the country as tourists, because of traveling on a British ship, or perhaps because we want to make a loan to some person or a gift to some philanthropy in that country.

The next question that arises is how we may get the pounds or the claims on pounds by means of which to make the desired payment in England. It is possible that Britishers have given pounds to Americans in payment for the import of raw materials from this country, royalties on the use of motion picture films, the expenses of British tech-

nicians visiting in this country or interest on money previously loaned to them by Americans. Here we observe a coincidence: the sources of the demand for payments abroad—goods, services of various kinds and credit transactions—are the same as the sources from which the means of effecting the payments may be supplied, the only difference being that the first set of sources calls for the transfer of purchasing power abroad and the other set for the transfer of purchasing power to this country from abroad. Another name for this composite total of current international transactions is the balance of international payments. It embraces, in contrast to the international balance of trade which relates only to commodity movements, all of the items which give rise to current monetary claims between any one country and the rest of the world. It constitutes the first and most fundamental principle of international finance.

The Market for Foreign Exchange

The goods, services and credits which are exchanged between countries are not traded directly. Behind each transaction is a document expressing and representing the monetary value involved in the operation. These documents take the form of drafts, checks, letters of credit, acceptances and similar credit instruments. They are spoken of collectively as bills of exchange or, interchangeably, as foreign exchange. They are the international financial stuff whose price is the exchange rate between one currency and another.

Bills of exchange may be thought of in much the same terms we associate with real goods. Like ordinary commodities, they vary in quality and amount, and in particular characteristics such as length of time to maturity, terms and the currency in which they are expressed. Because they have value, we find merchants who trade in them, both as wholesalers and retailers, just as is done in the case of other

economic goods. Typical among those who act as dealers in foreign exchange are the post office, the foreign exchange departments of commercial banks and foreign exchange brokers who engage exclusively in operations in foreign exchange. The margin on which these various merchants of foreign exchange operate is essentially the same as for other merchants, namely, the difference between the buying and selling prices of the commodity traded. Together they constitute the foreign exchange market, an essential part of the mechanism of "providing the means of payment" between countries. Foreign exchange dealing was one of the first forms of finance to develop; it was already common by the 13th century. Economies in the form of saving in time and expense and particularly the avoidance of the risk that would have been involved in the physical transfer of gold and silver contributed to the early development of foreign exchange operations.

The Technique of Foreign Exchange Operations

PERSONAL REMITTANCES AND TOURISTS EXPENDITURES

The technique of foreign exchange operations as it presents itself to the individual citizen is most easily visualized by examining how different types of payments abroad are effected. If, for example, I should desire to order a book from England, I could do so by going to the post office and buying a money order payable in pounds. The rate would be that set by the Post Office Department and ordinarily would be a little higher than the official rate available through specialized foreign exchange dealers. For larger sums, I might find it advantageous to buy the pound draft from the foreign exchange department of my bank, rather than from the post office.

If I were planning to make a trip abroad, I should prob-

ably go to a bank and buy travelers' checks. These checks would be in dollars and would be no different in form from the travelers' checks I might buy for use within the United States. Aside from their convenience and the protection they afford against loss, such checks are so well known that they can ordinarily be cashed without difficulty anywhere in the world. When abroad, it is usual, of course, to exchange them for currency of the country where one happens to be. This is done by selling the checks at a tourist office, bank or hotel for local currency at the prevailing exchange rate between dollars and that currency. For convenience in exchanging small amounts, I should also probably carry with me a number of pieces of American paper money in small denominations. These are readily sold abroad for local currency, but the rate given is usually slightly less favorable than the rate on travelers' checks.[1]

From the standpoint of foreign countries, the American currency and checks which tourists from this country sell abroad constitute foreign exchange (dollar exchange). The currency and checks are assembled and returned to the United States where the proceeds are deposited in correspondent banks. These deposits provide the basis for drafts with which to settle current claims due from foreign countries to the United States.

If I were expecting to be abroad a longer time, or to travel extensively, I should go to my bank and purchase

[1] In times of monetary uncertainty, the paper money of a strong currency may go to a premium over checks or drafts payable in the same currency, because of the demand on the part of people who wish to use it for hoarding purposes. In Vienna during the summer of 1922, at a time when the mark was much less depreciated than the Austrian crown, the writer was even offered a premium on German reichsmarks. An Austrian who bought marks for hoarding at that time would have made a very bad bargain since the authorities succeeded in stabilizing the Austrian currency at the rate then prevailing, while the Reichsmark proceeded to depreciate to "a value more ridiculous than zero."

larger denomination bank drafts or a letter of credit. Aside from the letter of credit allowing me usually to obtain a more favorable rate when cashing my dollars abroad, there would be the advantage of being able to draw against my credit in amounts most convenient to me, and also I could arrange to have it replenished from time to time by the deposit of additional funds back home.

COMMERCIAL OPERATIONS

The great bulk of foreign exchange operations grow out of the movement of trade between countries. Foreign exchange transactions can be handled in a variety of ways and the credit instruments used in foreign trade may assume various forms and differ widely as to terms, maturity and other details. The promissory note which is common in domestic trade in the United States is not used to any appreciable extent in international exchange.

In a typical trading operation, an American exporter agrees to ship a consignment of cotton to a British importer. He draws a draft against the British merchant payable in pounds sterling and forwards it, with bills of lading attached, through his bank to a bank in England. The British importer accepts the draft in the usual manner (assuming the draft to be a time bill) and receives the bill of lading which enables him to obtain possession of the cotton. The accepted draft may be held by the American exporter until maturity or discounted for its present value. Even simpler would be for the exporter to sell the draft, bill of lading attached, to his bank at the start of the process, getting his discounted proceeds at once and allowing the bank to handle the transaction for itself from that point on. The acceptance is presented for payment when due, just as in the case of any other note or bill, and the proceeds in pounds

sterling are deposited to the credit of the American exporter or bank. The sterling balance payable to American nationals can then serve as the basis for the drawing of drafts which may be sold for dollars in the United States and used for the settlement of payments due, for whatever purpose, in England.

A slight variation of the preceding operation may occur when the draft is drawn not against the importer in England but against the importer's bank. Such bills are employed where the credit of the importer is not well known abroad, so that a better rate of discount can be obtained on the bill by drawing on the importer's bank. The bank in England assumes responsibility for payment of the bill at maturity but actually collects from the importer the funds required for settlement. The bank makes a charge for the service it affords the importer and, in effect, derives a profit from the sale of its well-established credit.

We may think of these and similar transactions in foreign exchange as being equalized, under normal circumstances, by an offsetting series of operations representing a movement of trade and other international transactions in the opposite direction. If a balance of claims between the United States and the rest of the world should begin to accumulate on one side or the other, the effect would be to alter the supply-and-demand relationship for foreign exchange. Then the price which links the supply and demand of foreign exchange, namely, the exchange rate, would tend to shift in such a way as to assist in restoring equilibrium. The change in the rates would make the prices of one country's goods seem cheaper to people in the other country, and the goods of this country a little dearer to people in the first country. The alteration in relative values would tend to redress the balance of trade between the countries

or cause other compensating movements in the international balance of payments including, under the gold standard, the shipment of gold.

In the illustrations given, some one of the parties to the transaction, exporter, importer or banker, would be obliged to put up money or to wait for the use of his money. This means that in addition to his other economic functions, he would have to carry the burden of providing the financing which the carrying out of the operation entails. The ordinary functioning of the bill market makes it possible for the financing to be shifted to others whose specialty it is to provide short-term capital. By discounting the accepted bill at some bank which desires to hold short-term paper or by selling it in the open market, the problem of financing (i.e., providing the means of payment) can be postponed by the principals to the transaction until the date of maturity. At that time, presumably, the completion of the sales or manufacturing operation will automatically provide the cash with which to liquidate the acceptance. Meanwhile, some lender of short-term capital will have found the discounted acceptance a desirable income-yielding asset.

CAPITAL TRANSFERS

What sort of foreign exchange adjustments would result from the floating of a large foreign loan in this market? The proceeds from the sale of foreign bonds in this country would be deposited, as in the case of a domestic bond flotation, to the credit of the borrower in some large American bank or banks. This deposit would then constitute, from the standpoint of the borrowing country or the borrowing corporation in the foreign country, a stock of available foreign exchange; and a draft drawn against these deposits would be foreign exchange in the same sense as the other types of foreign exchange already considered. In terms of

the balance of international payments, the loan would have added to the supply of dollar exchange available to foreigners just as an equivalent volume of commodity exports to the United States would have done. The transfer of the loan would be effected and payment by this country completed through using the proceeds of the loan to make payment in this country for such purposes as the export of food and machinery, the payment of interest and principal on past debts and the defraying of charges for shipping and other services.

In the past an important source of foreign exchange has been the granting of short-term credit between countries. Usually these operations take place between banks in different countries. When exchange relations are free, it is a simple matter for banks in different countries to ship funds back and forth by establishing credits in banks in one country in favor of banks in the other and drawing bank drafts, ordinarily known as finance or loan bills, against the resulting deposit balances.

Such short-term financial transactions serve a highly useful purpose in equalizing interest rates between countries, moderating exchange rate fluctuations and reducing the strain on monetary reserve. At times of international crisis, however, their effect may be just the opposite. The phenomenon of a "flight of capital" or a "flight from the currency," which was so painfully familiar during the thirties represented a transfer of short-term funds. Instead of promoting equilibrium, these transfers operated—by adding suddenly to the supply of exchange payable in the currency which was weak and to the demand for stronger currency—to aggravate and sometimes to originate conditions of disequilibrium. They were the characteristic prelude to currency devaluation and to the introduction of administrative control over foreign exchange operations. Capital move-

ments of this unsettling character are viewed with such great concern that in many countries of the world there is a determination that never again should they be allowed to take place unimpeded.

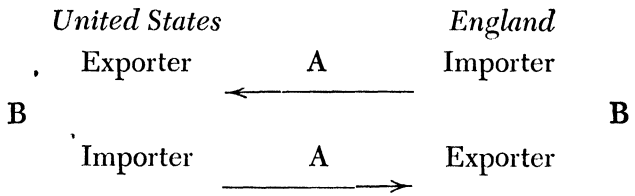
The Role of the Exchange Dealer

In essence, foreign exchange operations represent an extension of the clearinghouse principle to foreign transactions. As in the domestic stages of clearing, the effect of the process is to bring about an offsetting of debits and credits, with only the balance being settled in money. Under the ordinary operation of the international gold standard, and even after the gold standard had been widely abandoned, the clearing process worked itself out in such close harmony that relatively little specie—only a small fraction of the sum total of payments effected—moved between countries.

The role of the exchange broker is that of intermediary. As a consequence of his intervention, an exporter may be thought of as receiving money which is turned over to the exchange dealer not by the buyer in another country but by some importer in his own country. The exporter and importer in the same country have no direct contact with one another and presumably are not even aware of each other's existence. Nevertheless, it is the pounds turned over to the exchange broker in London by the British importer of cotton from the United States which go to the British exporter of woolen textiles and thereby discharge the obligation of the merchant in New York who bought the woolen textiles. Similarly, the New York importer pays dollars to the exchange dealer in the United States and these find their way to the American exporter who shipped raw cotton to England.

The way in which the operations of the foreign exchange market enable payments in one direction to be effected by

the transfer of money in a different direction may be illustrated diagrammatically:



In this figure, lines A and A show how the respective obligations are discharged; lines B and B show the direction of the actual transfer. Viewing the operation as a whole, the effect of the transactions in foreign exchange is to allow the obligation of the United States for woolen textiles to be offset against the obligation of England for raw cotton, with the result that the accounts between the countries are cleared and no money has to move from one country to the other. The entire process results in a distinct gain in economy, efficiency and safety. In real life, of course, the clearing operation would include many separate transactions of differing amounts and might embrace a large number of countries instead of just two. However, the essential nature of the process, the character of the resulting benefits and the place of the exchange dealer as the intermediary through whom the offsetting of claims is carried out are no different from those shown in the example.

The Exchange Rate

The rate of exchange is a price. At any given moment, it may be regarded as the price of one currency in terms of another. It is more illuminating, however, to look upon the exchange rate as the price not of foreign money but of claims to foreign money, i.e., foreign exchange. The supply and demand of foreign exchange originating in the items in

the international balance of payments focus in, and are brought into adjustment by, a price, just as happens with ordinary commodities. The price of foreign exchange is the exchange rate. When the rate goes up or down, it is because of changes in the relationship between the totals of items in the balance of payments. Not only does the supply and demand of foreign exchange as embodied in the balance of payments provide the basis for the explanation of changes in the exchange rate; it is also the focusing point for all measures designed to control the level of exchange rates. Likewise, changes, whether spontaneous or induced, in the level of exchange rates are primarily significant through the effect they have on items in the international balance of payments, as will be noted later when the effect of currency devaluation on exports and imports is considered.

The demand for and supply of foreign exchange stand in reciprocal relationship to each other: a demand for dollar exchange with which, for example, to pay for a heavy movement of American exports abroad, may at the same time be looked upon as a supply of pounds and other foreign currencies in this market, since the purchasers of our goods must offer these foreign currencies to acquire the necessary dollar exchange. In substance, the same reciprocal relationship is characteristic of other commodities; Say's Law long ago gave expression to the idea that an increase in the supply of one commodity represents an increase in the demand for the goods for which it exchanges. The reciprocal character of supply and demand is more specific and direct in the case of foreign exchange, however, than it is for almost any other economic good.

The demand for or supply of foreign exchange is capable of greater fluctuation than is true of most other economic goods. In any relatively brief period of time, the supply of

commodities and services that can move in foreign trade is relatively fixed; the volume of long-term securities that may change hands across national boundaries is much less fixed; and the movement of short-term balances between countries, as the "flights of capital" during the years from 1929 to 1940 clearly demonstrated, can vary most of all. The variability in the supply of foreign exchange resulting from the volatility of a few strategic items in the balance of payments may, under certain conditions, give rise to severe pressure on the exchange rate. The emergence of such critical situations during the 1930's led to the introduction of far-reaching measures to control foreign exchange.

The Basis of Exchange Rate Behavior

It is sometimes confusing to know whether a particular international transaction represents an addition to the supply of or to the demand for foreign exchange. The confusion is aggravated by the terms commonly used; for example, "export of merchandise" adds to the supply of foreign exchange and therefore tends to strengthen the currency of the exporting country, while "export of capital" adds to the demand for foreign exchange and tends to strengthen the currency of the country receiving the capital. There is a simple test which will always make it clear whether an international transaction is to be regarded as tending to raise or to lower the exchange value of the particular currency.

The starting point is to remember that exports increase our purchasing power in foreign countries; they add to the supply of foreign exchange and, unless offset in some way, tend to depress its value. The effect of imports, on the other hand, is to increase foreign purchasing power in this country, create demand for foreign exchange and, unless offset, to depress the foreign exchange value of the dollar. The test

of how any particular international transaction tends to affect exchange rates, therefore, is this: Whatever adds to our current purchasing power abroad is an export (visible or invisible), increases the supply of foreign exchange and helps to strengthen the exchange value of the dollar; whatever adds to the current purchasing power of foreign countries is an import (visible or invisible), increases the supply of dollar exchange payable to foreigners and tends to lessen the value of the dollar in terms of foreign currency.

Means of Overcoming Market Imperfections

A variety of legislative and administrative policies and devices have been employed for promoting the stability of foreign exchange rates. Some of these will be examined in the next chapter. Under reasonably free and orderly conditions, however, there are forces within the market itself which contribute to the stability of exchange rates and automatically tend to correct irregularities and imperfections in the foreign exchange market.

THE STRUCTURE OF EXCHANGE RATES

The structure of exchange rates is fairly complex. Aside from separate quotations for all the principal currencies in use throughout the world, there may be a number of rates for different types of bills payable in the same currency. At a time when foreign exchange markets are relatively free, quotations are usually available on the following types of exchange bills:

Cables
Bankers' Sight Drafts
Commercial Sight Drafts
60–Day Bills
90–Day Bills

Because of differences in the credit standing of the names appearing on the bills and the length of time to maturity, these classes of bills show appreciable differences in price, cables usually being the highest and 90-day bills the lowest. Any tendency for the rate on one type of bill to get significantly out of line with that on another would soon be corrected by shifts within the market, or by converting one type of bill into another. This process of adjustment represents the correction of *imperfections within the structure of bill rates.*

ARBITRAGE

The exchange rates prevailing at the same time in different markets of the world may also get out of line with one another. If the rate between the pound and the dollar should show a substantial difference in London from the rate quoted in New York, however, it would immediately be profitable to sell a particular currency in the market where it was quoted higher, and to buy it in the market where it was low. The effect would be to bring the quotations quickly into harmony in the two markets. The process of correcting discrepancies of this character is known as arbitrage.

Arbitrage may also take place in a still more roundabout way. In some third country the rate in terms of the local currency on the dollar and pound may be out of line with the quotation existing, say, in New York and London between the pound and the dollar. It would then be profitable for exchange dealers to buy the underpriced currency in the third country and sell the currency which was relatively dear there. This would continue until the opportunity for a profit through arbitrage of this character had disappeared. At that point the rates on the various currencies would again be in adjustment. Arbitrage amounts, in substance, to the

removal of *geographical imperfections in the foreign exchange market.*

FORWARD EXCHANGE

An exporter who expects to have foreign exchange to dispose of at some future time may fear that a decline in the exchange value of the foreign currency will result in his suffering a substantial loss. In order to remove this risk so that he can be sure of exactly what he will realize on his undertaking he can go to a foreign exchange dealer and sell what is known as "forward exchange." That is, he can agree to deliver, at some specified future date, the foreign exchange he is to receive at that time. The additional cost to the exporter of the foreign exchange operations in the forward market represents the price of eliminating the risk of loss through exchange fluctuations. It is ordinarily a negligible item in his total cost of doing business. By dealing in forward exchange, it is usually possible to export to countries on a paper monetary standard with as little risk from exchange losses as existed with the relatively fixed exchange rates provided by the international gold standard. The effect of dealings in forward exchange is to remedy some of the *imperfections of the foreign exchange market which arise out of the time element.*

Appendix

It is very important to bear in mind that the foreign exchange rate tends to be affected only as a result of changes in the balance of *current* claims to foreign exchange between countries. Operations between countries which do not directly affect the supply of and demand for foreign exchange are not included in the balance of international payments. Thus, the cancellation of defaulted war debts would have no necessary effect on exchange rates since they

do not constitute part of the current supply of foreign exchange. Similarly, it is impossible to say offhand what effect, if any, a transfer of territory from one country to another would have on the foreign exchange value of either country's currency. The possible influence of such a transfer on exchange rates would be governed by the net effect on the balance of foreign exchange of the countries concerned. As a result of the transfer, the country gaining territory would treat as internal certain transactions which were formerly international, and the opposite would be true for the country losing territory. But in both instances, export items as well as import items would be altered. Since there is no reason to suppose that the one group of items would be changed more than the other, the normal presumption is that the exchange rate would be unaffected. This presumption would not hold, of course, in situations where the net balance of credit and debit items in the international balance of payments was altered as a result of the territorial transfer.

On the basis of the test presented earlier,[2] it may be seen that the following transactions would "tend" to raise the value of domestic currency in terms of foreign currency, i.e., to depress the value of foreign currency in terms of the dollar:

a. The payment of royalties on American moving pictures shown abroad.
b. The export of cotton to England.
c. Expenditures in New York by foreign delegates to the United Nations.
d. The payment of expenses of foreign students studying in this country.
e. The payment of interest on American loans to Finland.

[2] P. 622.

f. Payment for the services of American technical experts employed by China.

On the other hand, the following operations would "tend" to lower the value of domestic currency in terms of foreign currency, i.e., to strengthen the value of foreign currency in terms of the dollar:

a. The purchase of coffee from Brazil.
b. Expenditures of American tourists spending their vacation in Canada.
c. Payment by the United States of the expenses of the American army of occupation in Germany.
d. The remittance of funds by persons in this country to relatives overseas.
e. The extension of a loan to France by the Export-Import Bank.
f. The payment by Americans for passage to Europe on a Scandinavian airline.
g. The payment by American shippers for insurance granted by Lloyds of London.

29 International Monetary Principles and Practices

The primary role of money in domestic transactions is to facilitate economic adjustments within the country. By providing the basis of a price system, it greatly simplifies comparisons among different economic goods, so that the market reflects more quickly and accurately than would otherwise be possible, variations and alterations in individual preferences. Through the use of money as a medium of exchange, the supply of and demand for all the multitude of goods and services can be harmonized far more easily and effectively than could be done under a system of barter. By other means as well, money facilitates the automatic operation of market forces, which sometimes lead to serious economic disturbances but without which any substantial degree of free enterprise and economic individualism would be impossible.

The International Functions of Money

The international role of money is to accomplish between countries somewhat the same purposes money is expected to serve domestically. The ideal is that, through appropriate

adjustments of foreign exchange rates, such relationships will be established between the price levels of different countries that the demand for and supply of foreign exchange will be equalized automatically and the balance of international payments maintained in free and stable equilibrium. The criterion of such a stable equilibrium would not be the absence of movement in exchange rates, but the preservation of a high degree of freedom for individuals to exercise their choice in international economic affairs without thereby causing existing monetary systems to be upset by excessive drain of monetary reserves, flights of capital or deflationary pressure on prices.

Since commodity movements are only one category of international economic transactions, price level adjustments are not the sole determinant of equilibrium between countries. Nevertheless, in quantitative terms trade represents by far the most important single category of items in the balance of international payments. For that reason, and because trade responds to price differences, price level adjustments between countries occupy a particularly strategic position in the machinery of international finance.

It is also part of the international functions of money to facilitate, as far as possible, adjustments in non-commodity items in the international balance of payments. The international monetary system should allow the play of interest rates to promote an economic distribution of long-term capital throughout the world and encourage equilibrating transfers of short-term capital but should not contribute to transfers of a disequilibrating character. While price level relationships between countries are given chief attention, the effect of the behavior of money upon interest rates in different countries, on the movement of short-term and long-term capital and on other economic operations may also be of great importance.

The Two Methods of International Price Level Adjustment

There are two principal methods whereby the price level of one country may be brought into equilibrium with price levels in other countries. One is the method of the gold standard and the other the method of paper or "free" currencies. The essential difference between the two is that in case the price level of one country gets out of line with price levels abroad, the gold standard mechanism provides for keeping exchange rates stable and bringing about a change in relative price levels, while the paper standard mechanism calls for a change in exchange rates with price levels remaining as they are. The gold standard seeks to make price levels conform to established exchange rate relationships while the paper standard seeks to make exchange rates conform to prevailing price levels.

To take an extreme example, let us suppose that the price index in one country has risen to 110, while in another country it is still 100. Under the gold standard, the exchange rate would remain at 1 to 1 and the price level in the first country would be brought down, say, to 105 and in the second country brought up to 105. Assuming that the international position of the countries is the same as before the original disturbance occurred, the two currencies are then in an equilibrium relationship. Under paper standard conditions, the price levels would remain at 110 and 100 respectively, but the exchange rate would change: the quotation in terms of the currency where prices had risen would be 1.10 to 1.00 and in the currency where prices had not risen, it would be 0.91 to 1.00. At these exchange rates, the currencies of the two countries would again be in equilibrium, assuming still that the international economic position of the countries was unchanged. The difference between the two

methods of effecting international price level adjustment may be illustrated diagrammatically as is shown in Figure IV.

The significant feature which these two methods have in common is that both of them represent means of achieving the same end, namely, the adjustment of relative price levels. The gold standard has the advantage of providing

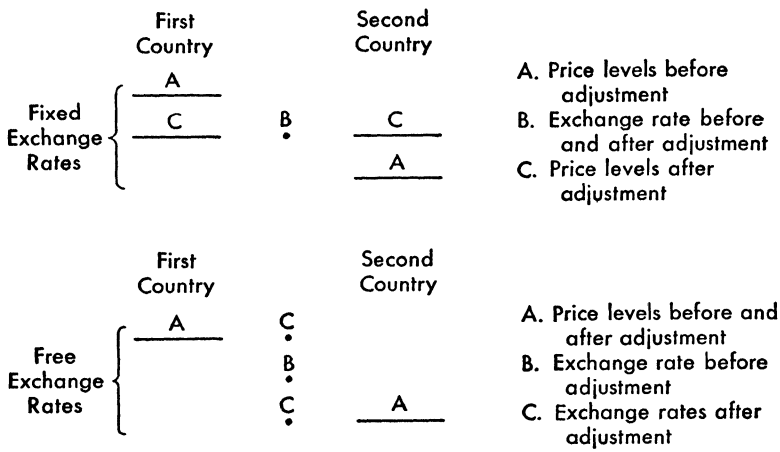


FIGURE IV. *Foreign Exchange Rates Under Fixed and Free Exchange Rate Conditions*

exchange rate stability, but it may compel a country to undergo a contraction or expansion of credit and currency with accompanying deflationary or inflationary pressures. Paper standards permit the pressure on price levels to be avoided, but only at the cost of changes in exchange rates.

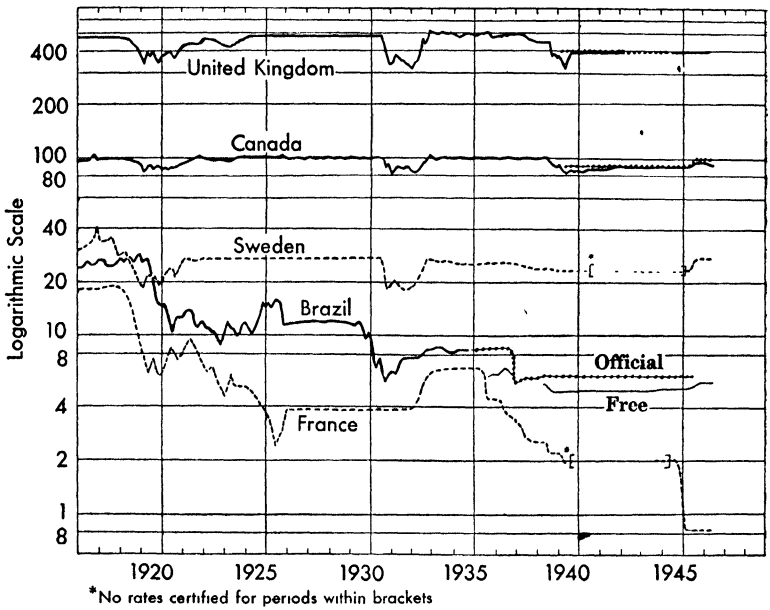
The attitude toward the relative importance of exchange rate and price level stability has undergone a pronounced change in most countries of the world since 1930. Formerly, it was customary to look upon exchange rate stability as the most important objective of monetary policy and as a

practical means of promoting the stability of price levels. In recent years, the power to control domestic prices has assumed relatively greater importance. The growing interest in maintenance of full employment as the primary goal of economic policy has placed exchange rate stability in a subordinate position. Indeed, exchange rate rigidity of the gold standard type is frequently looked upon as a serious obstacle to the preservation of full employment and, therefore, as something to be resisted at all cost. The revulsion of sentiment toward fixity of exchange rates was greatly influenced by the events which culminated in the abandonment of the international gold standard in the 1930's. Whatever the justification for the belief, the hostility to fixity of exchange rates constitutes a barrier to the restoration of the international gold standard.

Exchange rates between two countries are dependent upon the policies followed in both countries. No country can assure stable exchange rates with other countries by its own action alone. At a time when two foreign countries are following divergent monetary policies, the preservation of exchange rate stability with one of them is likely to necessitate exchange rate instability with the other. Adherence to the gold standard, for example, assures stable exchange rates only with countries also on the gold standard. During the thirties, the United States and later France, Switzerland and the Netherlands found that when many countries were off the gold standard, greater stability of exchange rates was obtainable by abandoning the gold standard than by retaining it.

The record of exchange rate movements since 1918 has been characterized by a wide diversity of experience, as may be seen from Chart XXXIII. The rates shown here are selected with a view to indicating the variety of exchange rate behavior which was experienced. The period before

CHART XXXIII. *Foreign Exchange Rates with Selected Countries, 1917–1947*



Source: Adapted from *Federal Reserve Charts.*

1931 shows the stability of exchange rate quotations that existed under the gold standard, and the period of the forties the stability of quotations under a system of wartime controls. Abandonment of the gold standard by England and Sweden in 1931 led to a drop in the exchange value of the pound and the kronen in terms of the dollar, and abandonment of gold by the United States in 1933 led to a rise in foreign exchange rates in terms of the dollar.

EXCHANGE RATES UNDER THE INTERNATIONAL GOLD STANDARD

The traditional international gold standard rested on two essential conditions, interconvertibility between domestic

currency and gold, and the free export and import of gold. The first condition was designed to maintain an equality in value between the domestic monetary unit and a given weight of gold within the country. The second condition was designed to maintain equality in value between the value of gold within the country and in the world market. Since things equal to the same thing are equal to each other, it follows that as long as these two requirements were satisfied, the value of the monetary unit would be equal to that of a given weight of gold in the world market, which is what "being on the gold standard" signifies.

Different forms of the gold standard, such as the gold coin standard, the gold bullion standard and the gold exchange standard, varied the mechanism by which the identity between the value of the monetary unit and a given weight of gold in the world market was maintained, but the end result was the same. "Going off the gold standard" in the traditional sense consisted merely in departing from either of the two requirements. That this constituted abandonment of the gold standard was tacit recognition of the fact that without these two conditions parity between the value of currency and a specified amount of gold in the world market could not be assured.

Under the international gold standard, exchange rates were anchored to the mint par of exchange, i.e., the ratio of the pure gold content of one currency to the pure gold content of the other. Another way of expressing the same idea is that the mint par of exchange represented equality in the purchasing power of the two countries over gold. Exchange rates could deviate on either side of the mint par of exchange by the cost of transferring gold from the mint in one country to the mint in the other country. They could not move appreciably beyond the gold shipping points because at those points it was possible to create foreign ex-

change abroad or in this country, depending on which of the two shipping points was reached, in unlimited amounts. At the gold point, that is, the demand or supply, respectively, of foreign exchange was absolutely elastic. The accompanying diagram (Figure V) illustrates diagrammatically the unique character of the demand for and supply of foreign exchange under the international gold standard. At x, the gold export point, the supply of foreign exchange, BB, becomes completely elastic. Similarly, the demand for foreign exchange, AA, becomes completely elastic at y, the gold import point.

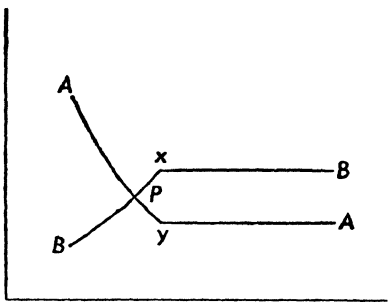


FIGURE V. *Foreign Exchange Rates Under the Gold Standard*

Two corollary principles of the international gold standard are derived from the concept of the gold points. The first is relatively minor and simple, namely, that exchange rates under the gold standard could fluctuate within a very narrow range, amounting, in the case of the United States and England, to a little less than one per cent. Within this range, the price level of one country could be adjusted to the price level of the other through movements of the exchange rate without any direct pressure on price levels themselves.

The second corollary principle is that at the gold points there was an automatic drain of gold reserves to or from the country. The flow of basic monetary reserves had several significant results. In the first place, it added automatically to the supply of foreign exchange in the country where exchange happened to be scarce. Secondly, the movement

or absence of movement of gold between countries furnished a guide to the type of central bank policies appropriate at any particular time. An outflow of gold would be a signal to raise the discount rate and otherwise to pursue a more restrictive policy, while an inflow would indicate the desirability of lowering the discount rate and facilitating easy credit conditions. The resulting changes in investment and the level of incomes would contribute to equilibrating adjustments in the movement of exports and imports. Finally, the flow of reserve money would tend automatically to bring about an expansion of the circulating medium in the country or countries receiving gold and a contraction of the circulating medium in the country or countries losing gold. In accordance with the quantity theory of money, it was reasoned that the change in the volume of money would raise prices in the one area and lower them in the other. A new relationship between the price levels of different countries would thus be established and this in turn would redress the flow of trade until the international balance of payments was brought into equilibrium.

In substance, the flow of specie was regarded as providing a mechanism for inducing compensating changes in foreign trade; but it did so at the expense of stability of incomes and price levels. Under normal conditions, temporary shortages in the supply of foreign exchange were relieved not only by the flow of gold but also by the movement of short-term balances between countries. Equilibrating movements of short-term funds were facilitated by differences in interest rates (often with the aid of appropriate changes in the central bank discount rate) and by the prospect of an added profit through an improvement of the exchange rate at any time when the rate was at or near the gold export point.

In times of stress, however, the drain of gold reserves had an unsettling effect on public psychology and might even

exaggerate the existing disequilibrium in the balance of payments by leading to hoarding or to flights of capital. In addition, the countries receiving gold did not always allow the growth of reserve balances to bring about a corresponding expansion in incomes and in the volume of money in circulation. In part, these were mistakes in the conduct of the international gold standard system, rather than flaws in the theoretical pattern. The effect, however, was the same, and in the end was responsible for the world-wide abandonment of the gold standard during the 1930's. In short, the exchange rate rigidity decreed by the gold standard called, as the condition of its survival, for adjustments elsewhere in the economy which the members of the system eventually proved unwilling to undergo.

EXCHANGE RATES UNDER A SYSTEM OF PAPER STANDARDS

Abandonment of the international gold standard signifies the surrender of fixed gold shipping points as the limits of exchange rate movements. This does not signify, however, that exchange rates under paper standard conditions are subject to no limitations. It is a mistake to suppose that exchange rates on paper standard currencies are free to fluctuate indefinitely, since even in the absence of a mint par of exchange important limitations still exist. If exchange rates move far enough, goods will be rendered so much cheaper or dearer in terms of foreign currencies that the volume of trade will be altered, just as is ultimately anticipated under gold standard conditions.

Instead of exchange rates being kept in a fixed relationship to a mint par of exchange, they are held to a much more elastic relationship with what might be called the "market par of exchange." Technically, this is known as "purchasing power parity" and represents the ratio between two currencies which would equalize their relative purchasing power

over goods. Instead of a mint par of exchange, which represents equality in command over gold, the anchor for exchange rates between paper standard currencies is purchasing power parity, which represents equality in command over goods. And instead of sharply defined gold points which reflect the cost of shipping gold in sufficient volume to equilibrate the demand for and supply of foreign exchange, exchange rates are more loosely confined to a broad path reflecting the cost of transferring goods in volume sufficient, in conjunction with the effect on goods movements in the opposite direction, to equalize the demand for and supply of foreign exchange.

Purchasing power parity, as the name suggests, is the rate which could be expected to equalize the purchasing power of the two currencies over commodities. The price level indexes in the two countries are used as measures of the respective purchasing power of the two currencies. On the assumption that purchasing power of the two currencies was equalized by the exchange rate prevailing in some base year, that rate is adjusted to conform to the relative change in the price level indexes since the base year. To illustrate, it may be assumed that the exchange rate in the base year was \$4.00 = 1£ and the price level index in each country stood at 100. If at some later date the indexes stood at 150 and 200 respectively in the two countries, the rate which would equalize the purchasing power of the two countries would be $150 \div 200 \times \$4.00$, or \$3.00. This rate would constitute purchasing power parity, the hypothetical norm about which the actual exchange rate would presumably tend to fluctuate.

At one time, rather extreme claims were advanced for the possibility of discovering the "normal" exchange rate by calculations of this sort. The Swedish economist, Gustav Cassel, who popularized this theory during and after the

First World War, was not unaware of its limitations. According to another well-known Swedish economist, Gunnar Myrdal:

> Everyone who studies Cassel's formulation of this theory carefully will find that Cassel himself describes this theory as a very simplified approximation, which was valuable just because it emphasized in sharp contour-lines one single thought, which Cassel believed—as I think, correctly—had to be hammered as emphatically as possible into the heads of the responsible politicians and bankers at that time. If this quality of the purchasing power parity theory had been recognized, if it had been regarded from the very beginning as only a very simplified approximation adapted to a special situation, scientific discussion would have been saved from long-winded controversies over this subject.[1]

Any expectation that the computed purchasing power parity would precisely indicate what exchange rate would establish equilibrium would necessarily entail the assumptions that:

The two currencies were in an equilibrium relationship in the base year;

Index numbers are an accurate measure of changes in purchasing power since the base year;

Commodity trade dominates the supply and demand of foreign exchange and, therefore, purchasing power over goods is determinant of exchange rates;

No change in the international economic position of the two countries, such as might result from the erection of tariff barriers or a shift from a debtor to a creditor position, has occurred since the base year.

Since such rigid assumptions as these are too severe to be sustained, purchasing power parity is no longer generally regarded as the exact focus toward which exchange rates

[1] Gunnar Myrdal, *Monetary Equilibrium*, London, Hodge, 1939, p. 2.

are certain to tend. It has become a somewhat loose point of reference, an economic datum to be considered along with others in studying the behavior of exchange rates under paper standard conditions.

In broad terms, then, foreign exchange rates between countries on paper standards are determined by supply and demand as reflected in their respective balances of international payments. Nothing so narrow as relative purchasing power over goods can be accepted as wholly governing the behavior of exchange rates between paper standard currencies. Nevertheless, in the absence of unsettling influences such as sudden movements of capital, commodity trade constitutes the most important sector of the supply and demand of foreign exchange. For that reason, relative command over commodities (very imperfectly measured by purchasing power parity) is normally of major influence in determining exchange rates between paper standard currencies.

The Moderation of Exchange Rate Fluctuations: Exchange Stabilization

Under the international gold standard system, the flow of gold and the shifting about of short-term international credit served to exert a stabilizing influence over exchange rate movements. Under paper standard conditions, no such automatic buffer exists. As a consequence, the exchange value of paper currency has frequently exhibited erratic fluctuations which, far from serving any useful purpose in promoting an orderly adjustment of supply and demand, frequently had just the contrary effect. To meet the obvious need for some device to reduce exchange rate fluctuations of this character, the British established the Exchange Equalization Fund soon after their abandonment of the gold standard in 1931. The United States followed their

example in 1933 by creating the Exchange Stabilization Fund out of part of the profits which accrued to the Treasury from the dollar devaluation.

At the time of the announcement of the abandonment of the gold standard by France in September 1936, announcement was also made of the Tripartite Agreement among France, England and the United States. The substance of this agreement was that the three countries, without actually pooling their resources, would co-operate in maintaining orderly conditions in the foreign exchange market. The scope of the agreement was subsequently broadened by the adherence of other countries. The effect of the agreement was to assist in co-ordinating the work of the various national funds for promoting exchange rate stability, and to provide a considerable degree of consultation and co-operation among central banks. As will be seen later, the proposed International Monetary Fund outlined at the Bretton Woods Conference embodied the mechanism of a reservoir of foreign exchange which could be drawn upon to supply additional exchange on particular countries in case of temporary shortages.

The policy of "pegging" the exchange rate which was adopted by England and France during the First World War was based on the idea of adding to the supply of foreign exchange to the extent required to maintain the desired rate. Instead of establishing a formal fund for this purpose as was done during the thirties, the authorities intervened when necessary, drawing upon credits obtained through borrowing abroad.

A stabilization fund for reducing exchange rate fluctuations operates on the very simple principle that the foreign exchange rate is the resultant of the demand for and supply of foreign exchange. If the exchange rate tends to move in

a direction other than is desired, the movement can be controlled by introducing into the supply-and-demand nexus some change which will offset the disturbance that caused the exchange rate to fluctuate. A properly functioning exchange stabilization fund consists of two parts, a supply of the domestic currency and a supply of foreign exchange. The stabilization operation consists of adding to the supply of foreign exchange out of the resources of the fund at any time when the value of foreign exchange is tending to rise and of adding to the supply of domestic exchange through the purchase of foreign exchange out of the domestic assets of the fund at any time when the value of foreign exchange is tending to fall. The process of buying or selling according to what is required to maintain the desired quotation is similar to what would have to be done in order to stabilize the price of any ordinary commodity, such as wheat or cotton, in the domestic market. The limits to the ability of a stabilization fund to accomplish the purpose for which it is intended are determined only by the adequacy of the fund's resources and the willingness of the authorities to employ them to that end.

The Moderation of Exchange Rate Fluctuation: Exchange Control

The term "exchange control" is sometimes employed to describe any governmental policy designed to influence exchange rates. It is usually applied, however, to administrative control of the demand for and supply of foreign exchange coupled with maintenance of an officially established rate for the domestic monetary unit. Measures of this character, though known earlier, were carried to great lengths during the thirties. They reached their most complex and restrictive form in Germany where it was said at

one time that 500,000 persons were engaged in administering the exchange control policy.

EXCHANGE CONTROL COMPARED WITH EXCHANGE STABILIZATION

Exchange control, as the term is ordinarily understood, differs from exchange stabilization in that it is directed toward maintaining an artificially high quotation for the currency, rather than toward the elimination of random departures, presumably temporary, from some assumed norm. It resembles, for example, the maintenance of the price for wheat at an arbitrarily high level in contrast with the ironing out of seasonal fluctuations or attempts to preserve orderly market conditions during a period of emergency or panic. Exchange control practices are chiefly of a character to reduce the demand for foreign exchange while exchange stabilization policies aim chiefly at increasing the supply, at least during the period of stringency.

EXCHANGE CONTROL PRACTICES

One of the most familiar of exchange control practices is the resort to "blocked accounts," which result when restrictions are placed on the withdrawal of balances payable to foreigners. Refusal to allow such funds to be exchanged for bills payable abroad helps to limit the current demand for foreign exchange, and the gradual release of blocked accounts is intended to permit the obligations to be paid without the disturbing effects which might follow from their sudden withdrawal. The problem which gives rise to such measures is similar to a run on a commercial bank, and the blocking of accounts corresponds to the temporary freezing of demand deposits.

In the more advanced stages of exchange control, foreign exchange is rationed by an elaborate system of priorities

designed to satisfy the country's most urgent requirements.[2] Travel abroad may be virtually eliminated except for business purposes which are likely to provide additional exchange. Capital transfers, such as the payment of interest or principal owed abroad, may be impeded or stopped. Imports are subjected to license in order to exclude luxuries and give preference to necessities and to raw materials required in producing for export. Great care is exercised to detect and combat evasion, though never with complete success.

Various devices may be employed to expand the supply of foreign exchange. Simple export subsidies may be used or intricate systems may be devised whereby receipts from domestic and export sales are pooled to enable losses on export operations to be made up out of internal sales. While maintaining an official exchange rate for the mark which corresponded to the original mint parity with gold, Germany also established a system of multiple quotations for the mark with a considerable number of different rates corresponding to different uses. "Travel marks" for the use of tourists visiting Germany and marks to be used to pay for exports were obtainable at a substantial reduction from the official rate. The lowest rate of all was offered to persons in foreign countries desiring to make gifts in Germany.

Clearing agreements may provide grandiose barter transactions with foreign countries. Sometimes commercial bargaining is backed up by a certain amount of political or military bulldozing. Again, when an agreement is about to come up for reconsideration, a country may find itself maneuvered into a position where it must renew on more or

[2] The basis of alloting foreign exchange is not always easy to understand. During the late and most restrictive stages of exchange control in Germany, between 1937 and 1939, the authorities were still furnishing exchange in the United States at the highest rate, 40 cents per reichsmark, in payment for academic contributions to scientific journals published in Germany.

less the other country's terms if it is to receive payment on balances already due. The United States was in a relatively weak position when it came to bargaining with Germany in connection with foreign exchange matters because, relative to our exports, we were not large purchasers of imports from Germany. Consequently, the German negotiators were less concerned than in the case of England and Holland over the possibility that their policies toward the United States might provoke retaliation.

EVALUATION OF EXCHANGE CONTROL

Not only was exchange control singularly adapted to the conduct of economic warfare; it was, as may be surmized from the description of the practices employed, almost certain to degenerate into economic warfare. Exchange control is inevitably arbitrary. Moreover, it necessarily involves discrimination among the different uses to which foreign exchange resources may be put (e.g., for payment of debts or for one type of import or another), and this can hardly avoid the appearance and perhaps the reality of discrimination among countries.

Control of foreign exchange opens the way to all manner of undercover abuses. There can be no doubt that Germany employed exchange control to facilitate the accumulation of stock-piles of war materials, to cement alliances, to weaken possible enemies and to acquire information. Control of foreign exchange was a powerful instrument for regimenting the internal economy as well, since the directing of imports could often be used to stimulate or retard particular types of production. It was alleged even that Germany employed exchange restrictions to drive down the market price of German bonds owned abroad and then diverted foreign exchange to the purchase of these securities at their depressed value. The Germans are said to have succeeded by these

tactics in paying off foreign debts at a fraction of their face value.

On purely economic grounds, exchange control is to be condemned because it interferes with the functioning of the price system in guiding economic activity. Moreover, exchange control tended to reduce the total volume of international transactions through restricting the demand for foreign exchange to the available supply. Since a contraction of items on one side of the international balance of payments has a depressive influence on the items on the other side, the process of restricting demand failed to provide permanent relief for the shortage of foreign exchange. Far from affording a cure, it was not even a satisfactory palliative. Yet once a policy of exchange control was embarked upon, it was not easy to abandon.

Policies of Exchange Depreciation

THE EFFECT OF HIGH OR LOW CURRENCY VALUES

When a particular currency is valued in terms of foreign currencies at a rate which is above the equilibrium level, there is a tendency for exports to be retarded and imports stimulated and other strains and stresses to result. When, on the other hand, a currency is undervalued in foreign markets relative to its purchasing power at home, exports are stimulated, imports retarded and gold tends to flow in. Either situation is economically abnormal and undesirable, but in the light of mercantilistic sentiment in favor of exports and against imports, the second situation is not only generally preferred to the first but may appear attractive, particularly in times of depression and unemployment, as a major objective of national policy.

Experience in the decade of the twenties demonstrated that even under the international gold standard, the foreign

value of a currency can be considerably out of line with its purchasing power at home. After England returned to the gold standard in 1925 at a rate which overvalued the pound in terms of foreign exchange, her export trade continued in a severely depressed state until her abandonment of the gold standard in 1931. It is safe to say that the British distaste for the gold standard which dates from this period is partly the consequence of their having stabilized the pound on gold at too high a rate. France, on the other hand, followed the opposite policy and returned to the gold standard at a rate which undervalued the franc. Whether deliberately or not, the discrepancy between internal and external value of the franc was maintained for some time. Accordingly, exports were strong, gold flowed in and, for this brief period during the late 1920's, France was cock of the walk in international finance.

COMPETITIVE DEPRECIATION OF THE CURRENCY

The period from 1931 to 1939 is sometimes referred to as an era of "currency warfare." One gains the impression that country after country sought to drive down the exchange value of its currency in order to derive a competitive advantage in foreign trade, only to lose the advantage by other countries depreciating their currencies still further. Any such characterization as this is highly exaggerated. The desire to obtain an advantage over other countries in export trade is only one of the possible motives which may inspire a country to allow its currency to depreciate and frequently its importance is distinctly secondary.

The condition on which the success of such a policy depends is that the internal value of the currency should be above its external value. As long as this relationship exists, exports will tend to be stimulated and imports, relatively speaking, restricted. But a policy directed toward this end

may find itself circumvented in a number of different ways. On the basis of past experience, it is reasonable to expect that foreign countries may also depreciate their currencies in the foreign exchange market or may introduce import restrictions such as higher tariffs, quotas and exchange control. Some countries may do both. Even in the absence of these measures, the disparity between internal and external values would tend to be closed by rising domestic prices and a strengthening of the value of the currency in foreign exchange markets.

Trade advantages that may be gained from depressing the foreign exchange value of a country materially below a level which corresponds to its internal value are likely to be relatively short-lived. In addition, they bring accompanying disadvantages in the form of the threat of inflation at home and retaliation abroad. Competitive exchange depreciation is damaging not only to the world economy but also to the individual country practising it.

DOWNWARD ADJUSTMENT OF EXCHANGE VALUATION

Not every resort to currency depreciation, however, is to be condemned. The lowering of the foreign exchange value of a currency which has been overvalued to a level corresponding to its internal purchasing power is altogether different from currency depreciation of the type just considered. Instead of attempting to set an artificially low exchange value for the currency, its effect is to correct a previous abnormality.

The devaluation of the Franch franc in 1936 was not only welcomed by the United States and England, but these countries even abetted the action. Through the Tripartite Agreement, they undertook to assist, by the "use of appropriate available resources," in facilitating the transition to a new level of exchange rates. They endorsed the program as

one of orderly exchange rate adjustment which would be conducive to the development of international trade and to the relaxation of quotas and restrictive exchange control measures. According to the annual report of the Bank for International Settlements for 1936–37, the parallel declaration of the United States, England and France showed a recognition of the "distinction between a currency adjustment likely to produce a more stable basis for international economic relations and the reduction of the exchange value of a currency to such a low point as to be regarded as a measure of competitive exchange depreciation." [3]

CONCLUSION

The international financial policies which have been examined range all the way from the establishment of an international gold standard to the rigid administrative control of foreign exchange. All of them have been concerned with the international functioning of money; some were designed to provide a workable automatic system, some to improve or supplement the existing system and others to provide an alternative to what was regarded as the imperfect operation of the existing monetary mechanism. The latest development in this process was the drawing up of a plan for an International Monetary Fund at the Bretton Woods Conference. It is discussed in the next chapter.

[3] P. 19.

30 ~ International Financial Reconstruction

The policies adopted by belligerents in time of war indicate a clearer appreciation of the economics of international trade and finance than is shown in time of peace. In peacetime there is always a great deal of dispute concerning the benefits to be derived from the import of goods from abroad, and barriers to the movement of trade may be erected in the belief that the national welfare is thereby served. In time of war, however, there is never any doubt that a country is injured by the obstruction of international economic intercourse. During a war, every effort is made to interrupt the trade of enemy countries by destroying ships and port facilities, pre-empting sources of supply in neutral countries and similar means. Capital movements are blocked by freezing of bank deposits and sequestration of enemy assets. In recognition of the positive advantages of international exchange, trading and financial relations with a country's allies are made just as free as possible. Imports are welcomed and if they can be obtained without the necessity of sending out exports either then or later, so much the better. Everything is done to facilitate the flow of

capital between allies, even to making outright grants of money.

It is inevitable, in view of the contrasting policies followed in war and peace, that the legacy of war should be a situation of extreme dislocation in international finance. In order to return to normal peacetime conditions, broken contacts must in some cases be restored while in others the close interdependence between countries must be relaxed. The task of restoring the international financial system to working order is complicated by the fact that the existence of strong governmental controls will have impaired the reliability of price and exchange rate comparisons based on earlier conditions. Customary guides to monetary and fiscal policies may thus be rendered virtually useless. Moreover, the economic and financial demands of war will have reduced the resources of the former belligerents to a minimum at the very time when the task of readjustment imposes upon these resources a particularly heavy strain.

International Finance at the Start of the First World War

The international gold standard may be said to have come into existence in the early 1870's. While England had adopted the single gold standard many years before, it was not until then that her example was followed by enough countries to make gold a truly international standard. The prestige which the gold standard enjoyed at the time war broke out in 1914 was largely the consequence of the political and economic strength of Great Britain and other countries which comprised the membership of the "exclusive gold-standard club," and of the success of the British, through the Bank of England, in employing central bank policies to promote the smooth functioning of the international gold standard system.

The record of the international gold standard was not, however, one of uniform satisfaction. In this country, unrest associated with falling prices had been featured by the prolonged agitation for bimetallism, either national or international, which culminated in Bryan's cross-of-gold speech and his campaign for the presidency in 1896. An expansion in the output of gold and an accompanying upward movement of commodity prices, coinciding with a period of world prosperity and political calm, characterized the years from 1896 to 1914. This short period of not quite two decades constitutes the golden age of the international gold standard. The gold standard system in August 1914 included most of the major trading nations of the world.

At the center of that comfortable, gold standard world stood "Europe, the world's banker." England, France, Germany and smaller countries as well, notably Holland, Belgium and the Scandinavian countries, had large overseas investments. The United States, though still a debtor country, was beginning to accumulate a substantial volume of assets in foreign countries. On some of the international investments, especially in South America but even at one time in the United States, substantial losses had been incurred. Nevertheless foreign investment under private auspices had shown great accomplishments in building up empires and in developing the new world, and for the most part it had proved profitable to investors.

To a certain extent, foreign investment before 1914 had been influenced by other than economic consideration. The French in particular are said to have guided their foreign lending with a view to its political effects; France is credited with having built up its alliance with Russia largely by that means. The charge was frequently made that foreign powers, including the United States with its so-called "dollar diplomacy," were guilty of infringing on local sovereignty

in connection with their overseas investments. The Calvo and Drago doctrines were promulgated by South American statesmen to limit the rights of foreign countries to interfere with smaller countries under guise of protecting investments abroad. Notwithstanding the inevitable governmental complications, foreign investments remained essentially a private undertaking. Even in matters of safeguarding the interests of overseas investors, the privately organized Council of Foreign Bondholders was considerably more important than battleships or diplomats.

The international financial structure which was partly shaken, partly shattered by the war of 1914–18 rested, then, on two principal foundations. The first was the international gold standard whose strength depended more than was generally realized on the financial leadership exercised by the British and on the preservation of certain practices and attitudes on the part of participating countries. The other was the institution of foreign lending, based primarily upon a tradition of private profit and individual initiative.

International Financial Reconstruction after the First World War

Little thought was given to the question of international financial reconstruction while the First World War was in progress. So far as the problem was considered at all, it would have been assumed, no doubt, that reconstruction was just a matter of letting countries return to the gold standard until the international monetary and financial structure was re-established approximately as it had been before the war. The gold standard remained in force in many parts of the world throughout the war. With the exception of Russia, monetary depreciation had nowhere proceeded to extreme lengths at the time of the Armistice. Moreover, at the end of the war the monetary unit of de-

feated Germany was at a premium over that of victorious France.

In the period of postwar negotiations, international financial problems were conceived of in rather narrow and nationalistic terms. Our allies were chiefly concerned with the reparations which they could collect from Germany with a view to rehabilitating themselves and keeping Germany weak. The United States, in turn, was determined to collect the money it had lent to its allies during the war. A large part of postwar international financial negotiations, therefore, was devoted to these questions. Subsequently intergovernmental debts remained a continuing source of irritation and disturbance between nations. The demands made on Germany for reparations contributed in considerable measure to the German inflation which culminated in 1923, while inter-allied debts rested like a dead weight on the economies of the different countries until they were abolished through default during the great depression.

Apart from the succession of international conferences dealing with reparations and debts, the most important developments were the reports of the Dawes Commission in 1924 and the Young Commission in 1929. As a result of the first of these reports, the Reichsmark was stabilized with the aid of a special gold loan, the reichsmark was rehabilitated and reparations were placed on a more manageable basis. The effect of the Young Commission was to establish the Bank for International Settlements and scale down and regularize reparation payments—though to no significant purpose since payments were suspended two years later, never to be revived.

In addition to the more spectacular cases of monetary instability that characterized the early 1920's, other currencies experienced fluctuations of smaller magnitude. The pound sterling was stabilized at the old parity with gold in

1925, and with the stabilization of the French franc a little later (at roughly one-sixth its prewar value) the rehabilitation of the international gold standard seemed relatively complete.

In substantial measure the appearance of economic and financial improvement throughout the international economic system was induced by the liberal injection of credit resulting from the flotation of foreign loans in the United States. As a result of the war the United States found itself transformed almost overnight from a debtor nation to a creditor nation. Throughout most of the twenties, further dollar loans were extended, most of them at rates of 6 and 7 per cent and some at rates of 8 and 10 per cent. The public was guilty of naiveté coupled with avarice, and underwriting houses were guilty of over-confidence coupled at times with downright lack of responsibility. As long as new loans were readily forthcoming, the flimsy character of postwar financial reconstruction was concealed behind a façade of active trade and current fulfillment of contractual payments. With the drying up of new loans, the pricking of the stock market boom and the elevation of import duties by the Hawley-Smoot Tariff Act of 1930, the whole international financial structure collapsed, carrying with it the international gold standard system and a substantial proportion of postwar foreign investments.

The great fault with international financial reconstruction after the First World War was that it looked backward rather than forward. It sought to return to forms and methods which had proved satisfactory under earlier and simpler conditions but which were not equal to the tasks they were called upon to confront in the postwar world. It is not altogether certain that the gold standard as it was reconstituted would have been capable of surviving in a world like that of 1914, but it was wholly inadequate for

dealing with the world of the twenties. Unregulated, uninformed, catch-as-catch-can security practices were unsatisfactory enough, as events proved, in domestic affairs. In the still more uncertain field of international financial transactions, they were anachronistic. There were lessons that could only, perhaps, be learned through experience.

Bases of Financial Reconstruction after the Second World War

The Second World War was considerably longer, costlier and more destructive than the First World War. Moreover, what was destroyed in the war period and in the troubled depression years that preceded it was not only persons, places and things but also patterns of life. At the end of the First World War, the essential problem was construed to be that of restoring, in the main, the financial and economic institutions that existed in 1914. Well before the end of the Second World War, it was evident that the international gold standard could not be revived and therefore that a new international monetary structure would have to be created. In addition, new credit institutions were required which would make possible the flow of capital for rehabilitation and development in a world where confidence in traditional methods of investing abroad had been undermined. The changed circumstances and public attitudes here and abroad made the problem of postwar financial policy one not of restoration but of reconstruction, and more particularly of reconstruction along new and untried lines. All this had to be accomplished in the face of world-wide political insecurity and ideological differences, and with the sinews of international finance largely confined to the United States.

The problem of international financial reconstruction was simplified, in a sense, by its very gravity. The seriousness of the obstacles to be overcome contributed to a willingness on

the part of certain nations at least to work together in studying mutual difficulties and agreeing to solutions with a promptness that might have been lacking under less perplexing circumstances. Moreover, the period after the First World War had taught some pointed lessons; the experience of those earlier years enabled us, for example, to avoid the troublesome issue of war debt by the simple expedient of canceling Lend-Lease obligations. Finally, the absence of accord with Russia was more responsible than any other factor for our willingness to supply badly needed financial assistance to hard-pressed countries of Europe and Asia.

The International Monetary Fund

The negotiations which led to the establishment of a new international monetary system built around the so-called International Monetary Fund were carried on from 1942 to 1944 between representatives of the British Exchequer and the United States Treasury. They culminated in the Bretton Woods Conference where the plan for the Fund was agreed upon by representatives of forty-four United and Associated Nations. This agreement was reached a year before the conclusion of hostilities. Where other monetary systems had originated spontaneously or evolved gradually over time, the system there devised was worked out cooperatively through study and negotiation among the representatives of a large group of sovereign nations.

BACKGROUND OF THE INTERNATIONAL MONETARY FUND

The world had had experience with three types of monetary systems, namely, the international gold standard, relatively free and independent paper standard currencies, and the type of inconvertible currency with controlled exchange rates of which the German Reichsmark under the Nazis furnished the best known example. Each of these systems is

noteworthy for one unique feature peculiar to it. The international gold standard is distinguished by *stability* of exchange rates among the different countries adhering to the standard. The relatively free paper standard system is characterized by *flexibility* of exchange rates which allows price levels in different countries to be adjusted through appropriate shifts in exchange rates. Currencies operated under a system of exchange control are distinguished by the high degree of administrative *regulation* to which they are subject, regulation which may extend to the exercise of supervision and control—as by rationing, licensing and the like—over most or all of the country's economic transactions.

None of these three methods was acceptable to those charged with drawing up international monetary plans for the postwar world. The gold standard was regarded by many countries as unduly rigid. The British in particular, but other countries as well, blamed the gold standard in large measure for their troubles during the depression of the thirties and were disposed to think of it as "a device for exporting unemployment." Free paper standards were associated in the minds of many with disorder and chaos in foreign exchange relationships; exchange rate movements were often thought of as unstabilizing and disruptive rather than as equilibrating. Most criticized of all was the system of exchange controls. Not only had these controls been resorted to most extensively by Fascist governments; in addition, they lent themselves to discriminatory trade practices and characteristically tended toward economic warfare.

The International Monetary Fund was developed as an alternative to any one of these three monetary systems. It represents in essence a blending of the distinctive features of all of them with, of course, many structural details peculiar to itself. The manner in which it embodies stability, flexi-

bility and, under exceptional and presumably rare circumstances, a certain degree of authoritarian control is the most important fact to bear in mind concerning the International Monetary Fund. The defense of the Fund is primarily that through these three features it combines the virtues of the other systems, but it has also been criticized on the ground that for the same reason it perpetuates their characteristic evils.

PROVISIONS OF THE FUND

The International Monetary Fund has two primary purposes, to promote exchange rate stability by facilitating the adjustment of minor inequalities in the supply and demand of foreign exchange and to permit orderly changes in exchange rates when "fundamental disequilibrium" in exchange rates arises. To meet the first of these objectives a revolving fund was created through subscriptions by participating countries on the basis of assigned quotas. Member countries are allowed to draw upon the Fund to meet temporary shortages of foreign exchange, the amount each country is entitled to draw being governed by the size of its quota. Payments in and out of the Fund to meet temporary discrepancies in the supply and demand of foreign exchange operate in substantially the same way as the exchange stabilization funds which were established during the thirties.

It is anticipated that the bulk of foreign exchange transactions will be handled through ordinary channels. Member countries must see that all such transactions are effected at exchange rates within one per cent of the officially established par. There will be resort to the Fund only when the volume of payments in a particular direction threatens to place undue strain on the existing structure of exchange

rates. Operations involving the Fund will be carried out between the Fund on the one side and the treasuries, central banks or similar agencies of the member countries on the other side. A country will be able to draw on the Fund for foreign exchange up to an amount equal to twice its original subscription. The withdrawal of foreign exchange will be balanced by paying into the Fund an equivalent amount in domestic currency, but the total of such withdrawals that can be effected in any twelve-month period may not exceed 25 per cent of a country's quota. If for any reason a country's currency should depreciate, additional currency must be supplied sufficient to maintain the assets of the Fund at the original value in terms of gold or strong currency.

The laws governing the Fund's operations recognize that a shortage (or excess) of foreign exchange may be the result not of seasonal or other temporary factors but of an artificial valuation of a country's currency. In case of such a "fundamental disequilibrium"—a meaningful though operationally somewhat indefinite concept—a member country is allowed to alter the exchange value of its currency by ten per cent. The Fund must be consulted when this change is made, but its consent is not required. Further changes, however, require concurrence by the Fund. In case a country acts without the sanction of the Fund, it may be declared ineligible to use the Fund's facilities or may even be required to withdraw from membership.

The provision for promoting stability of exchange rate represents an adaptation of the gold standard's technique for providing stable exchange rates between countries. The provision for allowing official exchange rates to be altered with or without the consent of the Fund's officers constitutes an adaptation of the mechanism afforded by paper standards for effecting price level adjustments between countries.

The third distinctive feature of foreign exchange policy, that of administrative control of international exchange operations, is embodied in a provision for rationing scarce currencies. In the event that the demand for a particular currency threatens to exhaust the available supply of that currency or to precipitate a scramble among members for the limited supply, the Fund may notify members of the danger of a scarcity and recommend means of meeting the shortage. In case the stringency continues, the Fund may declare that the currency is scarce and undertake to apportion the existing supply among member countries. The various members are then allowed to limit transactions in that currency in accordance with their supply of the currency. This formal authorization of what amounts in substance to exchange control, far from according approval to the methods which were adopted during the thirties, is designed to eliminate the possibility of a general return to such conditions. The purpose of the provision for rationing scarce currency is to prevent a reckless bidding up of exchange rates in case of a shortage of foreign exchange. It should have the further advantage of furnishing the country whose currency is in short supply with a special inducement for seeing that the condition of scarcity is relieved. This could presumably be accomplished by increased imports from abroad or by extending credit to foreign countries.

The Fund is intended to provide certain ancillary benefits in addition to the discharge of purely monetary functions. It will furnish consultation and advice, as well as serve as a clearinghouse of information. In accordance with the broad objective of facilitating the expansion of international trade, member countries agree to eliminate restrictive trade methods and arbitrary and discriminatory currency and exchange practices.

OPERATIONS OF THE FUND

The Fund opened for business on March 1, 1947. Membership included most of the United and Associated Nations, but Russia, which had participated in the Bretton Woods negotiations, abstained from joining. On the other hand, Italy, a former enemy country, became a member shortly after. The composition of the International Monetary Fund by countries and quotas is shown in Table XXXII. The difficult problem of deciding upon initial exchange rate parities was met by adoption of the rates officially current at the time. It was obvious to all that these rates could hardly be assumed to correspond with the equilibrium rates that would have prevailed in a free market. The official policy of the Fund was to rely upon prompt and frequent changes in rates as the means of achieving a suitable pattern of exchange rate relationships. Thus the period immediately after the establishment of the Fund was looked upon as a time of adjustment when appropriate exchange relationships would be achieved through experimentation.

The Bank for Reconstruction and Development

While the operations of the Fund possess some of the characteristics of a loan of foreign currency, it is a basic principle of the plan that the Fund should not be used for permanent financing, and numerous safeguards were included to assure that this does not happen. Instead, a separate institution, the Bank for Reconstruction and Development or, more familiarly, the World Bank, was created to provide long-term financing. The plan for the Bank was also drawn up at the Bretton Woods Conference in 1944, but unlike the Fund it was not included in the lengthy negotiations which preceded that conference.

The membership of the Bank is similar to that of the

TABLE XXXII. *Membership, World Bank and International Monetary Fund, June 30, 1947* (millions)

	Bank Subscription	Fund Quota
Belgium	$ 225.0	$ 225.0
Bolivia	7.0	10.0
Brazil	105.0	150 0
Canada	325.0	300.0
Chile	35.0	50.0
China	600.0	550.0
Colombia	35.0	50.0
Costa Rica	2.0	5 0
Cuba	35.0	50.0
Czechoslovakia	125.0	125.0
Denmark	68.0	68.0
Dominican Republic	2.0	5.0
Ecuador	3.2	5.0
Egypt	40.0	45.0
El Salvador	1.0	2.5
Ethiopia	3.0	6.0
France	525.0	525.0
Greece	25.0	40.0
Guatemala	2.0	5.0
Honduras	1.0	2.5
Iceland	1.0	1.0
India	400.0	400.0
Iran	24.0	25.0
Iraq	6.0	8.0
Italy	180.0	180.0
Lebanon	4.5	4.5
Luxembourg	10.0	10.0
Mexico	65.0	90.0
Netherlands	275.0	275.0
Nicaragua	.8	2.0
Norway	50.0	50.0
Panama	.2	. . .5
Paraguay	.8	2.0
Peru	17.5	25.0
Philippine Republic	15.0	15.0
Poland	125.0	125.0
Syria	6.5	. 6.5
Turkey	43.0	43.0
Union of South Africa	100.0	100.0
United Kingdom	1,300.0	1,300.0
United States	3,175.0	2,750.0
Uruguay	10 5	15.0
Venezuela	10.5	15.0
Yugoslavia	40.0	60.0
Total	$8,025.5	$7,721.5

Sources: *Annual Report* for 1947, International Bank for Reconstruction and Development, and *Annual Report* for 1947, International Monetary Fund.

Fund.[1] Members were required to subscribe to specified amounts of capital in the Bank, corresponding closely to the quotas established for the Fund. Of the total amount subscribed, 20 per cent was paid in soon after the start of operations and the other 80 per cent remains subject to call, if needed to meet losses or to fulfill guarantees. The Bank officially opened for business in the middle of 1946 and the first loan, amounting to $250 million for thirty years, was granted to France in May 1947.

The Bank is authorized to engage in three types of operations, (a) the loan of its own funds, (b) the loan of funds borrowed by the Bank and (c) the guarantee, in whole or in part, of loans made by private investors through customary investment channels. Credit activities of the Bank in any of these three forms must be confined to productive use for reconstruction or development. Since borrowers will ordinarily be able to borrow locally for expenditures made within a country, the Bank's lending will presumably be confined to providing foreign currency to be spent outside the borrowing country. The Bank acts through the treasury, central bank or other fiscal agency in the country where it is lending money, but with the aid of these agencies credit may be extended or guaranteed to private enterprises. In a clear attempt to avoid competing unduly with existing institutions, the Bank's authority to provide assistance was restricted to undertakings where the borrower otherwise would be unable to obtain credit on reasonable terms.

Great care is prescribed in connection with examining and recommending specific projects to be financed by the Bank. Furthermore, loans which are not made directly to the government of a member country must be fully guaranteed

[1] Members of the Bank are required to be members of the Fund, but a country may be a member of the Fund without joining the bank.

by the government or by some agency in that country, such as the central bank, which is acceptable to the bank. The bank does not have the power to create deposits nor can funds be deposited with it. The total of loans and guarantees by the Bank may not exceed its unimpaired capital, reserves and surplus.[2]

The Bank's officers are required to make certain that the proceeds of loans are used exclusively for the purposes authorized in the loan agrement, and withdrawals are permitted only as expenditures are actually made. These and other provisions mean that short of some major political catastrophe a loss on money loaned to the Bank or guaranteed by it is almost inconceivable.

[2] The character of the protection provided on credits extended to or through the Bank may best be seen from an illustration. In the following example costs of operation are disregarded, or assumed to be covered by current income, and for the sake of simplicity it is assumed that credit is extended only out of the Bank's own or borrowed funds, i.e., not in the form of guarantees.

With a total capitalization of $8 billion, a sum of $1.6 billion will have been paid in cash. Assume that the Bank lends to the legal limit, which is the full amount of subscribed capital. It would then have paid out its $1.6 billion of cash and would have borrowed an additional $6.4 billion on the Bank's debentures. This sum of $6.4 billion would constitute the Bank's liability to the public, which would be a prior lien on the actual and contingent assets of the Bank. Against this liability of $6.4 billion the Bank would hold $8 billion in loans, all guaranteed by the governments of borrowing countries, and would have the right to call on member countries for an additional $6.4 billion, the amount of subscribed but unpaid capital. Thus there would be a total of $14 4 billion of actual and contingent assets behind $6.4 billion of liabilities.

Included in the $6.4 billion subject to call to cover losses would be $2.54 billion due from the United States Treasury. Since each member country is "jointly and severally liable" for losses incurred up to the amount of its unpaid subscription to capital, losses totalling $2.54 would be guaranteed by the United States Treasury. Even if losses reached this amount, equal to practically 40 per cent of the liabilities of the Bank to the public, the Bank's debentures would be as good as United States government bonds. In addition, a substantial part of the remaining subscribed capital that could be called in order to meet losses would consist of claims on countries, such as the United Kingdom, Holland and the Scandinavian countries, whose credit standing is hardly less high than that of the United States.

One of the limitations under which the Bank is obliged to function is that the interest rates which it charges will probably have to be about the same regardless of the country borrowing. While there is no legal provision requiring uniformity, the charging of different rates might be looked upon as discriminatory or as reflecting disparagingly on the credit-worthiness of particular countries. Yet economically the prevailing level of interest rates is by no means the same in all countries, and to attempt to maintain uniformity is to prevent differences in interest rates from discharging their normal economic function in the allocation of capital. Between political considerations which dictate uniformity of rates and economic considerations which call for differences in rates, the Bank is caught in a dilemma from which no satisfactory escape is apparent. Maintenance of uniformity would seem likely to result in a schedule of rates which is relatively high for such countries as Denmark and Holland, and disproportionately low for capital-poor countries such as China and parts of Latin America.

Other International Credit Operations

The Anglo-American Loan extended by the United States Treasury in 1946 was designed to remove existing uncertainty concerning the intergovernmental indebtedness resulting from the war and to assist Great Britain in meeting the difficult financial problems associated with reconversion to peace. The agreement was negotiated, ratified by both Congress and Parliament and placed in operation within a year after the end of hostilities.

The financial provisions of the loan called, first of all, for the cancellation of Lend-Lease obligations which amounted in the case of Great Britain to nearly $25 billion, by far the largest operation of the type ever recorded. In the second place, Great Britain agreed to pay $650 million

for Lend-Lease goods then "in the pipe," that is, goods in warehouses and on the way which were not actually part of the direct winning of the war. Inclusion of this sum in the Anglo-American loan is to be looked upon primarily as part of the problem of liquidating surplus war supplies. Finally, the British were granted a line of credit totaling $3.75 billions on which they might draw up to the end of 1951, with interest at 2 per cent starting in 1952. While the debt was calculated to run fifty years, it was provided that payments on interest (though not on principal) would be waived in case of a shortage of foreign exchange. It was computed that if the interest waiver was never exercised and the loan fully paid, the effective rate over the entire life of the agreement would be under 1.65 per cent.

The agreement also contained a number of significant commercial provisions. These related particularly to the removal of controls over sterling balances and over current trade between the United Kingdom and the United States. The commitment of the British to adopt and sponsor liberal trade policies was looked upon as perhaps the most important concession gained by the United States as a result of the agreement. It was also felt that the agreement was necessary to assure adoption of the Bretton Woods program by the British, and an essential precondition to the success of the International Trade Conference which was scheduled for a little later. Thus the Anglo-American Loan is to be viewed not as an isolated credit transaction between two great powers at the end of an exhausting struggle, but as an indispensable segment of international economic and financial reconstruction.

Loans to other countries to assist in their reconversion to peacetime conditions were arranged through the Export-Import Bank, whose resources were substantially expanded to meet the added burden imposed. Loans by this institu-

tion were nominally expected to be repaid in full. Nevertheless, it was generally recognized that many of the credits would not have been extended if they had been judged solely by conventional standards. The expanded activities of the Export-Import Bank represented the assumption by the United States government of a substantial degree of responsibility for contributing to postwar rehabilitation through direct lending to foreign countries.[3] The activities of the Export-Import Bank were particularly important in the period before the Bank for Reconstruction and Development commenced lending operations.

Conclusions on Financial Reconstruction after the Second World War

International financial policies adopted after the Second World War were in sharp contrast to those followed a quarter century earlier. They were distinguished by their frank abandonment of earlier precedents, the adoption of new methods and the extent of their reliance on active participation by government in both lending and borrowing countries.

Establishment of the International Monetary Fund represented a conscious effort to create a new international monetary system in a world where a return to a system such as had been in existence earlier seemed out of the question. In the field of international capital operations, a new institution, the Bank for Reconstruction and Development, was created which was designed to be so powerful and safe as to make sure that it would overcome the reluctance of pri-

[3] In addition to the loan activities under discussion here, the United States assisted foreign countries through the extension of financial aid with little or no provision for repayment. Financial assistance of this character included the work of the United Nations Relief and Rehabilitation Administration and presumably includes the money advanced in pursuance of the Truman policy of resisting the spread of Communism, announced in March 1947, as well as that called for under the Marshall Plan.

vate investors to lend their money abroad. The establishment of these two great financial enterprises constituted a significant step in the direction of economic co-operation among nations.

The action of the United States government in altering its traditional stand on international indebtedness is no less unusual. Cancellation of the Lend-Lease obligations stands in complete contrast with the philosophy of the twenties which is forever characterized by the remark attributed to President Coolidge when insisting on repayment of inter-allied debts, "Well, they hired the money." The changed attitude was carried still further in the extension of loans to facilitate reconstruction abroad.

The measures which were adopted after the Second World War reflect a difference both in the policy of the United States in world affairs and in the role occupied by the federal government. They also represent the official acceptance of an important lesson from fundamental economics, namely, that the economic recovery of foreign countries is of major concern to the welfare of the United States. The close integration of commercial with financial provisions in the Fund, the Bank and the Anglo-American Loan agreement constitutes recognition of still another important principle of economics, namely, that international trade and international finance are indivisible. The changed attitude toward international financial reconstruction after the Second World War is no guarantee, of course, that the policies adopted then will be any more successful in achieving long-term objectives then were the measures taken after the First World War. But it does signify that society, national and international, learns from experience, and, moreover, that what happened in the earlier period can scarcely be accepted as a reliable precedent in drawing conclusions for the later period.

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