

AN INTRODUCTION  
TO THE  
MONEY AND BANKING SYSTEM  
OF THE  
UNITED STATES

BY

JOHN PERCIVAL DAY

*B.A., B.Sc. (London), D.Phil. (St. Andrews),  
Associate Professor of Economics, McGill University*

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## CONTENTS

INTRODUCTION .....	v
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### PART 1

#### MONEY AND BANKING

CHAPTER	PAGE
I. Metallic Money .....	3
II. Paper Money .....	9
III. The Banks .....	18
IV. The Federal Reserve Act .....	27
V. Outline of the Mechanism of Credit Control..	35

### PART 2

#### THE OPERATION OF THE FEDERAL RESERVE SYSTEM

CHAPTER	PAGE
I. Up to the Armistice, November, 1918 .....	51
II. The Post-war Boom: November, 1918, to June, 1920 .....	55
III. The Catastrophic Fall in Prices: June, 1920, to January, 1922 .....	63
IV. The Development of Open Market Policy in 1923 .....	69
V. Cheap Money, Credit Expansion, and Pros- perity: June, 1922, to June, 1927 .....	80
VI. Helping Europe: July to December, 1927....	86
VII. The Fight to Control Speculation: January, 1928, to October, 1929 .....	90
VIII. Conclusion .....	111

## INTRODUCTION

**T**HE growing importance of the United States in World finance, the increasing recognition of the interdependence of the credit conditions of the leading commercial nations, and the continuous efforts towards a more satisfactory control of international credit, render it all the more necessary that students outside the United States should gain an adequate knowledge of the banking system of that country. It is mainly for such students that this book is written. The attempt has been made, by omitting the details of ordinary banking practice, to explain in a reasonably brief manner the milieu in which the Federal Reserve System works, what it is intended to do, and what degree of success it has achieved. It is considered that a proper understanding of the Federal Reserve System is the essence of the matter for, at least, the non-American student. It must be remembered that the Federal Reserve System is still scarcely out of its infancy and much of its experience has been only of abnormal conditions. It was established in 1913, and before that date any collaboration of the Central Banking authorities of the World to control credit more rationally on the lines since advocated by the

Genoa Conference would have been impossible because credit in the United States was then almost entirely lacking in any organized central control. Now that the Federal Reserve Board exists, this impossibility has been removed, and it is this fact which gives particular interest to the study of the Federal Reserve System.

The curbing of those fluctuations in the purchasing power of money which Sir Josiah Stamp has stigmatized as the greatest social evil of our time depends largely on the degree of success attained by the Federal Reserve Board both in controlling conditions in the United States and in collaborating with the Central Banking authorities of other countries. Various circumstances, including the accumulation of a large stock of surplus gold in the United States, have combined to give that country the main responsibility for success or failure in the present efforts to achieve a more reasonable and more efficient control of money and credit in the world of to-day and to-morrow. It is hoped that these considerations will be held to justify the appearance of this book to serve as an introduction for British students to the money and banking system of the United States. For closer study, the student is referred to the Annual Reports and the Monthly Bulletins by the Federal Reserve Board, to the periodical reviews of the leading Banks and newspapers, and to the various large text books written by

## INTRODUCTION

vii

American authors, to all of which sources the author wishes to acknowledge his indebtedness. Acknowledgment is also due to his colleague, Assistant Professor J. T. Culliton, M.A., for criticism and help in reading the proofs.

McGill University,  
January, 1930.

**PART 1**  
**MONEY AND BANKING**

## CHAPTER I

### METALLIC MONEY

**T**HE money of account and the standard of value in the United States is the gold dollar which contains 25.8 grains, nine-tenths fine, or 23.22 grains of pure gold. As 1869 British sovereigns, eleven-twelfths fine, are minted from 480 ounces (troy) of gold, there are 113.0015 grains of pure gold in a sovereign, and the mint par of a sovereign is 4.8665 dollars. £10 has practically the same amount of pure gold as 48 $\frac{3}{4}$  dollars.

If at times gold becomes worth more in one centre than another, either because it has a greater purchasing power through a temporary lack of harmony in the general price levels of commodities or because it can earn more, equal safety being implied, through temporarily higher rates of interest, gold will tend to move as bullion from the centre where it has less value so soon as the gain from this transference becomes greater than the costs of transport. These costs are liable to fluctuation. If freight, insurance, interest, and commission were all stable factors for a given consignment, it would be possible to figure out the point at which it would be profitable to move gold.



These factors, however, besides varying according to what may be regarded as the ordinary fluctuations in demand and supply, are subject to various influences. Freights may decline suddenly because of the outbreak of a freight war; insurance charges are less when a large consignment is despatched by several boats rather than by one; interest, which depends on the time taken in transit, may not be considered as a charge at all by a Bank which chooses to regard the gold as a part of its cash reserve. If, for transporting £100, we take freight at 3/-, insurance at 1/- and interest at 5% for eight days, the gold points work out at 4.850 and 4.887. When the exchange is quoted at or below the former figure, gold may normally be expected to be moving or threatening to move from London to New York, while, if the quotation is at or above the latter figure, the movement will be from New York to London.

Diagram 1\* shows, by months during 1927 and 1928, the relative price levels of the United Kingdom and the United States, the rate of exchange, the increase or decrease in the monetary gold stock of the United States, and the changes in the discount rates of the Bank of England and the Federal Reserve Bank, New York City.

\*The price levels shown are from the index numbers of wholesale prices compiled by the British Board of Trade and Bradstreet's old series, both having as base year 1913=100. Other series show a not inconsiderable variation.

# METALLIC MONEY

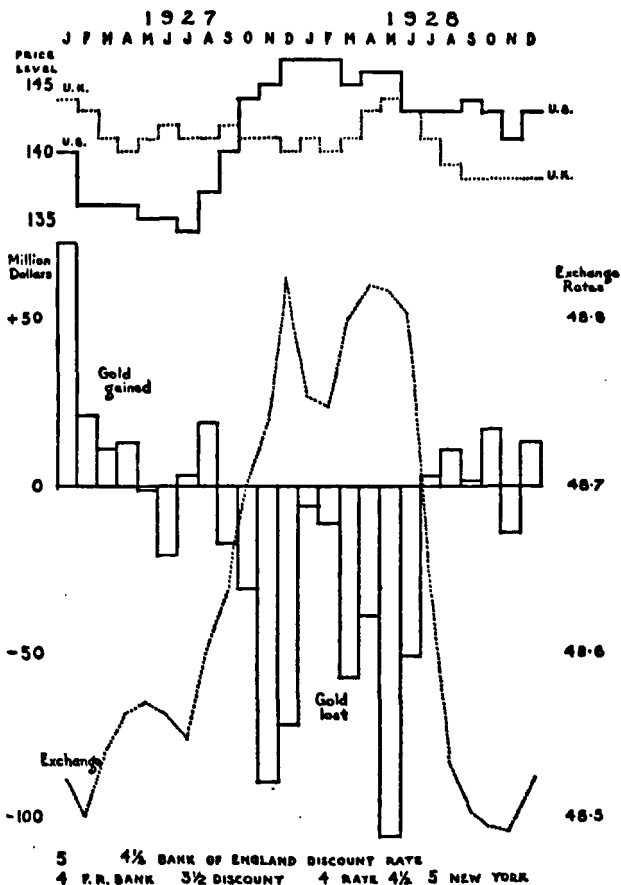


DIAGRAM 1

If air transport should become possible, the gold point limits may be expected to narrow; there would be a saving both in freight and interest charges and an encouragement to ship comparatively small consignments which at present, bearing relatively high shipping costs, do not start to move as soon as large amounts. Gold, if it is of standard fineness (nineteenths), will be converted into coin by the United States Mint without charge, but otherwise there is a brassage charge of 12 to 20 cents per hundred dollars.

The full total of all money in circulation in the United States on the 31st of July, 1929 was \$4,716,862,000, made up as follows:

	Thousands of dollars
<b>METALLIC MONEY</b>	
Gold coin .....	366,199
Standard silver dollars .....	43,401
Subsidiary silver .....	284,363
Minor coin .....	115,534
	<hr/>
Total metal .....	809,497
<b>PAPER MONEY</b>	
Gold certificates .....	887,897
Silver certificates .....	403,964
Treasury notes of 1890 .....	1,282
United States notes .....	242,338
Federal Reserve notes .....	1,748,442
Federal Reserve Bank notes .....	3,587
National Bank notes .....	619,855
	<hr/>
Total paper .....	3,907,365

The above table of money in circulation does not include money held in the Treasury or money held by Federal Reserve Banks and agents. At the end (June 30) of the fiscal year 1928, the Treasury held \$3,725,649,727 of which \$3,215,615,889 were gold coin or bullion; the Federal Reserve Banks and agents held \$1,582,575,910, of which \$516,519,318 were gold coin or bullion, and \$494,582,280 were gold certificates.

It is an obligation of the Treasury to keep all forms of money coined and issued by the United States at a parity value with gold. The subsidiary coinage consists of silver, which is legal tender up to 10 dollars, and bronze and nickel, legal tender up to 25 cents, but there is no free mint for silver. All subsidiary money is redeemable in lawful money at the Treasury in amounts of twenty dollars. The term "lawful money" includes not only gold but also gold certificates, silver dollars and silver certificates, greenbacks, and Treasury notes of 1890.

The silver dollar is an anomalous survival from the days of bimetallism. Its gross weight is  $412\frac{1}{2}$  grains, nine-tenths fine, or  $371\frac{1}{4}$  grains of pure silver. The silver dollar is full legal tender but is not redeemable in gold. Its average silver bullion value for 1927 was .43338 dollars, but it maintains its currency value because it is not freely coined, can be used for payments of taxes, duties, and other dues to the Government, and be-

8            MONEY AND BANKING SYSTEM

cause of the belief that, if other means of maintaining its parity with gold failed, it would be redeemed in gold. It is a heavy and inconvenient coin and tends to disappear from circulation.

The gold in the Treasury consists of four funds:

	Thousands of dollars 30 June, 1928
Gold reserve fund .....	156,039
Earmarked against gold certificates in circulation .....	1,513,730
Gold fund, Federal Reserve Board .....	1,387,650
General Fund, gold portion of .....	158,195
	<hr/> 3,215,615

The Gold Reserve Fund represents a statutory reserve of \$150,000,000 against United States Notes and Treasury Notes of 1890 together with the surplus earnings of the Federal Reserve Banks. The Gold Fund, Federal Reserve Board, is gold held in the name of the Federal Reserve Board for account of the Federal Reserve Banks and agents and is useful as a means of clearance in the daily settlements between such banks. The General Fund represents all the remaining gold assets of the United States actually held in the vaults of Treasury offices.

## CHAPTER II

### PAPER MONEY

**G**OLD CERTIFICATES are receipts for gold coin or bullion deposited in the Treasury and are, if payable to bearer on demand, full legal tender and redeemable in gold at Washington. Introduced\*, after the resumption of specie payments in 1879, for the convenience of the public, they are as acceptable as gold coin, if not preferred to it, for circulation. It may also be mentioned here that they provide a method of sterilizing surplus gold, for the deposited gold cannot be used as a basis of credit expansion by the Banks.

SILVER CERTIFICATES, issued in various denominations from 1 to 1,000 dollars, were introduced in 1878 in an endeavour to encourage the use of silver money. The silver dollar is unpopular but can be deposited with the Treasury in return for the issue of a silver certificate, redeemable in silver dollars at Washington. The silver certificates are not legal tender but are accepted in payment of public dues, which is also the case with gold certificates payable to order.

\*Gold certificates, first issued in 1865, were discontinued after the end of 1878 but were re-introduced in 1882.

**THE TREASURY NOTES OF 1890** were introduced to pay for the silver purchased under the Sherman Act with the intention of coining the silver and using it to retire gradually the Treasury notes. The Act was a failure, but the few Treasury notes remaining are still full legal tender redeemable in gold or silver at Washington.

**UNITED STATES NOTES, or Greenbacks,** were originally issued to meet the emergencies of the Civil War. On the resumption of specie payments in 1879 there were notes to the value of 346 million dollars outstanding. The issue has since remained at that figure, the notes being legal tender, except for payments of duties on imports and interest on the public debt, and redeemable in gold at Washington and having, as backing, a special gold fund of 150,000,000 dollars provided under the Gold Standard Act of 1900.

**NATIONAL BANK NOTES,** until the establishment of the Federal Reserve System in 1914, provided the most important part of the circulating currency of the country. These are notes issued by the National Banks which are only "national" in contradistinction to the State banks operating under the charters of the various States of the Union. A warning is perhaps necessary here to British readers that neither National banks nor State banks are nationalized in the sense of being socially owned by the people. The State banks issued notes before the Civil War but neither the

regulation nor the security of these notes was satisfactory and they often circulated only at a discount. The issue was abandoned after a tax of 10%, first adopted in 1865, was imposed on all State bank notes.

Meantime the National Bank Act of 1863 had provided a better currency. National Banks, which need a charter from the Treasury, are permitted to issue notes up to the extent of their subscribed capital provided they deposit as cover certain Government bonds to an equal amount with the Treasury. Not more than one-third of the notes can be five dollar notes, and none may be issued for a smaller sum. The note issue is taxed  $\frac{1}{2}$  of 1% if backed by 2% bonds, but 1% if the interest rate on the bonds is higher. The only bonds outstanding which possess the circulation privilege are the 2% consols callable in 1930 and the 2% Panama Canal loans. Each bank has to maintain with the Treasury a fund in lawful money of 5% of its notes issued. The National Bank notes, therefore, fully backed by U.S. Government bonds, limited in amount for each bank to its capital, and supported by a Circulation Redemption Fund, are perfectly safe. Moreover, the shareholders of a National bank have a double liability: should the bank fail they are liable to lose not only their original subscription but as much again. It is not surprising that the holding of a national bank note has never caused the loss



of a dollar to anyone. But though perfectly safe, the note issue has the serious disadvantage of being very badly adapted to the changing requirements of business activity. The note circulation tended to rise and fall with the price of bonds rather than with the state of trade. The Banks were not allowed to issue more notes than the par value of the bonds and, since the eligible bonds were scarce and usually at a premium, any purchase of bonds involved the loss of interest on the premium. The higher interest rates ran, the greater this loss would be, and hence at a time of great business activity and high interest rates the Banks were all the less inclined to purchase bonds and provide additional currency. The note issue was not so much inelastic as tending to a perverted elasticity, the profits on the issue being greatest when the notes were less needed, and least when an extension was required. Furthermore, the total supply of eligible bonds limited the possibilities. If a Government decided to retire a portion of the bond issue, the note issue might be obliged to contract. As the Government were more likely to be able to do this in prosperous times, the note issue would then be forced to contract just at the time when trade activity was demanding more currency, and this in fact did happen. One of the main purposes of the Federal Reserve Act of 1913 was to provide a suitably elastic currency. The National bank notes are not

legal tender but are receivable by all National banks and by the Government in payment of public dues other than import duties and may be paid out by the Government on accounts other than public debt.

FEDERAL RESERVE NOTES are issued at the discretion of the Federal Reserve Board (see p. 27) but only through the Federal Reserve Banks. They are not legal tender but are redeemable in gold by the U. S. Treasury at Washington or in gold or lawful money at any Federal Reserve Bank. The notes, a first and paramount lien on all the assets of the Federal Reserve Bank which issues them, are obtained by the Federal Reserve Bank depositing gold, gold certificates, or eligible paper with the Federal Reserve Agent (see p. 30) but the Bank must maintain a gold reserve of 40% against their notes in circulation and not offset by gold deposited.\* Eligible paper is, briefly, self-liquidating paper of short maturity. It rests with the Federal Reserve Board to define the character of the paper eligible for rediscount

\*The actual words of the Act are: "Every Federal Reserve Bank shall maintain reserves in gold of not less than 40% against its Federal Reserve Notes in actual circulation; provided, however, that when the Federal Reserve Agent holds gold or gold certificates as collateral for Federal Reserve Notes issued to the Bank such gold or gold certificates shall be counted as part of the gold reserve which such Bank is required to maintain against its Federal Reserve Notes in actual circulation."

Of the 40% gold reserve against notes in circulation secured by eligible paper, 5% must be kept on deposit in the United States Treasury.

and their test is not so much the form of the paper as the intended use of the proceeds. An extension of credit not demanded by any increase in the production and the marketing of goods leads to inflated prices and all the evils consequent thereon, but, when there is a real increase in commodity trading, a proportionate extension of credit helps to maintain a stable general level of prices. The main motive, therefore, behind the rediscount regulations of the Board is to restrict rediscounting facilities to the genuine needs of actual trading, and, consequently, advances for the purpose of permanent or fixed investments of any kind, such as land, buildings, or machinery, or for any other capital purpose, are not granted; neither are they granted for speculative purposes such as carrying or trading in stocks, bonds, or other investment securities. Eligible paper, therefore, consists of notes, drafts, bills of exchange, or acceptances, arising out of actual commercial transactions and issued or drawn for agricultural, industrial, or commercial purposes. The maturity at time of discount must not be more than 90 days exclusive of grace. Bonds and notes of the United States Government are, however, eligible, and the Agricultural Credits Act of 1923 permits easier conditions for agricultural paper, for which a maturity of nine months is allowable. While the Board, therefore, desire to limit rediscount facilities to what they regard as legitimate purposes

and frame their regulations accordingly, it does not follow that they are wholly successful in their object and as a matter of fact it has proved, as we shall see, very difficult for them to prescribe the ultimate uses to which the credit granted will be put.

In cases of emergency, the obligation on the Federal Reserve Banks to maintain a gold reserve of 40% against their notes in circulation may be suspended by permission of the Board for a period of 30 days and this suspension may be renewed from time to time for periods of 15 days. So soon, however, as the reserve falls below 40%, a tax of not more than 1% per annum on the excess issue is imposed, and this tax is increased after the reserve has fallen below 32½% to a rate of not less than 1½% on each 2½% or fraction thereof that such reserve falls below 32½%.

THE FEDERAL RESERVE BANK NOTES are a confusing but, as yet, unimportant item in the list of United States paper money. The Federal Reserve Act gave the Federal Reserve Banks the right to issue notes against United States bonds similar to the rights which the National Banks possessed. Such notes were called Federal Reserve Bank notes but were not issued, except for a small amount in 1916, until special circumstances called them forth in 1918. During the War, the British Government were anxious to obtain silver to hold down the rising exchange rate of the rupee;

arrangements were made to enable them to buy silver from the reserves of the United States Government. The Pittman Act of 1918 authorized the issue, up to a maximum of 350 million dollars, of Federal Reserve Bank notes to retire silver certificates, thus setting free the corresponding amount of silver in the silver reserve for sale to Britain. The Act provided for the gradual retirement of these notes by the repurchase of silver at one dollar per ounce.

There are thus eleven different kinds of money in the United States as against four in England, and the question of unifying or simplifying the currency has often been raised. The most important step advocated is the replacement of the National Bank note issue by Federal Reserve notes and the Federal Reserve Act gave the Board authority to purchase bonds bearing the circulation privilege. The National Banks, however, were not willing to sell their bonds; there is a slight profit on the circulation of their notes and the advertising value of a bank note seems to be highly esteemed. Moreover, retirement would involve a considerable loss to the Treasury as the Government could not issue new bonds without the circulating privilege at an interest bearing rate of only 2%. There is also the consideration that, if the gap caused by the retirement of National Bank notes is to be filled by Federal Reserve notes, the latter require 100% gold

collateral or, if obtained against eligible paper, a 40% gold cover, whereas the National Bank notes only require a money backing of 5% in lawful money. Some of these objections lose force if the intention is to replace the National Bank notes by Federal Reserve Bank notes but this plan would not be any advance towards the ideal of making the Federal Reserve Note the one form of paper currency in the country. It is also argued that as the National banks operate under somewhat more limited conditions than the State banks, the privilege of note issue should remain with them as a compensation. For some such reasons as these the Secretary of the Treasury announced in January, 1929, his decision that "it would be inadvisable to submit to Congress at this time a programme looking to early retirement of our National Bank note circulation". If, however, after April, 1930, the Government decide to exercise their right to call in some or all of the 2% Consols, the National Banks' circulation will have to contract, as practically the whole of this bond issue is being used as backing for notes.

## CHAPTER III

### THE BANKS

**T**HERE are about 26,000 banking institutions in the United States. The actual numbers, as about June, 1928, were:—

	Number	Total Resources in Millions of dollars
State Banks .....	15,078	16,291
National Banks .....	7,691	28,508
Loan and Trust Companies .....	1,633	15,230
Stock Savings Banks .....	791	1,707
Mutual Savings Banks .....	616	9,688
Private Banks .....	404	148
	<hr/>	<hr/>
	26,213	71,574

It is commonly regarded as typical of the American banking system that branch banking is, as Professor Taussig said in 1911, virtually unknown. The American system was built up on the idea of the single unit bank and is a striking contrast to the English system of a few large and powerful institutions with innumerable branches throughout the country. Twenty-six thousand banks, all managed independently and competing to various degrees with one another, with no adequate and scarcely any possible leadership

in general policy, no proper centralization of reserves, and a very cumbersome clearing system, would make up a conglomeration impossible to direct or control. If added to these conditions, there should be a currency of hopeless inelasticity and a Treasury keeping its money at whatever banks it chooses and conducting its financial operations mainly independently of the banking system, one would expect the financial history of the country to drift from crisis to crisis and bank failures to be a quite ordinary event. The American problem some twenty years ago was to introduce into such conditions\* some measure of reform which would permit a rational control and result in a greater stability. The National Banks themselves represent an earlier effort to establish a stronger and more stable unit. Such a bank must have at least five partners and requires a charter from the Treasury before it can start business, which charter is only granted on compliance with certain conditions. The capital of the bank

\*"There was little cohesion among the scattered institutions, little of responsible leadership, slight means of effective co-operation, no means of converting bank assets into currency to meet emergency demands or even to care for normal fluctuations in business needs. The country alternated between the extremes of credit inflation and deflation, as either tendency predominated, without guiding or restraining influence, subject to the danger of bank panics and without means of dealing with them. When a bank panic came, the only way of dealing with it prior to the enactment of the Aldrich-Vreeland law, passed shortly before the Federal Reserve Act, was by a general suspension of cash payments." National City Bank of New York: Bulletin October, 1928, p. 160.



must be of at least a certain minimum amount; 25,000 dollars for small towns not exceeding a population of 3,000, increased by gradations to 200,000 dollars for towns of 50,000 or more. A deposit of 25% of the capital is required with the Treasury in United States Bonds up to a maximum amount of 50,000 dollars. Until the Bank has accumulated a Rest fund of 20% of its capital, no dividend higher than 10% may be distributed, and if the State in which the Bank operates has failed to make any law to regulate the rate of interest, 7% is established as the legal maximum. Moreover, the Comptroller of the Currency has considerable supervisory powers. These conditions still remain, but there was, furthermore, the requirement—since amended in detail (see p. 31) but not altered in principle—that a National Bank has to hold a statutory cash reserve proportionate to the amount of its liabilities on deposit accounts. Normally this was 15%, of which only 6% had to be in actual cash, the remaining proportion could be kept in the form of a deposit, not earmarked, with a National bank in one of about fifty of the largest cities. These cities were known as Reserve cities and all the National banks therein had to keep a higher reserve, 25%, half of which might be in the form of a deposit with a National bank in New York, Chicago or St. Louis,\* known as the central reserve cities. So far as actual

\*St. Louis is not now a central reserve city.

cash is concerned therefore, the National banks in the central reserve cities had to keep 25%, those in the reserve cities 12½%, the vast majority elsewhere 6%. The State banks are incorporated under the laws of the various States of the Union and these usually grant their charters on less stringent though somewhat similar terms, but it must be remembered that the State banks are in practice precluded from issuing notes.

In 1908 an attempt was made by the Aldrich-Vreeland Act to furnish a less inelastic currency. Any ten or more National banks whose aggregate capital should not be less than five million dollars and a rest fund of 20% could establish a National Currency Association. Any bank in this group, which had a note circulation of 40% of its capital and desired to increase it, could—instead of buying more United States bonds—deposit securities, including commercial paper, with the Association and apply to the Secretary of the Treasury for sanction for an increased issue. Permission would be granted up to 90% of the value of the State and Municipal bonds deposited but only up to 75% on other security. Individual banks, not in an Association, could also apply on the basis of specified securities but such did not include commercial paper. This was the first attempt in American history to provide an emergency currency. The total amount was limited to 500 million dollars and apportioned over the country.

Retirement of the currency after the emergency had been met was ensured by a tax of 5% per annum for the first month and an additional 1% every subsequent month up to a maximum of 10% per annum.

The Aldrich-Vreeland Act remained in force until the Federal Reserve System was established by the Act of 1913 which, as the preamble runs, was "to provide for the establishment of Federal Reserve banks, 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." The Aldrich-Vreeland Act actually expired on 30th June, 1915, having been extended for one year in order to provide for possible emergencies that might arise during the erection of the Federal Reserve System, but amended as to the tax rates which were reduced to 3% during the first three months and an additional ½% for every subsequent month up to a maximum of 6%. Not previously utilized, the Act proved very useful during the War crisis of 1914, the emergency currency thus provided reaching a maximum outstanding circulation of \$386,616,900 on 24th October, 1914, practically all of which had been retired by the date of expiration of the Act.

The Federal Reserve Act is one of the most sweeping and elaborate measures of banking reform that any legislature has ever sanctioned,

and one may say of it what Jevons said of the English Bank Charter Act of 1844, that it is a monument of sound and skilful financial legislation, and even as Mill said of the same act that the mitigation of commercial revulsions was its real and only serious purpose, so too may this be said of the American Act.

But before passing on to the Federal Reserve Act, a correction is necessary to the impression that branch banking is still virtually unknown. The State banks operate under State law, and the establishment of branches is prohibited by twenty-one States, though of these nine permit existing branches to operate. Twenty-one States permit the establishment of branches but eleven of these States restrict such branches to the home city or county of the parent bank. The remaining six States have no specific provision by statute in this matter but have no branches in operation. The National banks in the exercise of their statutory powers are under the supervision of the Comptroller of the Currency and he may permit them on application to establish a branch office, but only for the receipt of deposits and payment of cheques and similar routine functions, and only within the limits of the same town in which the head office is situated. Without this permission they would have been at a very serious disadvantage in competing with State banks, especially in the larger cities.

The position with regard to State banks, having branches outside the parent city, who wish to join the Federal Reserve system as member banks, has been settled by the McFadden-Pepper Act of 1927. They may retain and operate such branches as were in existence before the date of approval of this Act (25th February, 1927) but will have to relinquish any such branches subsequently established.

The obstacles placed by law against the growth of larger banking units have not unnaturally led to attempts at circumvention: two forms of which may be noted. A system of interlocking directorates might well organize a number of banks into one unit, but the Clayton Act of 1914 forbade such directorates for National banks if their aggregate capital, rest fund, and deposits were above five million dollars, and prohibited any director of State banks of similar size from becoming a director of any National bank. It also prohibited a director of a National bank, even below the five million dollar limit, from becoming a director of any other bank located in the same city if the population was over 200,000. These conditions were relaxed somewhat by the Kern amendment of 1916 which allows a director of a member bank to be a director of not more than two other banks, State or National, provided that these banks are not in substantial competition with his original member bank. The resulting position was not

satisfactory for, as the Federal Reserve Board reported in 1923: "the Act operates in an illogical way and often defeats the very purpose for which it was enacted. It empowers the Board to permit interlocking directorates between banks which are not in substantial competition, even though they have deliberately eliminated competition; but it does not authorize the Board to permit such relationships between banks which have become active competitors in spite of the presence of common directors on their boards." In 1928 an amending Act authorized the Board to grant permits to serve not more than three banks in the prohibited classes if in their judgment the issuance of such a permit was not incompatible with the public interest.

A second possibility of circumvention is when, either through a holding company or some such device, a group of banking institutions are brought under one control. Such a development is known as "chain banking" and legislative prevention appears difficult.\*

\*"Since such companies are not directly engaged in the business of banking as defined in Federal and State statutes, they have not been subject to supervision or regular examination by banking authorities. In some respects the control exercised through stock ownership over a group of banks operated as a system is similar to that exercised by a parent bank over its branch offices. This character of the financial company brings it clearly within the field of banking activities, and banking officials have been urged to subject developments of this character to careful scrutiny."—Federal Reserve Board Annual Report, 1927, p. 32.

26            MONEY AND BANKING SYSTEM

The development of branch banking as in June, 1928, is shown in the following table:

	Number of banks operating branches	Total number of branches
National Banks .....	169	941
State Member Banks .....	186	1,220
State Non-Member Banks .....	480	1,069
	<hr/>	<hr/>
Total .....	835	3,230

Of the 835 banks, 469 were operating only one branch; while of the 3,230 branches, no less than 2,214 were located in the home city. California has a greater development of branch banking than any other State and one system there has 289 branches. Elsewhere the development has been very largely one of home city branches in the great commercial cities; one Detroit bank, for example, was operating 93 branches and one New York bank 66.

## CHAPTER IV

### THE FEDERAL RESERVE ACT

**T**HE Federal Reserve Act, which received approval on the 23rd of December, 1913, created the Federal Reserve Board to exercise general supervision over the new system which the Act established. The Board consists of eight members: the Secretary of the Treasury, who is Chairman, and the Comptroller of the Currency, *ex officio*, and six members appointed by the President by and with the advice and consent of the Senate. In his selection the President must have due regard to a fair representation of the financial, agricultural, industrial and commercial interests and geographical divisions of the country and in no case shall more than one member be selected from any one Federal Reserve district. The members are appointed for a term of ten years, subject to removal by the President for due cause; they receive an annual salary of \$12,000 and have to devote their whole time to the work. One of the six members, at present (1929) Mr. Roy A. Young, is designated by the President to be Governor of the Board and is the active executive officer.

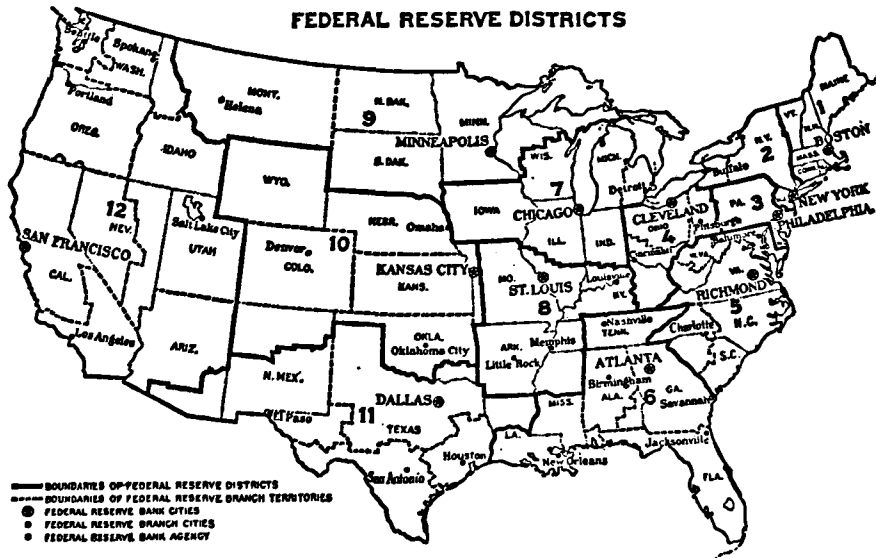


In accordance with the Act, the United States has been divided into twelve districts in each of which a Federal Reserve Bank has been established in a selected city.

The capital of a Federal Reserve Bank, which must not be less than four million dollars, was obtained by a levy of 6% on the paid-up capital and rest fund of all banks entering the system, half of which levy had to be paid in gold or gold certificates within six months of entry and the other half remained subject to call. The Act provided that, if this arrangement did not produce the necessary minimum capital, public subscriptions, limited to 25,000 dollars for any individual or corporation, could be resorted to, while the Government itself underwrote the issue. The National banks had to join the system within a year or lose their charters. State banks might be allowed to join on similar terms of subscription, but subject to the rules and regulations of the Federal Reserve Board. On August 21st, 1929, there were 1,168 State banks which were members of the system.

Every Federal Reserve Bank is governed by a board of nine directors holding office for three years. These directors fall into three equal categories: Classes A and B are elected by the member banks, class A being bankers and class B men actively engaged in commerce, agriculture, or some other industrial pursuit. Class C directors

## FEDERAL RESERVE DISTRICTS



THE FEDERAL RESERVE ACT

*Courtesy of Federal Reserve Board, Washington, D.C.*

are appointed by the Federal Reserve Board from persons of at least two years residence in the district, and the Federal Reserve Board designates one of these three, who must, however, be a person of tested banking experience, to be the Federal Reserve Agent and Chairman of the Directors. The chief executive officer of a Federal Reserve Bank—the general manager so to speak—is appointed by the Board of Directors and is known as the Governor.

Provision is also made in the Act for a conference at least four times a year at Washington between the Federal Reserve Banks, who each send one delegate, and the Federal Reserve Board. The twelve delegates are known as the Federal Advisory Council. Such personal intercourse may have some value in maintaining a sympathetic understanding between the banking and business world and the Board, but, beyond that, it is improbable that the Council will ever have very much significance.

The Federal Reserve Bank is intended to be a Bankers' Bank not conducted for the purpose of profit-making and, generally speaking, not competing with the ordinary commercial banks for business although it has legal authority to purchase and sell United States Government Bonds and certain other specified securities and eligible paper in the open market. The dividends payable by the Bank are accordingly limited to a cumulative 6% and any further surplus went to build

up a rest fund equal to the subscribed capital. Now that that has been achieved, 10% of the surplus is allowed to be added to the rest fund while the remaining 90% is paid over to the United States Treasury. The aggregate capital of the Federal Reserve Banks at the end of February, 1929, was \$151,000,000 and their surplus or rest fund \$254,000,000.

The two most important immediate purposes for which this system of central banks was established were to provide a new and more elastic form of currency obtainable through rediscounting operations and to accomplish the centralization of gold reserves. The Federal Reserve note has already been described but the centralization of the gold reserves was brought about by the provision that all member banks had to keep their reserves with the Federal Reserve Banks. This centralization made it possible to economize gold to a considerable degree and, instead of the former 15% and 25% ratios, it was, after some experimentation, laid down by law that all member banks had to keep 3% of their time deposits and 13, 10, or 7% of their demand deposits as an actual net balance with the Federal Reserve Bank. The last three percentages refer to banks in central reserve, reserve, or other cities respectively, while demand deposits are taken to include all deposits payable within thirty days. It is these amounts which are referred to as the Legal Reserves of Member Banks, but beyond these any Member

Bank or the United States Government may keep any surplus funds on deposit with a Federal Reserve Bank which must maintain, in gold or lawful money, a reserve of 35% of the total deposits received. This condition of a 35% reserve, like the 40% reserve against notes, may be suspended by the Federal Reserve Board for an initial period of 30 days and subsequent periods of 15 days subject to the same graduated tax on the permitted deficiency.

The essential arrangements are shown summarized below:

**WHAT MUST COME IN:**

3% of Member Banks' Capital in Gold or gold certificates.

Member Banks' Legal Reserves:

3% against time and 13, 10 or 7% against demand deposits, but these can be withdrawn so long as the Bank concerned pays no dividend and makes no new loans.



**WHAT MAY COME IN:**

3% of Member Banks' Capital, if called up.  
Government Deposits, if made by the Treasury.  
Surplus Funds deposited by Member Banks.  
Profits of rediscounting and interest on investments.



**WHAT MUST STAY IN:**

35% of liabilities on deposits.

40% of liabilities on notes issued but 5% of this 40% must be kept with the United States Treasury.

The objective in Federal Reserve discount policy is the constant exercise of a steadying influence on credit conditions, and the following quotation gives the Board's own exposition:

“The Federal Reserve Banks are the country's supplementary reservoir of credit and currency, the source to which the member banks turn when the demands of the business community have out-run their own unaided resources. The Federal Reserve supplies the needed additions to credit in times of business expansion and takes up the slack in times of business recession. It is its responsibility to regulate the flow of new and additional credit from its reservoirs in accordance with solid indications of the economic needs of trade and industry. When production, trade, and employment are in good volume and the credit resources of the commercial banks of the country are approximately all employed and there are signs neither of speculative business expansion nor of business reaction, Federal Reserve bank rates should be neither so low as to invite the use of credit for speculative purposes nor so high as to discourage its use for meeting legitimate productive needs of the business community. It seems clear that if business is undergoing a rapid expansion and is in danger of developing an unhealthy or speculative boom, it should not be assisted by too easy credit conditions. In such circumstances the creation of additional credit by rediscounting at

34            MONEY AND BANKING SYSTEM

Federal Reserve Banks should be discouraged by increasing the cost of that credit—that is, by raising the discount rate. It seems equally obvious that if industry and trade are in process of recovery after a period of reaction, they should be given the support and encouragement of cheaper credit by the prompt establishment at the Federal Reserve Banks of rates that will invite the use of Federal Reserve credit to facilitate business recovery. The reason for variable Federal Reserve discount rates is the necessity of adjusting rates to these changes in business and credit conditions.”\*

\*Tenth Annual Report, p. 10.

## CHAPTER V

### OUTLINE OF THE MECHANISM OF CREDIT CONTROL

**W**E are now in a position to apprehend the broad outlines of the system of credit control. If the community always made all payments by cheques, a Member Bank could extend credit indefinitely subject to the necessity of maintaining its legal reserves against its liabilities on deposits. As, however, all people use cash for some payments and some people use cash for all payments, the Banks have to see that they are always in a position to meet demands for cash. For this purpose they have a regular line of defences: first of all their own cash in hand and their own unissued National Bank notes, with the possibility also of obtaining more cash by realizing some of their own more liquid assets; secondly, they can draw out their surplus funds from their balance at the Federal Reserve Banks and, when these have been exhausted, they can obtain additional notes by re-discounting eligible paper with the Federal Reserve Banks, who can accommodate them to any extent subject to maintaining their own 40% reserve or obtaining sanction to allow a deficiency.



If the demand for increased credit is caused by a mere speculative boom, the Banks are usually unable, even if they wished, to extend credit very far, because the collateral they receive is not eligible for rediscount at the Federal Reserve Bank. If, on the other hand, there is genuine business prosperity and increased production, the Banks can finance this by rediscounting the commercial paper which comes to them. It is, however, not the intention that a permanent increase of business activity should be carried by Reserve Bank credit. The Member Banks always endeavour to repay loans from the Reserve Banks as soon as possible.\*

For example, at Christmas time and the turn of the year there is always a large demand for additional cash; this, being a temporary demand, can be and is legitimately met by an extension of Reserve Bank credit. The position is different when one considers a demand for cash growing

\*"It is a generally recognized principle that Reserve Bank credit should not be used for profit, and that continuous indebtedness at the Reserve Banks, except under unusual circumstances, is an abuse of Reserve Bank facilities. In cases where individual Banks have been guilty of such abuse, the Federal Reserve authorities have taken up the matter with officers of the offending banks and have made clear to them that their reserve position should be adjusted by liquidating a part of their loan or investment account rather than through borrowing. Abuses of the privileges of the Federal Reserve system, however, have not been general among the Member Banks. The tradition against continuous borrowing is well established and it is the policy of the Federal Reserve Banks to maintain it." Federal Reserve Bulletin, March, 1929, p. 177.

steadily larger in amount as the trade of the country increases in volume. The commercial Banks can finance this up to a point, but have to maintain not only an increasing legal reserve against their increasing liabilities but also an increasing amount of cash in order to retain the proportion between cash and liabilities which experience has taught them is necessary for safety. Whence comes this additional cash? In an emergency, it comes by rediscounting with the Federal Reserve Banks, but when it is not an emergency but a steadily growing demand, the remarks quoted in the footnote suggest that the Member Banks are expected to obtain the additional cash by realising on their investments. This would enable them to build up their legal reserve and to issue more loans against it, but it would not increase the total amount of cash in circulation since the investments must have been sold to somebody. Unless there are hoarded savings outside the Banks—which savings are unlikely to exist to any amount—the demand for cash from the public would be stimulated rather than otherwise by the Banks' action in selling investments and the Banks would be driven by considerations of safety to restrict credit. If they attempted to avoid this by application for rediscount, the Federal Reserve Banks can repel them by a rising rate of discount or a simple refusal to lend. The restriction of credit thus necessarily

brought about, reinforced in its effect by the previous greater output of commodities, causes a fall in the general level of internal prices which, encouraging exports and discouraging imports, attracts gold from abroad, upon which basis the additional cash can safely be provided to permit of the extension of credit to finance the growing trade.

It is thus seen that the ideal monetary and credit policy is not that the general level of prices in any country should be kept perfectly stable: such may be the correct policy with regard to the general level of World prices, if such a thing exists, but for any country whose trade is increasing more rapidly than the increase of World trade generally, a fall in internal prices is normally necessary in order to obtain a proportionately larger share of the World's gold without which its credit structure would become unsafe. That the Federal Reserve Board have aimed during the last five or six years at maintaining a stable price level is explainable by the fact that the United States have always had, since 1922, a generally increasing volume of trade and more gold than they needed. Increasing trade tends to lower prices; surplus gold would justify higher; the middle path of caution is to keep to the existing level and leave the surplus gold sterilized and unused. It is this surplus gold in the United States which has introduced a random factor into the working of the

Gold Standard. The World is on the dollar standard and probably would prefer to get back to the relative certainties of the gold standard. There is also the consideration of how long the United States will care to bear the burden of keeping a large supply of gold idle and unprofitable. The logical policy of pursuing a line of action which would tend to rising prices in the United States and a dispersal of surplus gold is one which, however correct in theory, is beset with difficulties in practice, of which the chief is the generation of a speculative boom tending to pass out of control. If the United States holds to her own price level, the alternative appears to be, apart from what may be achieved by American investments abroad, that the rest of the World must lower their own prices until they force a drain of the surplus gold towards themselves. This, of course, if attained by financial policy and not by increased production, involves for them restricted credit, falling prices, stagnation of trade, and unemployment. Hence the necessity for collaboration between the Federal Reserve Board and the Central Banks of the rest of the World in order that both sides should do whatever is possible and expedient to facilitate that redistribution of the World's gold without which the monetary and financial systems will never gain a satisfactory equilibrium. It would be unfair to force Great Britain into a policy involving an in-

crease in the already great volume of unemployment; it would also be unfair to expect the United States to permit themselves to become involved in a stupendous speculative gamble. Already both countries have progressed in their respective policies almost to the point of danger and the true policy now seems to be one of cautious nibbling from both sides conducted in an atmosphere of good-will and mutual understanding.

The necessity for the repayment of War Debt to the United States must postpone the time before a final reasonable redistribution of the World's stock of gold is accomplished. The longer the period is, the longer will the United States presumably have to bear the cost of carrying large stocks of surplus gold idle. It is this consideration which might furnish some support to a belief in the advantage of wiping out a portion of the War Debts. If it is true that the gold which the United States receives, she dare not in her own interests fully use, there does not seem to be a strong case for insisting on the full repayments in face of the undoubted advantage to the whole world of a complete restoration of the Gold Standard based on a proper distribution of the World's stock of gold.

The following table shows the reserve position of the Federal Reserve Banks at the end of February, 1929:

## MECHANISM OF CREDIT CONTROL 41

	Thousands of dollars
Total notes in circulation .....	1,664,542
Required reserve, 40% .....	665,816
Total Deposits .....	2,408,597
Required reserve, 35% .....	843,008
Total required reserve .....	1,508,824
Actual total gold reserves held .....	2,676,805
Gold surplus to requirements .....	1,167,981

It is clear how this figure of \$m1,167\* has been obtained, but the precise sense in which it may be regarded as "surplus" is somewhat vague. If all the notes had been obtained by depositing eligible paper, the figure would represent a real free surplus, but since the eligible paper does not, and would not, exist to anything like this amount, a large proportion of the notes were, and would only be, obtained by depositing gold collateral allowed to count towards the total gold reserves, and thus a considerable portion of this \$m1,167 is tied up. The Federal Reserve Note is in effect equivalent to a gold certificate, except that the issue includes a fluctuating fiduciary amount backed primarily by commercial paper and Government securities.

An alternative calculation for February 27th, 1929, of the free gold, using the method of Sprague and Burgess, gives the following result:

\*This symbol \$m is used henceforth to denote millions of dollars.

	Thousands of dollars
Total cash reserves (gold and lawful money) .....	2,844,164
Federal Reserve Notes issued to Federal Reserve Banks .....	2,056,354
Eligible paper held as collateral....	1,240,409
<hr/>	
Gold collateral required against notes .....	815,945
Gold redemption fund (equalling 5% of those notes secured by eligible paper) .....	62,020
<hr/>	
Total Gold required against notes	877,965
Gold or lawful money required against deposits (equalling 35% of total deposits of \$2,412,972,000	844,540
Total gold or lawful money required against notes and deposits	<hr/> 1,722,505
Excess of gold over requirements	1,121,659

Any decision, however, as to what is really surplus gold from the point of view of national currency needs, would have also to take into consideration whether it is necessary to have in circulation a total non-fiduciary currency, which, on the date of reference, amounted to \$2,128,905,000, made up as follows:

	Thousands of dollars
Gold in coin .....	377,512
Gold certificates .....	935,448
Federal reserve notes secured by gold collateral..	815,945

The total monetary gold stock in the United States was estimated for the same date at \$m4,154.

an amount little less than half the total monetary gold stock of the World, and \$m2,263 more than she held at the end of June, 1913.

Monetary Stocks of Gold in millions of dollars.\*

	World	United States	British Is.
31st Dec., 1926 .....	9,568	4,502	751.
31st Dec., 1927 .....	9,650	4,379	761.

There is also the consideration that a monetary and credit policy which aims at a dispersal of surplus gold can be advanced or hampered by the trade policy of the country. A full discussion of the tariff policy of the United States cannot be included here, but there are reasons for regarding the present trade policy as almost diametrically opposed to the credit policy. The Federal Reserve Board have stated that they have encouraged the outward movement of gold and have always considered a better distribution of existing gold reserves to be in the interests of better monetary and trade conditions throughout the World. The high tariff on imports undoubtedly restricts the import of goods and tends to force other countries to pay in gold or go into debt in so far as other methods of settlement prove, as they are proving, inadequate. To quote Professor Cassel in his evidence before the House of Representatives Committee on Banking: "If the United States wished to increase their export of goods,

\*Report of the Director of the U. S. Mint, 1928. p. 212.



as they really wish to do, finding new markets all over the world, and if the United States did not like very much to import commodities from other countries, the result would be a surplus in your balance of trade. But in the long run that is impossible if you do not have at the same time a corresponding export of capital. If you have not the corresponding export of capital, the result will be that the foreign countries will have to pay you in gold, and that will be very unsound, both for the other countries and for you, because you can not use this gold for any reasonable purpose.”\*

Nor can we refrain from adding a quotation from a writer in the *Monthly Review* (July-August, 1929) of the Midland Bank: “If a creditor country takes all possible steps to expand her exports to foreign markets and at the same time maintains an attitude of active dislike for foreign imports, then her investments abroad must pile up and up indefinitely. If the seller insists on selling and prefers not to buy, there is only one possible result. The buyer must go further into debt—always assuming the new debts are not balanced by the cancellation, with or without the consent of the creditor, of old debts. There is always the bankruptcy court at the end of the road, and it is an interesting speculation how far nations, as economic entities, can in practice go into debt without plugging the wells

\*H. R. 11806, p. 373.

of accommodation. On the answers given to specific questions arising from this general problem hangs the formulation of a wise, far-seeing policy for American trade."

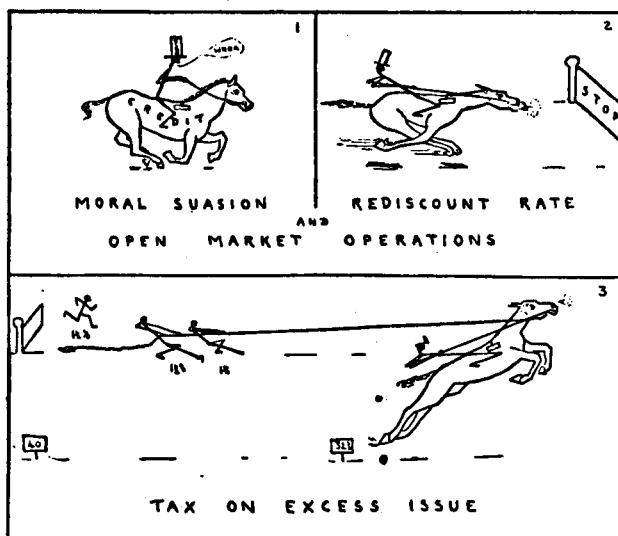
On the commercial banks of the country lies the moral responsibility for controlling credit wisely; they must not grant credit on such easy terms that a false optimism will be generated and cause both existing enterprises to expand unduly their output and a multitude of new speculative enterprises, many foredoomed to failure, to arise. Nor should they demand so high a rate of interest that sound expansion will be unnecessarily delayed. If the spur of competition in the one case, or timidity in the other, or misjudgment in either, is leading to an unwise management of credit, there is the Federal Reserve Board, operating through the Federal Reserve Banks, to attempt to exercise an ultimate control. The Board's weapons are warnings and moral suasion, open market operations, and the rediscount rate. In the case of an undue expansion of credit, the Board, if their warnings are disregarded, can charge a higher rate for rediscount, thus forcing the commercial banks, if they are coming for rediscounts, to recoup themselves by charging a higher rate to their customers, which will lead to credit restriction. If the rediscount rate threatens to be ineffective because the Banks have sufficient funds of their

own to be able to meet demands without having recourse to rediscounting, the Federal Reserve Banks can take funds out of the market by selling securities and ceasing to buy bills in the open market, with the result that the Banks are forced to rediscount and the rate becomes effective. The Board can be pictured as a rider on the horse of Credit Expansion, which, carrying the fortunes of national economic welfare, is threatening to run away. The first attempt to stop it may be merely calling out "Whoa!"—moral suasion—the next to pull at the reins—the discount rate—but the reins must be effective, the horse must not have the bit between its teeth, and the proper biting represents an adequate use of open market operations. If all these restraining methods fail to check its race to destruction, there is still across the road the barrier of the needed 40% reserve against the Federal Reserve Note issue. The horse, however, since it carries the precious burden of national welfare, cannot be allowed to dash itself against the barrier. When that becomes imminent, the barrier is swung aside, but the horse in passing is lassoed and an ever greater drag is exercised in the shape of the graduated tax on the excess issue.

On the other hand, if the horse will not go fast enough, the rider has the spurs of a reduced rediscount rate or the whip of putting additional funds into the market by buying securities and bills in

the open market; though these are carrots held in front of the horse rather than whip and spur.

It may be mentioned here that a certain amount of caution is necessary in comparing money rates



in London with those in New York. A general impression exists that the official Bank rate of the Bank of England is kept higher than the market rate while in New York the Federal Reserve Banks' rate of rediscount is maintained below the market rates, and this is difficult for British students to understand. It is not, however, certain that the English bank rate and the rediscount rate

of the New York Federal Reserve Bank are strictly comparable; while what are called market rates in the two countries may be used with reference to different classes of paper, or even to the same class of paper though<sup>o</sup> of a different relative volume and importance in the two countries.\*

It would, nevertheless, seem that there is a temptation in the United States for Member Banks to rediscount customers' paper and relend the proceeds because of the profit to be gained; the assumption, however, is that they do not so act, the tradition against continuous borrowing is well established and it is the policy of the Federal Reserve Banks to maintain it.

\*For a discussion of this matter, the student is referred to the Tenth Annual Report of the Federal Reserve Board, p. 8, and to Willis and Steiner: Federal Reserve Banking Practice, c. XVII.

## **PART 2**

### **THE OPERATION OF THE FEDERAL RESERVE SYSTEM**

## CHAPTER I

### UP TO THE ARMISTICE, NOVEMBER, 1918

**A**N understanding of the credit and banking system of any country is perhaps better attained by a study of the history of its operation than by a purely theoretical investigation of the machinery. The first years of the Federal Reserve System, however, were the wild years of a World War. The Federal Reserve Board was not organized until a fortnight after the outbreak of the War in Europe, nor were the Federal Reserve Banks opened for business until November, 1914. However interesting it might be to follow the fortunes of this new type of vessel launched straight from the slipways into such stormy seas, it is rather the normal navigation of peacetime with which we are concerned. Accordingly we pass over the history of the War period with only a few brief remarks which can be grouped conveniently under two periods.

(1). From the inception of the Federal Reserve System to the entry of the United States into the War in April, 1917. There was an inflow of gold into the United States which, for the three years 1915-1917 inclusive, amounted to \$m1,111. With

this gold available as a basis of credit, the commercial Banks found it possible to meet all demands without needing to have recourse to rediscounting. They deposited the gold with the Federal Reserve Banks and drew notes, as required, against it. Any action of the Federal Reserve Board in fixing discount rates was therefore ineffective since little or no paper was coming forward for rediscount. Moreover the System was weakened by the failure of the State Banks, for various reasons, to join. By June, 1917, only 53 State Banks and Trust Companies had become members.

(2). From the entry into the War until the Armistice. This was a period of inflation and rising prices. The influx of gold stopped and, to prevent a possible outflowing, the export of gold was prohibited in September, 1917. This was only following the example set by other belligerents but it is at least doubtful whether, considering all aspects of the case and the special circumstances of the United States, an embargo on gold export was a necessary or wise policy. With prices rising and an increased demand for currency to finance the production of War and other materials, the commercial Banks were forced to extend their credit by a resort to rediscounting with the Federal Reserve Banks. This necessity was, however, delayed for a short time by the alterations in the Federal Reserve Law in 1917 which reduced



the percentage of member banks' legal reserve required while demanding that thenceforward it should be deposited entirely with Federal Reserve Banks. At the same time more favourable terms were offered to induce State Banks to join and a Presidential appeal was made with the result that by the end of 1918 the total membership of State Banks and Trust Companies had increased to 936 out of an approximate possible number of 8,500. They were, moreover, the larger and more important institutions and represented 54% of the total banking assets of all State Banks eligible for membership.

The index number of wholesale prices which, based on 1913 as 100, had been 97 for July, 1914, and 173 for April, 1917, rose to 203 for the Armistice month of November, 1918. The following table illustrates the inflation:

## FEDERAL RESERVE BANKS

	Millions of dollars	
	30 March 1917	8 Nov., 1918
Federal Reserve Notes in actual circulation .....	357	2,558
Bills discounted .....	20	1,797
Net Deposits .....	706	1,552
Ratio of total Reserves to Net Deposit and Federal Reserve Note liabilities combined .....	89%	49.8%

It may be said of the War years, therefore, that the increased demands for currency in the United

**54            MONEY AND BANKING SYSTEM**

**States were, broadly speaking, met during 1914-1917 by the steady influx of gold from Europe, from 1917 to the Armistice by an extension of credit mainly for Government finance.**

## CHAPTER II

### THE POST-WAR BOOM: NOVEMBER, 1918, TO JUNE, 1920

**F**OR the Armistice week the Federal Reserve Banks showed the following figures:

	Millions of dollars
Net deposits .....	1,665
Required Reserve of 35% .....	582
Federal Reserve Notes in circulation .....	2,562
Required Reserve of 40% .....	1,025
Total Required Reserve .....	1,607

Their Gold Reserve actually held amounted to \$m2,109, equivalent to 49.9% of the combined liabilities on notes and deposits.

They therefore held a stock of surplus\* gold of \$m501. The Federal Reserve Bank Rate was 4% as against the Bank of England's 5% and the index number for United States price level was, for November, 1918, 203 as against the British (Statist) index number of 229 paper, or 224 converted to a gold basis.

With the War finished, a large surplus gold stock in the Federal Reserve Banks of \$m501, and a price level below that of all the European

\*See the discussion of "surplus" on page 41.

belligerent countries, and her money at a premium on their exchange, the United States entered on the post-war period with no apparent need to prevent an expansion of credit. On the 7th June, 1919, the embargo on the export of gold was removed. All through 1919 credit expansion swelled. The surplus gold, which had increased to \$m665 on the 6th June, had by the end of the year dwindled to \$m315. For the year there was a loss on balance of gold exported of \$m292, mainly to Japan and the Argentine, but the surplus gold was also reduced by a shifting from the surplus to the legal reserve owing to an expansion during the year of \$m153 in deposits and \$m410 in the Federal Reserve Note issue.

Now came the first peacetime test of the Federal Reserve System. Just as a fall in the Reserve of the Bank of England is normally an indication that defensive measures should be taken by raising the Bank rate of discount, so a fall in the gold reserves of the Federal Reserve Banks towards their legal limit is a signal of danger in the United States. At the close of 1919 it was the conviction of the Federal Reserve Board that a substantial advance in all discount rates was necessary. There had been an increase in the total of bills discounted and bought by the Federal Reserve Banks from \$m2,120 at the beginning of 1919 to \$m2,780 at its close. On the 23rd January, 1920, the total rediscounts and earning assets of the

Federal Reserve Banks amounted to \$m3,030, an increase since the 19th September, 1919, of \$m680, a rate of expansion for that period of nearly 30%, while at the same time their gold reserves had declined.\*

Accordingly during the last week of January, 1920, the discount rates were raised, that on commercial and industrial paper maturing within ninety days being put up from  $4\frac{3}{4}$ —at which figure it had stood since 1918—to 6%. It would appear that the rate should, on strictly financial grounds, have been raised earlier but the delay was due to the Board's desire to aid the Treasury in the efforts to reduce the floating debt. "It is evident," the Board reported, "that an advance in discount rates while the Government had an unwieldy floating debt and Liberty Bonds were still unabsorbed would have added to the difficulties of Government financing. While regulation and control of credit have been as desirable since the War restrictions were removed as before, the Board was convinced that to attempt this control through premature adjustments of rates would be so detrimental to the Treasury's position as to offset, if not prevent entirely, the results

\*"The pyramiding of credits was proceeding at an alarming degree," reported the Federal Reserve Bulletin, "and it was evident that, if expansion should continue and proceed at such a rapid rate, it would be merely a question of time until the credit structure of the country would explode." Op. cit. vol. 7, p. 895.

sought."<sup>3</sup> Hence the delay, and hence the sudden jump to 6% when the Treasury's needs had been so far met that a rise was considered permissible. But meantime business activity and speculation had been gathering speed. The price level of 203 in November, 1918, which had receded to 193 in February, 1919, had risen to 233 by January, 1920.

Diagram 2 illustrates Federal Reserve Board policy during 1919 and 1920.

G - G Total cash reserve held by Federal Reserve Banks, by weeks.

L - L Total gold reserve required by law, by weeks.

G - L Surplus gold in excess of required reserves.

B - B Total of bills discounted for member banks, last weekly report of each month.

P - P Index number of wholesale prices (Bureau of Labour), monthly averages.

The discount rate quoted is for commercial or industrial paper maturing within 90 days.

An advance in the discount rate, which might have been adequate to check borrowing when prices were not rising rapidly, was no longer of avail when the higher prices promised profits sufficient to cover the increased cost of money. Had the business community been convinced that the higher discount rate meant a fall in prices, the result of the Board's action in January might have been efficacious in checking credit expansion, but there was a great deal of doubt existing at the time both as to the desire and as to the power of

<sup>3</sup>Federal Reserve Board Sixth Annual Report, p. 3.

# THE POST-WAR BOOM

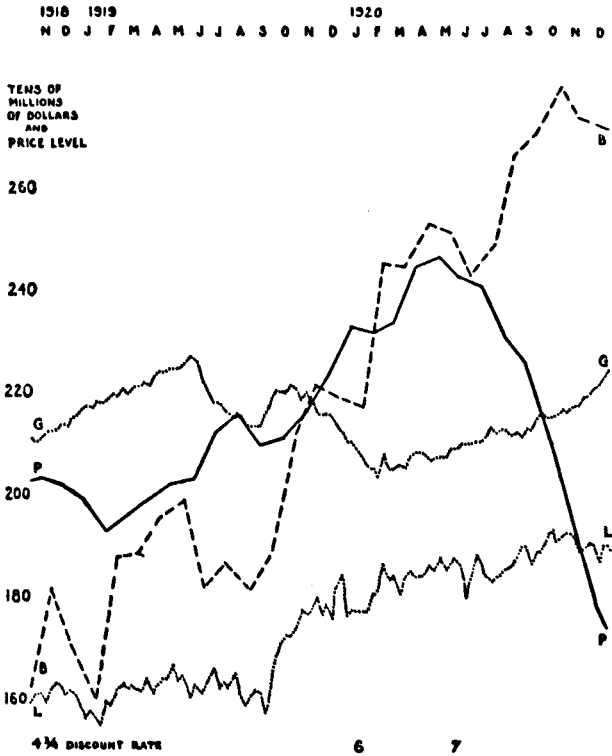


DIAGRAM 2

the Board to influence the price level. This is a point which merits attention. In England an increase in the Bank rate is recognized by the business world as tending to reduce the general level of prices. The process has nowhere been more succinctly explained than in the Cunliffe Report: "The raising of the Bank's discount rate and the steps taken to make it effective in the market necessarily led to a general rise of interest rates and a restriction of credit. New enterprises were therefore postponed and the demand for constructional materials and other capital goods was lessened. The consequent slackening of employment also diminished the demand for consumable goods, while holders of stocks of commodities carried largely with borrowed money being confronted with an increase of interest charges, if not with actual difficulty in renewing loans, and with the prospect of falling prices, tended to press their goods on a weak market. The result was a decline in general prices in the home market." But in the United States this general recognition of the effect of changes in the discount rate on the price level did not, and to quite a considerable degree does not to-day, exist. The Federal Reserve Board themselves, not without reason rather sensitively timid towards popular opinion, have generally been anxious to deny their power or desire to control the price level while avoiding any discussion as to the extent to which they can influence it.



The efficacy of the discount rate as a weapon depends largely upon faith. It is the prospect that falling prices will result from a rise in the rate which checks speculation and borrowing rather than the comparatively slight matter of paying a little more for the loans, and, if the community does not believe this, a much more drastic rise is required until, perhaps, the sheer cost of borrowing induces a check in credit expansion. The reaction, once control is gained, is of course all the more severe.

Thus the raising of the discount rate to 6% in January, 1920, while temporarily checking the rise in the price level, did not stop the expansion of credit. By the end of May the total earning assets had increased to \$m3,244. The export of gold continued; during the first three months of the year there was an excess export of \$m104, and on the 14th May the surplus gold had diminished to \$m201 with the prospect that, unless something were done, it would have vanished completely in a month. Had this happened the Federal Reserve Board would have had to sanction an excess issue permitting a deficiency in the 40% Reserve, an action comparable in its necessity and unpleasantness to the emergency action of the British Government—but, since the 1928 Act, of the Treasury—in sanctioning an excess in the fiduciary issue of the Bank of England. In June, therefore, to prevent this occurring, the dis-

count rates were again raised, on commercial paper to 7%, on paper secured by Liberty Bonds or Victory notes to 6%. This action proved sufficient. The May, 1920, price level of 247 was the highest point ever reached and the same month marked also the highest level of net demand deposits of Member Banks. The volume of rediscounted bills, however, did not at once decline, for with the breaking of the boom many traders were in difficulties and required time to liquidate their positions. It is just for this purpose of being able to extend credit in a crisis that the rediscounting facilities of a Central Bank are established. The volume of bills discounted for Member Banks did not reach a peak till October, in the middle of which month the surplus gold reserve was still only \$m220. But there was no longer any anxiety about the position as the Board had gained control, and after October with continued falling prices and an inflow of gold from abroad, the surplus gold rapidly accumulated.

It is of interest to note that since 1920 there has never been any danger of inadequate gold reserves. The subsequent policy of the Federal Reserve Board has never been dominated by the necessity for safeguarding the 40% proportion but has been directed towards the control of credit in the interests of steady and sound progress in business activity.

## CHAPTER III

### THE CATASTROPHIC FALL IN PRICES: JUNE, 1920, TO JANUARY, 1922

**I**N this account of the working of the Federal Reserve system there is no desire to manifest the Federal Reserve Board as omnipotent in controlling credit conditions and price level. The catastrophic fall in prices, which brought down the index number from 247 in May, 1920, to a nadir of 138 in January, 1922, was due to causes of a World-wide nature to a very large extent beyond the control of any American authority. But, granting that, we have to study the Board's policy in meeting the new conjuncture. To its credit can be placed the extension of credit during the autumn of 1920 which saved the country from a financial panic, but a very bad error was made in holding too long to the high rate for money. A Central Bank, once it has gained control of credit expansion and rising prices, should promptly lower the rate for money in order to minimize the effects of the inevitable backswing. The Federal Reserve Board, however, held on to the 7% rate, established in June, 1920, for nearly a year, the New York Federal Reserve Bank reducing its rate

to  $6\frac{1}{2}\%$  on May 5th, to 6% on June 16th, to  $5\frac{1}{2}\%$  on July 21st, to 5% on September 22nd, and to  $4\frac{1}{2}\%$  on November 3rd, 1921. The evidence seems to suggest that the essential fault was timidity. The Board appear not to have had sufficient confidence in themselves or in the popular support they could command. The action, which they screwed up their courage to take in January, 1920, when they raised the discount rate to control credit expansion, might well have been taken earlier. It is significant to find that their apologies are directed towards proving that their action was taken none too soon, whereas the real ground for criticism was, or at least should have been, that the action was not taken soon enough. On the other hand, once they had obtained control, they were afraid to allow any relaxation. "The present is not a time," they reported on the 16th February, 1921, "for resorting to empirical remedies which merely deaden unpleasant sensations temporarily and which instead of restoring the patient to health undermine his strength and destroy his vitality." Much of the criticism directed against the Board was unintelligent; the people resented the termination of the pleasant period of credit expansion and boom, though the Board were perfectly correct in bringing this about and thus safeguarding their reserve position. But after the end of 1920 there was no real danger to the reserve and the main-

tenance of a policy of deflation all through 1921 was a serious error in judgment. The Comptroller of the Currency opposed this policy vigorously and eventually, on March 2nd, 1921, resigned. The extent of the deflation is illustrated in the following figures:

## HIGHEST POINT OF THE RISE

	Date when attained	Amount
Price level .....	May, 1920	247
Net demand deposits of reporting		\$m
Member Banks .....	May, 1920	11,561
Federal Notes in circulation .....	Oct., 1920	3,351
Bills discounted by F. R. Banks .....	Oct., 1920	2,801

## LOWEST POINT OF THE FALL

	Date when reached	Amount
Price level .....	Jan., 1922	138
Net demand deposits of reporting		\$m
Member Banks .....	July, 1921	9,866
Federal Notes in circulation .....	July, 1922	2,132
Bills discounted by F. R. Banks .....	Aug., 1922	397

The results of this deflation were very serious in both their internal and external effects. In the United States they caused the greatest annihilation of values in the Nation's history. According to a somewhat hectic production—entitled the Tragedy of Artificial Deflation and embellished with the text “Out of thine own mouth will I judge thee, thou wicked Servant”—of the ex-Comptroller of the Currency, the liabilities of insolvent business houses were over three times as much as

in the panic year of 1907 and the suicides for the first six months of 1921 were 4,120 more than in the first half of the preceding year.

The collapse after a boom always involves bankruptcies, distress, and stagnation of trade; the point at issue is whether these disasters were made by the Board's policy more severe and more widespread than was necessary. There seems little doubt but what they were. The too drastic and too prolonged contraction of credit forced down the price level beyond what was necessary and the proof of this lies in the great influx of gold from abroad. The surplus gold, which had been dangerously low, considering preceding tendencies, at \$m201 in May, 1920, rose rapidly in 1921 to a total of \$m1,439 on 7th December and continued to rise to a peak of \$m1,700 on 9th August, 1922. Other countries of the World, struggling back to the gold, or rather dollar, standard by the unpleasant path of continuous restriction of currency and credit, were faced by the difficulties of an even steeper ascent as the dollar rose in purchasing power with the fall in the level of United States prices. If all the resultant distress and difficulty were necessary to financial soundness, there would be no more to be said, but by August, 1922, with a surplus gold reserve of \$m1,700, the United States were confronted with the prospect of keeping this huge sum idle and unprofitable or starting to retrace the painful

steps forced upon the World by the dear money policy of 1921. No man objects to a costly and difficult attack on a strong position if it is necessary to capture it, but it is heart-breaking, when the position has been captured at heavy sacrifice, to be ordered to retire, and to discover that a great part of the proceedings was futile. The Federal Reserve Board had to meet a strong storm of criticism which they attempted to evade by disclaiming any power to control credit. "The Federal Reserve system," they asserted, "is not a Central Bank. Congress did not intend that there should be a centralized control of credits. There is nothing in the Act which gives the Board or a Federal Reserve Bank any control over the loan policy of a Member Bank. A Federal Reserve Bank cannot compel a Member Bank to make a loan which it does not desire to make. It was certainly unfair to blame the system for the restriction of credit and the Federal Reserve Board had been subjected to a great amount of criticism and the public had been given a wrong impression." These plaintive remarks, extracted from the Eighth Annual Report, are somewhat ingenuous. In conclusion they said: "The Federal Reserve System should not be expected to accomplish the impossible. It cannot control individual judgment or action. It is not a panacea for all economic and financial ills, and it cannot, however skilful its administration may be, pre-

vent periods of depression, although it can do much to modify them." Precisely so, but the point of the criticism was that it had not done much, or anything, to modify them. The practical outcome of the criticism was firstly an amendment to the Act to permit the appointment to the Board of a sixth member who should be especially representative of agricultural interests, and secondly to impress the Board more firmly than ever with the unpopularity of a rise in the discount rate, and to convince them of the expediency of disclaiming any power or desire to control credit or the price level. It is said to have prevented the reappointment of the Governor of the Federal Reserve Board in 1922.



## CHAPTER IV

### THE DEVELOPMENT OF OPEN MARKET POLICY IN 1923

**I**N the year 1922 credit liquidation, which had been continuous since October, 1920, first slackened and then came to a halt. From mid-summer, 1922, credit expansion restarted, the loans and discounts of all Member Banks rising from \$m17,282 at the end of June to \$m18,061 at the close of the year. This extension of credit was based on the incoming gold and did not involve any increase in rediscounts with the Federal Reserve Banks which, indeed, steadily declined to the small amount of \$m397 in August, 1922.

Now, the profits of the Federal Reserve Banks arise from rediscounting: there is no profit to be gained by merely holding reserves and surplus money. With the Member Banks possessed of ample funds of their own to meet all demands for credit, there was little profit-making business for the Reserve Banks and their total earnings which had amounted to \$m181 in 1920 and \$m122 in 1921 fell to only \$m50 in 1922. It is true the Federal Reserve Banks are not supposed to be profit-earning concerns, but there are twelve

Federal Banks and it is likely that the Governor of any bank would be anxious to avoid showing a loss which might be held to be a reflection on the management and in any case would render it awkward to raise running expenditure. They therefore decided not to allow their money to be idle but to use a proportion of it. Thus though the original intention was for the Federal Reserve Bank to be a Bankers' Bank, yet the need to make some profit, or rather to avoid a loss, impelled the Federal Reserve Banks to begin to compete in the open market and buy bills through other than Member Banks. Also they invested part of the surplus funds in Government securities. This action had been taken before, as for example in September, 1919, though not quite from the same motive, and in 1923 there was a considerable development in the scope, purpose, and method of these open market operations. At the end of 1922 the Federal Reserve Banks held \$m251 in bills bought in the open market and \$m431 in investments in Government Securities.

The interesting point is that, once having got a position in the market, the Federal Reserve Banks can tighten up credit by withdrawing almost as well as by the device of raising the discount rate. "Withdrawing" does not mean so much selling as that when bills, bonds, and certificates of indebtedness ran out, the Banks did not compete for new issues. Under such circumstances, the Treasury,

who had to issue new bonds and certificates to pay off the old, were obliged to place them in the general money market at whatever rate was necessary, and the Member Banks could only take them up—and also take up the bills no longer sought by the Federal Reserve Banks—by extending their credit through resort, usually, to rediscounting. This may seem at first sight to mean nothing except that the Federal Reserve Banks, instead of lending directly, lend through the Member Banks, but the significance is that when they lend through the Member Banks their rediscount rate becomes effective in checking credit expansion. The fundamental point is that when over-expansion of trade threatens and it becomes advisable to check speculative fever, one way was raising the discount rate which naturally stopped some people borrowing and led to the fall in prices which stopped many more. Another way is simply to tighten credit generally by the Federal Reserve Banks withdrawing from the market. It is this latter method which the Federal Reserve Banks began to adopt in 1923, one of the most eventful years in the history of the system from the standpoint of formulation of policies.

For, by the beginning of 1923, the price level had risen from 138 in January, 1922, to 156, and credit expansion was well under way. Were the Federal Reserve Banks to sit passive and allow the expansion to gather force unchecked up to a

possible repetition of the boom of 1920, or were they to take the unpopular action of curbing the growing prosperity by putting up the discount rate and thus bring down on their heads a renewal of the criticism which had almost wrecked the system before? "Doubts still prevail," wrote Professor Friday in 1923, "in the minds of American bankers and economists whether an increase in the rediscount rate has ever been effective or can ever be effective in checking the expansion of bank loans. On one point, however, there was no doubt. The political effects of an increase in the rediscount rate were certain to be serious and disagreeable." The Board determined to avoid as far as possible any change in the rediscount rate, and the bill rate, though it had, after being reduced by the Federal Reserve Bank of New York to 4% in June, 1922, been restored to 4½% in February, 1923, was not again altered during the year. Instead, the Federal Reserve Banks withdrew from the open market: on the 27th December, 1922, they had held \$m246 in bills discounted and \$m458 in Government securities; by August 22nd, 1923, these had been reduced to \$m176 in bills and \$m84 in securities. The result was a tightening in the money market and an increase in bills rediscounted for Member Banks.

The discovery of the possibilities of this method of credit control seems to have pleased the Board considerably. "The determination to change the

rediscount rate only in unusual situations is one of the definite policies which has been developed by the Board during the past year (1923). The results of this decision seem so salutary that the policy will probably not be lightly abandoned," and the Board laid down the principle that the time, manner, character, and volume of the open market investments purchased by the Federal Reserve Banks should be governed henceforward with primary regard to the accommodation of commerce and business and to the effect of such purchases or sales on the general credit situation.

A rise in the discount rate attracts considerable publicity and frequently draws down popular resentment against the Board, but a gradual withdrawal from the open market is a quieter proceeding, less noticed, less understood in its sequelae, and not without some suggestion of a subterfuge. The Board's preference, if it was based on the idea that they can take the one action quietly without stirring up unintelligent resentment from a democracy too powerful to disregard, is not justifiable. It is desirable that any necessary action by the Board should have the greatest possible publicity and attention. The real nature of the action is a signal or warning. The more widely the signal is seen and the warning regarded, the less drastic need, and the more efficacious will, the action be. This is not to deny that open market operations have their value as a

precautionary weapon in credit control. A withdrawal from the open market may be regarded as a first warning addressed particularly to Member Banks and possibly effective in making unnecessary the second and more serious warning, addressed to the whole country, of a rise in the discount rate.

When the Federal Reserve Banks withdraw from the open market, that demand for credit which they had been supplying is diverted to the Member Banks who meet it by increasing their rediscounts with the Federal Reserve Banks. Conversely, when the Federal Reserve Banks re-enter the open market and buy bills and securities, they place funds in the hands of the Member Banks and thus enable these banks to repay their borrowings from the Federal Reserve Banks. This compensatory action is illustrated in diagram 3.

Diagram 3 shows by weeks, for all Federal Reserve Banks:

- B - B The total of bills discounted for Member Banks.
- M - M The total of open market purchases of bills and Government securities.

The Board appear to have considered at first that withdrawing from the open market would by and in itself result in a restriction of credit and they seem to have been somewhat disappointed to find that it usually meant no such immediate restriction but only that the Member Banks in-

# OPEN MARKET POLICY

75

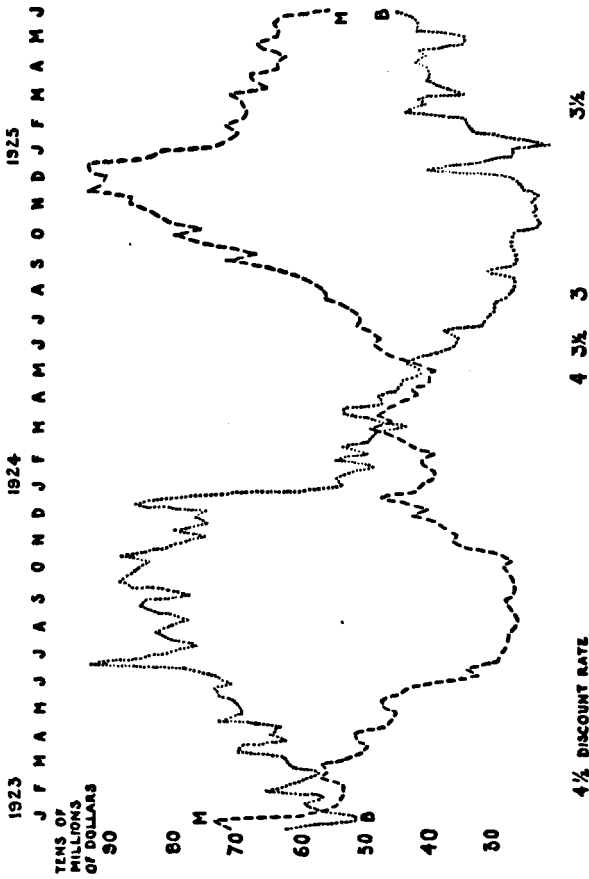


DIAGRAM 3

creased their loans more or less *pari passu*.<sup>\*</sup> The experience of a few years, however, opened their eyes to the fact that the real value of the action was that it tended to make the rediscount rate effective; it put the Member Banks, as Dr. Miller said, "in the grip of the Federal Reserve Banks". In fact the action was exactly analogous to that of the Bank of England "borrowing on Consols" when the Bank rate appears to be without due effect on the market rate.

Thus, to quote the Board's explanation on this matter: "the part that open market operations may play in general credit policy is influenced by the fact that changes in the volume of securities held by the Reserve Banks have an effect on the volume of their discounts for Member Banks. The purchase of securities in the open market by a Federal Reserve Bank places funds in the hands of Member Banks which these banks may use in the repayment of borrowings from the Reserve Banks: the sale of securities, on the other hand, by withdrawing funds from the market, may lead to additional borrowing from the Reserve Banks. The difference between discount operations and open market operations is that the initiative in

<sup>\*</sup>"I am frank to admit that the open market operations have not worked out exactly as we hoped and expected they would, because of the fact that where we have, for example, Government securities and sell them, we take that money out of the market; the banks come right in and rediscount, and it offsets, and vice versa." Evidence of C. S. Hamlin, a member of the Federal Reserve Board. H. R. 11806, p. 299.



rediscounting lies with the Member Banks, while in the purchase and sale of securities the initiative may be taken by the Reserve Banks. The extent to which the Member Banks borrow in order to replace the funds withdrawn by the Reserve Banks through the sale of securities is a measure of the demand for Reserve Bank credit. The sale of securities by a Reserve Bank may thus serve as a test of the degree of adjustment between the demand for Reserve Bank credit and the outstanding volume of such credit.”\*

But while it is easy to see that the Board can tighten up credit by withdrawing from the open market without necessarily making any change in the rediscount rate, it is essential that, if they want to be in a position to repeat this action, they must get back into the open market again. In other words, when the tendency is for commercial banks to lend too freely and too much is being loaned, the Federal Reserve Banks try to balance up matters by ceasing to lend in the open market. To be effective, however, this must imply that formerly and normally they have been lending considerably. Now, while a Central Bank can stop lending when the general tendency is to lend too much, it is rather difficult for such a Bank to lend freely when the general tendency is to borrow very little. How do the Federal Reserve Banks buy up the bills and securities which, when ex-

\*Tenth Annual Report, p. 13.

pedient, they intend to drop? Presumably at a time when few bills are coming forward, the Federal Reserve Banks have to get what they can in competition with the commercial banks. At a time when little business is moving and interest rates are low, the Federal Reserve Banks will have to try and get a share of what business there is and drive rates lower. The statement that a Central Bank is not intended to compete with ordinary commercial banks is not strictly true: if it is to use open market operations at all, there must be some competition, and competition at a time when business is poor rather than good. There is at least that much justification for the usual instinctive opposition of commercial Banks to the establishment of a Central Banking system.

Accordingly, in the summer of 1924 with the Member Banks repaying their borrowings from the Federal Reserve Banks, it was considered advisable to get back more quickly into the open market and, in order to accomplish this, the Federal Reserve rates were lowered. The New York rediscount rate, which had been  $4\frac{1}{2}\%$  since February, 1923, was reduced to  $4\%$  on 1st May, 1924, on the 12th June to  $3\frac{1}{2}\%$  and on 8th August to  $3\%$ , but it was the concurrent lowering of the open market rates which was the more significant action. The New York average rate charged on bills bought in the open market was gradually reduced from  $4.10\%$  in January, 1924, to  $2.20\%$  in

August; the minimum authorized rate on Acceptances bought in the open market which was  $2\frac{1}{2}\%$  for bankers' and  $3\%$  for trade in January was brought down to 2 and  $2\frac{1}{2}\%$  respectively in June. The result is clearly seen in Diagram 3, where it will also be noted that the policy of cheaper money was checked during the first half of 1925. The Federal Reserve Banks withdrew from the open market and in February, 1925, the rediscount rate was put up to  $3\frac{1}{2}\%$ . This appears to have been done not so much to check expansion of credit and speculation—though there was an increase in the general level of prices from 145 in June, 1924, to 161 in February—but because the larger inflow of gold, which had been continuous since August, 1920, had turned to a net outflow for December, 1924, of \$m29 and for January, 1925, of \$m68. Though this export was checked by the February rise in the money rate, yet the year showed a net export of \$m134, mostly to Germany in connection with the Dawes plan and to India settling down to a gold bullion standard.

## CHAPTER V

### CHEAP MONEY, CREDIT EXPANSION, AND PROSPERITY: JUNE, 1922, TO JUNE, 1927

**T**HE fall in the price level in the United States from 247 in May, 1920, to 138 in January, 1922, led to a great inflow of gold from abroad. The monetary gold stock of the country which had fallen as low as \$m2,841 at the end of April, 1920, rose to \$m3,684 at the end of January, 1922, and continued to rise up to a maximum of \$m4,609 at the end of April, 1927. On the basis of this gold there was an enormous extension of credit.

	30 June, 1922 \$m	30 June, 1927 \$m	Increase \$m
All Banks: Loans and Investments .....	39,956	53,723	13,767
All Member Banks: Loans and Investments .....	24,182	32,756	8,574
Monetary stock of gold in the United States .....	3,784	4,587	803
Index number of wholesale prices (1926=100) .....	96	94	
Reserve Bank credit outstanding .....	1,194	1,081	

The two most important points here are (1) how was this stupendous extension possible and (2) why did it not result in higher-prices.

(1) The extension of credit was not made possible by any extension of Federal Reserve Bank credit, which was no greater, and even slightly less, in June, 1927, than five years earlier, but by the imports of gold. An additional hundred dollars of credit can be extended by any Member Bank that receives a time deposit in gold of three dollars, or a demand deposit of \$13, \$10 or \$7 according to whether the bank is in a central reserve, reserve, or other city. It is not difficult to appreciate that an increase in gold holdings of \$m803 might easily, by itself, support an increased extension of credit of \$m13,767 without any need to have recourse to Federal Reserve Bank credit, even after allowing for the fact that some of the imported gold may have been impounded in the Treasury. Moreover during these years there had been a quite disproportionate increase in the time deposits of Member Banks as compared with their demand deposits:

ALL MEMBER BANKS	31 Dec., 1919 \$m	31 Dec., 1927 \$m	Per- centage increase
Net Demand Deposits .....	16,559	20,083	21
Time Deposits .....	5,305	12,765	120

The time deposits permit a greater extension of credit on a given amount of gold than demand deposits would.

(2) That the extraordinary increase in credit described above did not cause any increase in the general level of prices is, at first sight, a most

amazing fact. A rise in prices comes when more purchasing power is available and utilized for buying the same amount of goods. If the production of goods increases proportionately, a rise in prices is not to be expected. Now, since the collapse in 1920—1921, there had been a great revival in American industry aided by cheap money rates and very considerable progress in the efficiency of production. The index number for industrial production, which represents directly and indirectly nearly 80% of the total industrial production of the United States and is based on 1923—25 as 100, rose from 65 in July, 1921, to 111 in May, 1927. There is no doubt that the increased output of goods accounted very largely for the failure of prices to rise in response to the stimulus of a very large expansion in credit, but whether it fully accounts for it is not so easy to say. There is this point to consider: that, if people were using their increased purchasing power to buy commodities that did not figure among the items that compose the index number of wholesale prices, the index number would, to that extent, not reflect the increase. But this index number is a very modern one and very comprehensive in its scope, being based on 550 commodities. Securities, of course, do not enter into the index number of wholesale prices and there was a gathering volume of money going into the Stock Exchange market. If people buy securities more and commodities

less, it might be supposed that this would tend to keep down the price level of goods. This is rather a complicated matter. If A buys a share from B instead of a coat from C, and B with the money received buys the coat from C for himself, it is clear that C's trade does not decrease. Hence it might be thought that however much money is invested in the Stock Market, it has no effect on the volume of purchasing power available for buying commodities. But this does not appear to be so for two reasons. Firstly B does not buy the coat so quickly as A would, had the latter not invested. If a proportion of money before being used for buying commodities has to pass through the process of changing hands as between an investor and a seller, the result is a slowing up of the velocity of circulation of money as far as the purchase of goods is concerned, and anything which decreases the velocity of circulation of money tends to lower the price level. Secondly, if B instead of buying a coat sells the share back to A at a higher figure because A has changed his mind and they keep on buying and selling to each other indefinitely, the money concerned is taken right out of the commodity market so long as that process goes on. Hence an increase in the volume of speculative transactions in the Stock Market would seem to involve the removal of purchasing power from the commodity market and a lower level of com-

modity prices so long as the total volume of credit remains the same.

Since the price level, therefore, was showing very considerable stability and since the gold reserves were ample, the Federal Reserve Board held to cheap money rates. Possibly also they were influenced by the fear that higher rates might attract even more gold from abroad. This policy of cheap money, however, had some results whose importance only became evident as time went on. Many of the larger companies finding so much comparatively cheap money seeking investment began to borrow less from the Banks and to finance themselves more and more by high pressure bond salesmanship. The Banks accordingly had to turn elsewhere for earning assets sufficiently profitable and they turned to the security markets:

Reporting Member Banks in Leading Cities.  
These comprise about 658 Member Banks.

MONTHLY AVERAGE OF WEEKLY FIGURES

	June, 1922	June, 1927	Increase	
	\$m	\$m	\$m	%
Investments .....	4,322	6,095	1,773	41
Loans on Securities .....	3,801	6,146	2,345	61
All other loans .....	7,074	8,543	1,469	20
(mainly commercial)				

One reason why the commercial loans did not increase more rapidly was that with commodity prices reasonably stable and with considerable



improvements in transport facilities, it became less necessary for merchants to carry large speculative inventories and buying tended to assume more of a hand-to-mouth character: hence there was less demand for credit. "All other loans", though mainly commercial, include also loans on real estate and these latter increased rapidly from \$m2,338 in June, 1925 to \$m2,926 in June, 1927. There was therefore during these years a growth of loans on securities and real estate disproportionate to the growth of ordinary commercial loans, with the result that the percentage of the total loans and investments eligible for rediscount was declining. In June, 1926, this percentage was 15.7; in June, 1927, it had fallen to 14.5. The Member Banks were extending their credit while at the same time putting themselves in the position of being unable to get as much help in an emergency. They were increasing their risks and decreasing their insurance.

## CHAPTER VI

### HELPING EUROPE: JULY TO DECEMBER, 1927

**T**HE conference of representatives from the Central Banks of Great Britain, France, and Germany with the officials of the Federal Reserve Bank of New York, followed by a meeting with the Governor of the Federal Reserve Board in Washington at the end of July, 1927, was an event of considerable importance.

The continuous extension of Member Banks' credit since 1922, the rise in the price index of Industrial stocks\* from 151.6 in December, 1925, to 179.0 for July, 1927, and the great increase in loans to brokers and dealers in securities by Member Banks in New York City, might have been regarded as a strong indication that the policy of cheap money was fostering extravagant speculation. Circumstances seemed to indicate that the Federal Reserve Board ought to take action to check further expansion lest the speculative boom should run beyond control. On the other hand, wholesale prices were actually declining and the index number was only 94 in July,

\*Standard Statistical Company's old number of 199 industrial stocks having the average of 1917-1922 as 100.

1927, while the first half of that year showed a large import of gold from abroad (see Diagram 1). Great Britain, after the disastrous general and coal strikes of 1926, was gasping for a trade revival and several European countries had only just succeeded in stabilizing their currencies. If the Federal Reserve Board attempted to use their powers to check the development of further speculation by raising the money rates, the inflow of gold from abroad would be strengthened. The European exchanges, in spite of the gold that had already gone, were weak and the European countries, especially Great Britain, were very loath to be forced to protect themselves by raising their own discount rates and thereby, though safeguarding their gold, severely handicapping trade revival. If they did not take such action, the newly stabilized currencies might collapse; if they did take such action, they forced a further fall in home prices and set back, in the face of heavy unemployment, the hopes of a much needed business revival. In this dilemma, the European representatives at Washington appear to have appealed for the help of the United States. There was no need for the European rates to go up if the Federal Reserve Board would bring the American rate down, and the outcome was that the Board reduced the rediscount rate early in August from 4 to  $3\frac{1}{2}\%$ .

This policy of a further cheapening of money in

the face of a rapidly increasing volume of speculation was obviously a dangerous one. In so far as it was adopted to help out Europe, it was a generous and enlightened action testifying to the growing sense of World community of interest, but even from the purely selfish point of view, it was not without some arguments in justification. The year 1927 was already showing, and eventually did show, a decline in business activity in the United States. The net profits of 171 leading companies were smaller by 5.1% in 1927 than in 1926, and the actual number of bankruptcies broke all records, though the aggregate liabilities of insolvent concerns were not exceptionally high. Flood damages, notably in the Mississippi valley, and the six months suspension, for technical reasons, of activities in the Ford Motor Company tended to reduce the volume of trade. The index number for industrial production, which had reached a peak of 112 in September, 1926, had fallen to 106 by July, 1927. Industrial unemployment might develop unpleasantly in the winter if no revival occurred. Cheap money and rising prices would stimulate trade and a Presidential election was due. Furthermore, any help to Europe might be expected to react favourably on World trade generally and to the advantage of the American exporter and of those agricultural producers whose produce was largely marketed abroad. The Governor of the Federal Reserve

Board, speaking in December, 1928, stated that the Board had realized when the easy money policy was adopted in July, 1927, that it might lead to a further encouragement of Stock Exchange activity but had decided that this would be the lesser of two evils. He himself had, he said, become convinced that participation in World affairs was a matter of enlightened self-interest for the United States.

Besides reducing the rediscount rate, the Reserve Banks bought securities in the open market, and the money so provided brought money rates down to a low point in August, 1927. Gold exports began in the following month. There was a decrease in the country's total monetary gold stock of \$m209 between 1st September, 1927, and the 1st January, 1928. The Board, however, continued to provide money by purchasing securities in the open market, and the price level, which had been 144 in April, May, and June, rose to 150 in October.

## CHAPTER VII

### THE FIGHT TO CONTROL SPECULATION: JANUARY, 1928, TO OCTOBER, 1929

**T**HE policy of cheaper money inaugurated in July, 1927, was suddenly stopped in December. It was claimed that it had accomplished its objects but the probable real cause of the reversal of policy was fear of the growing speculation in the security markets. Brokers' borrowings on collateral in New York City had risen from \$m3,139 on 31st January, 1927, to \$m4,433 at the close of the year. The January, 1927, index number for 197 Industrial stocks had been 158.4; at the end of the year it was 212.6. In December, 1927, the Federal Reserve Banks ceased purchasing securities in the open market and in January, 1928, they sold out to the amount of over \$m100. The last four months of 1927 showed a net export of \$m140 of gold. The Member Banks in order to pay the Reserve Banks for the gold withdrawn for export and for the securities which the Reserve Banks sold had either to restrict credit or borrow from the Reserve Banks. They increased their rediscounts. By the end of 1927 Reserve Bank credit had reached a larger total

than had been attained during the six preceding years. The Federal Reserve Board in consequence appeared to be in a position to regain control and in February, 1928, the rediscount rates were raised from 3½ to 4%. There was, however, no diminution in speculation due, according to the Secretary to the Treasury, "partly to the activities of powerful groups of speculators and partly to the fact that the public in general believed and acted as if the prices of securities would indefinitely advance". The forces behind the speculative boom had been allowed to gather such strength during the preceding long period of cheap money that this slight advance in the rediscount rate was not sufficient. Credit expansion continued and the Board persevered in their fight against it. During March the Federal Reserve Banks continued to sell securities in the open market and in June the rediscount rate was again raised, to 4½%. This seemed to have some effect, for credit expansion paused and there was a sharp break on the Stock Exchange, the Standard Statistics Company's new index number for 392 common stocks (1926=100), which had been 152.1 for May, dropping to 145.3 for June. In July the rediscount rate for New York, Chicago, and Richmond was raised to 5%. Gold exports ceased and there was little movement in gold during the summer. It appeared as if the Federal Reserve Board had at last obtained control over the

situation. Unfortunately another feature was developing. While the Banks were reducing their loans to the Stock Exchange, business corporations, attracted by the high rates for call money, were beginning to lend huge sums direct.

Diagram 4 illustrates speculative activity 1927-29.

- B - B Brokers' borrowings on collateral, New York City, last day of the month.
- S - S Index number of 406 Common Stocks (Standard Statistical Company) monthly average.
- C - C Open Market Rates—Monthly average rate on Stock Exchange Call Loans, New York City.
- P - P Open Market Rates—Monthly average prevailing rate on Prime Commercial Paper, 4-6 months: on the same scale as the call rate.

NOTE: the New York Federal Reserve Bank rediscount rate was 4% on 1 January, 1927, and subsequent changes were effective: on 5 August, 3½%; on 3 February, 1928, 4%; on 18 May, 4½%; on 13 July, 5%; on 9 August, 1929, 6%; on 31 October, 5%.

By the end of 1928 more than half of the total borrowings of brokers on the New York Stock Exchange consisted of loans from non-banking sources, i.e. loans made through the banks by corporations and individuals.\* The higher the Federal Reserve Board pushed the rates for money in order to discourage borrowing and restrict credit, the higher went the rates for call-money and the greater was

\*Federal Reserve Bulletin, January, 1929, p. 5.



# FIGHT TO CONTROL SPECULATION 93

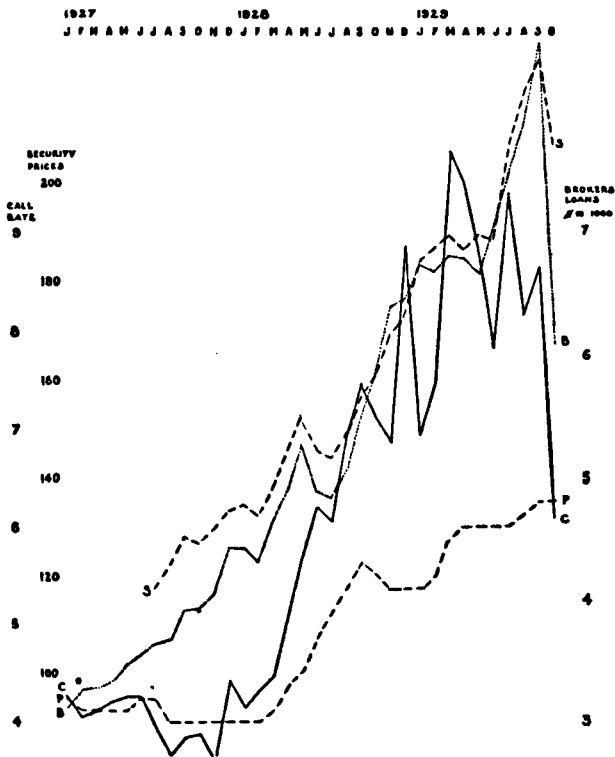


DIAGRAM 4

the attraction of the call-money market to less responsible lenders. On the other hand, the high call-money rates did not appear to reduce the volume of speculation in face of the continuous rise in security prices. A vicious spiral had been developing wherein corporations by issuing new securities, easily absorbed by the public in its optimistic mood, became possessed of funds which, after indebtedness to the Banks had been paid off, provided a surplus beyond their immediate commercial needs. This surplus was then loaned to the call market at attractive rates and so provided new funds wherewith speculators could purchase further issues. Thus to some degree corporations were lending money to the public to buy their own shares.\*

Perhaps the most serious danger in these developments was the increasing instability of the call loan market. When the loans to that market are made by responsible banks, it can be assumed that fluctuations in the amount of credit provided will be controlled with some regard to the maintenance of general prosperity, or, at least, the avoidance of general calamity, but when the lenders are a multitude of scattered individuals or corporations, or foreigners, the money is withdrawn without any regard to anything except the

\*For example, it is estimated that nearly \$m10,000 in new securities were floated during the first nine months of 1929.

convenience and immediate interests of the lenders. At the turn of the year 1928-29 for example, non-banking sources withdrew for their own purposes \$m156, call-money rates reached 12%, and the stringency had to be relieved by the New York Bankers lending an additional \$m407 in order to avoid disastrous convulsions in the market.

*Loans to brokers and dealers in securities made by reporting Member Banks in New York City.*

	For own account	For account of out-of-town banks	For account of others
	\$m	\$m	\$m
26 Dec., 1928 .....	1,109	1,660	2,322
2 Jan., 1929 .....	1,516	1,648	2,166
Decrease .....		12	156
Increase .....	407		

This exhibits the difficulties caused by merely a seasonal and anticipated fluctuation, but if for any reason confidence were shaken, the huge amounts loaned by non-banking sources would tend to be withdrawn at once. Furthermore, there is no reserve from which the call market could be supported unless the New York banks have kept themselves in a position to be able to step in and lend large sums and unless they are willing to do so.\*

\*"The New York banks, which, in the event of emergency, will always be called upon to shoulder the major part of the burden of maintaining orderly markets, cannot help viewing with concern the growth of responsibilities which they cannot control and which they may not be able to meet. Suiting their action to their words, they have consistently abstained from the call-money market despite the high rates that have been ruling there, and it is their hope that the business com-

If one danger, therefore, was the increasing instability of the call loan market, another was the check to prosperity through an increase in the cost of credit for commercial uses caused by the diversion of funds from legitimate business to the Stock Market. As the situation developed, it brought into prominence two important questions for solution: Was it part of the duty of the Federal Reserve Board to control the use of the credit they created, and if so, how could it be done? The tenor of the Federal Reserve Act seems to indicate clearly that Federal Reserve credit was not to be extended for speculative purposes but only in response to the increasing genuine needs of a larger volume of business transactions. If an extension of such credit was found to be seeping into the Stock Market, were the Board to stop granting credit or to endeavour to control in some way its use? Now, the endeavour to control the use can be represented in a manner which would tend to make it highly unpopular: it could be said that the Board were trying to dictate to the Member Banks how, to whom, and to what extent, they should lend money: an autocratic interference with the loan practices of independent banks; it could be said that the Board were seeking to break

munity generally will stand by its own interest and not contribute to the further development of a condition which has in it possibilities of evil for itself far outweighing the return from a few loans made at temptingly high interest rates." National City Bank of New York: Bulletin, April, 1929, p. 55.

the Stock Market and to dictate the levels of Stock Exchange security prices; and various high authorities, including Professors Cassel and Commons, could be quoted to the effect that it is not a function of the Federal Reserve system to check Stock Exchange speculation. Lastly, it was said that the Board could not possibly succeed in this matter even if they attempted to exert whatever powers they had.

It is true that if wild speculation could be controlled by some other authority, it might well be better that the Board should be freed from an embarrassing moral responsibility, but if, as a matter of fact, there appeared to be no control being exerted, was it wiser to allow the speculation to run its course with all its attendant disadvantages in its effect on internal business and external gold movements and with the culminating disaster of a stupendous crash, or was it wiser for the Board to try and do what it could to rectify the credit situation? The Board decided for the more courageous alternative and proceeded, with a good deal of circumspection, in their thankless task. On the 2nd February, 1929, they addressed a letter to the Federal Reserve Banks. "The firming tendencies of the money market which have been in evidence since the beginning of the year—contrary to the usual trend at this season—make it incumbent upon the Federal Reserve Banks to give constant and close attention to the

situation in order that no influence adverse to the trade and industry of the country shall be exercised by the trend of money conditions, beyond what may develop as inevitable. The extraordinary absorption of funds in speculative security loans, which has characterized the credit movement during the past year or more, in the judgment of the Federal Reserve Board, deserves particular attention lest it become a decisive factor working toward a still further firming of money rates to the prejudice of the country's commercial interests. The resources of the Federal Reserve system are ample for meeting the growth of the commercial needs for credit, provided they are competently administered and protected against seepage into uses not contemplated by the Federal Reserve Act. The Federal Reserve Act does not, in the opinion of the Federal Reserve Board, contemplate the use of the resources of the Federal Reserve Banks for the creation or extension of speculative credit. A Member Bank is not within its reasonable claims for rediscount facilities at its Federal Reserve Bank when it borrows either for the purpose of making speculative loans or for the purpose of maintaining speculative loans. The Board has no disposition to assume authority to interfere with the loan practices of Member Banks so long as they do not involve the Federal Reserve Banks. It has, however, a grave responsibility whenever there is evidence that Mem-

ber Banks are maintaining speculative security loans with the aid of Federal Reserve credit. When such is the case the Federal Reserve Bank becomes either a contributing or a sustaining factor in the current volume of speculative security credit. This is not in harmony with the intent of the Federal Reserve Act, nor is it conducive to the wholesome operation of the banking and credit system of the country."

The Senate lent its moral support to the Board and passed a resolution requesting them to forward any information and suggestions that would be helpful in securing legislation necessary to correct the evil complained of and prevent illegitimate and harmful speculation. In the preamble to this resolution the Senate had alleged that the Board had complained that some of the speculation was illegitimate and harmful. It is significant of the timidity of the Board that they immediately and publicly refused to accept the responsibility for an opinion which was manifestly correct. "The Board", they re-iterated, "has neither the right nor has it the disposition to set itself up as an arbiter of security speculation or values."

On the 14th February, 1929, the Federal Advisory Council suggested that all the Member Banks in each district be asked directly by the Federal Reserve Bank of the district to co-operate in order to prevent, as far as possible, the di-

version of Federal Reserve funds for the purpose of carrying loans based on securities.

Expressed in briefer and less guarded language, the February action of the Board amounted to this confession and hope: We cannot control the use of the credit we issue but the Member Banks ought to be able to do more in that way than they are doing. A polite exhortation addressed to them might have the desired effect, especially if coupled with a vague threat in the background that disregard of the Board's wishes would lead to difficulties when they should apply for further rediscounts.

It seemed at first as if this moral pressure was to have very little effect and that public opinion still believed the Board impotent to achieve their purpose. Events, however, proved otherwise and the crisis came at the end of March. The Federal Reserve Banks had been taking money steadily out of the market by reducing their holdings of open market purchases from \$m754 on 19 December, 1928, to \$m429 on the 20th of March, 1929. At the same time there had been swelling the usual spring demand for extended credit for agriculture and commerce, and, when towards the end of March there were heavy withdrawals from the call-market by corporations for interest and dividend disbursements, money became very tight and the call-market turned to the bankers for increased accommodation. The bankers, however, bearing



in mind the February warnings of the Board, held back, and, when it was appreciated that additional funds were not forthcoming, a crisis was precipitated. On the 26th of March the rate for renewal of call money loans ran up to 20%—the highest rate since February, 1921—there was forced liquidation, a new record turnover of 8,246,740 shares on the New York Stock Exchange, exceeding the previous record figures by 1,292,720 shares, and a sharp decline in security prices.

When, however, it seemed that complete demoralization was threatening, the New York banks stepped in and supported the market. Their action was assailed by Senator Glass as disloyal to the Federal Reserve Board's policy, but there is no reason to suppose that the Board desired to create a real panic on the Stock Market. The psychology of the Stock Market is a very delicate matter. To attempt to change optimism to doubtfulness is a perilous feat. The effort needed to convert thirty people may convert thirty thousand. Either opinion is not moved at all or it slides wholeheartedly. It is probably wiser and certainly safer, therefore, so soon as market opinion appears to be really responsive, so soon as control over the rise appears to have been gained, to slip back quickly to easier credit conditions in order to prevent the slide going beyond control.

The March episode may be taken as exemplifying the broad lines of the policy adopted to

rectify the excessive stock market speculation which had been making credit dear for industry, attracting funds from abroad, and delaying that redistribution of the World's stock of gold, that fundamental necessity for the World's monetary stability and economic recovery, which the Federal Board had themselves desired.\* The policy was to exert on the speculative market a continuous pressure which, at opportune moments, might be so intensified, or become so acute, as to cause a shake-out. These, however, were not to be too drastic lest the slump should run beyond control, and, therefore, so soon as the rising market was broken, support should be forthcoming to prevent catastrophe. In homelier language, the policy was not to throw the speculator out of the window, but to bump him downstairs.

It is probable that the March, 1929, bump, like the two jolts of June and December of the previous year, might with advantage have been allowed to be more severe. The action of the New York banks in coming to the aid of the call market at the critical moment may have led the speculative public to believe that the banks would never allow the Stock market to collapse. Confidence seems to have been regained too quickly and security

\*"The Federal Reserve System encouraged the outward movement of gold, as it had always considered a better distribution of existing gold reserves to be in the interests of better monetary and trade conditions throughout the world." Federal Reserve Bulletin, April, 1929, p. 242.

values started to rise once more. By this time the Member Banks were genuinely endeavouring to support the Board's policy: they were themselves abstaining from the call market and were granting preferential rates to commercial customers. The call market, finding its emergency supply of credit from the Banks thus tending to be shut off, became very sensitive. Comparatively small fluctuations in the supply of funds caused violent fluctuations in the rates, with detriment to the prestige of New York as an international money centre. Furthermore, as brokerage credit became more expensive, borrowers on stocks attempted to get accommodation from their bankers who found it difficult to refuse such loans to their own customers. The banks, accordingly, though not themselves lending to the call market, were finding their loans to individuals on securities increasing, and, in order to obtain a stronger position for fighting off these demands, were anxious to have announced an increase in the Federal Reserve rate of rediscount. The Board, however, were loath to raise the rate: such a step might become necessary, but it was essentially a step in the wrong direction, having a bad effect on domestic business, and, in its international repercussions, on gold movements and World trade. Uncertainty brooded over the whole situation. Four of the most important Federal Reserve Banks—New York, Boston, Philadelphia

and Chicago—sought permission to raise the rate to 6%, but the request was refused by the Board. On the 21st May, 1929, the Federal Advisory Council recommended that such requests for higher rates should be granted. On the supposition that the Board could not withstand the pressure, a scare developed and the market broke on the 22nd. It is said that the shares of one large corporation alone depreciated more than \$m200 during the day and that the general decline in values was one of the most costly that had till then ever taken place in a single session.

The Board, nevertheless, did not advance the rediscount rate in May, and it is possible that the Banks felt aggrieved thereat. Their co-operation with the Board had meant for them simply handing over to their own depositors a portion of their lucrative call money business. Their depositors were lending direct and the expansion of the total Stock market credit had continued unchecked.\* Whether the Banks' support of the Board's policy became less wholehearted, or whether, as they claimed, other considerations justified their action, the Banks in June and July largely increased their own loans to brokers on security and the total of bills rediscounted for Member Banks reached the highest figure since 1921. Under these circumstances, the Federal

\*National City Bank of New York, Bulletin, September, 1929, p. 124.

Reserve Board of New York was allowed to raise its rediscount rate to 6% on August 9th. Since there was a considerable body of opinion in Wall Street that believed such action would not be taken until after the financing of the crop-moving period had been arranged, the unexpected rise caused another violent break in the Stock Market, followed by another rally as the New York Banks stepped in to supply further funds. The Board, at the same time as they raised the New York rediscount rate, lowered their buying rate for bankers' acceptances from  $5\frac{1}{4}$  to  $5\frac{1}{8}$ %. These acceptances were drawn mainly for financing commerce and industry, and the assumption was that the easier credit so provided would not be diverted into speculation but would operate to counterbalance the tendency to dearer general rates set up by the increase in the rediscount rate.

By the end of September, 1929, the policy of deflating the Stock Exchange Market cautiously by a series of carefully controlled breaks—if that was the policy—was proving decidedly inadequate in its execution. The bumping of the speculator down the stairs failed in its desired effect since he persisted in regarding the process as only their fun and scrambled up again as quickly as he was thrust down. By the end of August, brokers' borrowings on collateral in New York city had mounted to the record figure of \$m7,882 (see diagram 4) and were still mounting. At the end

of September the loans from non-banking sources were about 57% of the total, and the public were still paying from 8 to 10% for money to bid for stocks which at the price paid were yielding a current return of only 2 or 3%. The Bank of England anxiously waiting for the real break to come, while watching its gold fast running out, waiting in fact almost dangerously long, was forced to raise its rate from 5½ to 6½% on September 26th, and nearly all the European central banks had also been obliged to raise their rates.

Eventually the long-anticipated crash came at the end of October. The immediate cause was not an engineered restriction of credit, for, indeed, the average renewal rate on call loans in New York City for the month of October was only 6.43%, a lower figure than for any previous month of the year. The market appears to have broken under its own weight. The preceding series of sudden breaks began to have some influence on the less reckless speculators; the buying of stocks became somewhat more selective and some stocks ceased rising in value. There were reports of substantial recession in building construction and some other important industries. The European countries by raising their discount rates were endeavouring to stop the flow of funds to the New York market, while Canada and the Argentine had established a virtual embargo on gold exports. It is said that the extraordinary collapse of the Hatry financial group in England

led to heavy selling by British interests in the American market.

Whatever may have been the basic cause, the American public in October found that the stocks they had bought, often on a margin, for a rise were no longer rising; they became alarmed as the month proceeded and security values showed a distinct tendency to decline, and the alarm culminated in a hurricane of liquidation at the end of the month. On Thursday the 29th, the crash began; the sales on the New York Stock Exchange aggregating a new record of 12,849,650 with a drastic fall in values. After a slight rally during the rest of the week, Monday and Tuesday witnessed a tremendous break, the aggregate sales for these days being 9,212,800 and 16,410,030 respectively. By the end of Tuesday's trading, there had been a decline, according to an estimate by the *New York Times*, in the market value of 240 representative securities of \$m15,984, most of it inflicted during these three days. Attempts to rally the market were effective on Wednesday, and with support from the New York Banks, a large volume of investment buying from big institutions, and reassuring statements from public men, Thursday, though the opening hour had been postponed till midday, showed heavy trading and continued the sharp recovery in values of the preceding day. This recovery made it possible to close the Exchange on Friday and Saturday

without causing undue apprehension, and, indeed, the closing was almost a physical necessity for the exhausted brokers. The total of brokers' loans in Thursday's return showed a decrease for the week in "loans by others" of \$m1,380 and a total decrease of \$m1,096; the most rapid and sweeping reduction ever known since such returns were first issued in 1917. Stocks had passed from the hands of weak holders into those of strong, the gullible public had been fleeced, and it seemed safe to assume that the bubble of mass speculation had at last been burst. The Bank of England hurried to reduce its rate from 6½ to 6% and the Federal Reserve Board approved the reduction from 6 to 5% of the rediscount rate of the New York Federal Reserve Bank.

The index number for 406 Common stocks (Standard Statistics Company, 1926—100), which had been 225.2 for September, fell to 140.3 for the week ending November 16th. By the end of November, the brokers' borrowings on collateral in New York City had fallen to \$m4,017. Enormous as the strain of this liquidation was, it was accomplished without any financial panic and with an almost complete absence of failures among financial or brokerage houses. Very large sums were withdrawn, as anticipated, by non-banking lenders from the brokers, but these funds were mainly converted into bank deposits, and the New York banks, which had been prudently



preparing for emergencies, were able to take over temporarily the loans to the brokers. The Federal Reserve Bank of New York lent its valuable aid to the situation during the critical week by increasing its discounts for Member Banks by \$m150 and also by purchasing \$m150 of United States Government securities in the open market.\* Furthermore, a voluntary committee representing the banking interests furnished a pool to fight a rearguard action and prevent the needless sacrifice of values through panic selling.

Whatever may be said against the New York money market for allowing the bull interests to advance into a desperately untenable position, it is true that, when abandonment was no longer a matter of choice, the complicated manoeuvres of withdrawal were conducted with a Gallipolian efficiency. The following figures illustrate some of the more important operations:

*Reporting Member Banks in New York City:*

	Oct. 23	Oct. 30	Nov. 27
	\$m	\$m	\$m
Total Loans and Investments....	8,908	10,288	9,445
Loans on Securities .....	3,471	4,651	3,512
Net Demand Deposits .....	5,893	7,458	6,546
Borrowings from F. R. Banks	66	197	69

\*"Unquestionably the known strength of the Reserve System was a reassuring factor of inestimable value. It was known that the Member Banks' borrowings of the Reserve Banks were very light and that the Reserve Banks had steadily striven to keep their own credit out of the market. It is easy to see what this assurance has been worth as a salutary influence through the days of alarm."—National City Bank of New York, Bulletin, November, 1929, p. 164.

110 MONEY AND BANKING SYSTEM

*Federal Reserve Bank of New York:*

	Oct. 23	Oct. 30	Nov. 27
	\$m	\$m	\$m
Total Bills discounted .....	107	246	128
Total U. S. Govt. Securities ....	17	158	159

*Loans to brokers and dealers in Securities made by Reporting Member Banks in New York City:*

	Oct. 23	Oct. 30	Nov. 27
	\$m	\$m	\$m
For banks in New York City....	1,077	2,069	831
For banks outside N. Y. City	1,733	1,005	638
For others .....	3,823	2,464	1,982

By the end of November, the rediscount rate of the Federal Reserve Banks of New York, Boston, and Chicago had been reduced to  $4\frac{1}{2}\%$ ; on the 21st November the Bank of England made its record second reduction, to  $5\frac{1}{2}\%$ , within a month.

The collapse of the great speculative boom in the United States has cleared the way for a further advance towards a better redistribution of the world's gold.

## CHAPTER VIII

### CONCLUSION

**W**HATEVER criticisms may be made of the Federal Reserve System, they should not be allowed to obscure the fact that the System has proved of incalculable benefit to the United States and, indeed, to the World generally. There is nothing essentially wrong either with the structure of the System or with the broad policies that the Federal Reserve Board have endeavoured to pursue. Faced at the outset of their career by a World War which subordinated sound finance to political exigencies, the Board, when peace was restored, found themselves hampered for a time by post-war adjustments. By May, 1920, the System was approximating to using in full as a basis of credit the gold it possessed, but this development was making for a too rapid and unhealthy expansion in productive activities which the Board took drastic steps to correct. After this was accomplished, they based their policy on the necessity for sterilizing a large portion of the huge influx of gold in order to keep the general level of commodity prices reasonably stable and allow business and trade activity to progress in

an orderly and sound prosperity. Having achieved this purpose, they then aimed at adopting a cautious policy of easier credit conditions and cheaper money which would tend to a gradual dispersal of the surplus gold. That in the execution of these policies they made minor misjudgments and met with some unexpected difficulties, not even yet entirely successfully overcome, is doubtless true, but that the broad policies were justifiable in the interests both of the United States and the World generally is also true and a matter of more importance.

One of the criticisms brought against the System is that the Board have not yet devised a technique by which they can control and send credit the way they wish it to go.\* They can control the aggregate amount of credit but not the uses to which it is put. When they desire to provide additional funds for the requirements of genuine business, they find at times too great a proportion diverted from the intended use into speculation. If the Board were given powers of supervision over the loan practices of Member Banks, they might acquire greater control over the use of the credit they create, but there are obvious objections to this, and the way of improvement seems to lie in a more genuine and widespread co-operation of Member Banks with the Board's policy. Such co-operation may be expected to arise as increasing

\*H. R. 11806, p. 361.

experience and knowledge give increasing confidence in the Board and in the benefits of banking solidarity.

The consideration arises here whether it might not help in this matter to make Government Securities no longer eligible for rediscount. Other paper eligible for rediscount does, at least, show that the borrowing Member Banks are making commercial loans, but borrowing on Government securities does not indicate this. It is, of course, a convenience in practice for Member Banks to be able to hold Government securities as a reserve eligible for rediscount but whether the sacrifice of this is worth while for the purpose of obtaining a possibly more effective control over the use of credit is a matter of opinion.

Another criticism brought against the System is that the structure of the Federal Reserve Board is basically unsound. It has been pointed out that, apart from the ex-officio members, the Board has at present only one member of distinctly banking training. Supposing, for the sake of argument, this to be a defect, it does not indicate that the structure is faulty but rather that the appointments have not always been wise, for it is difficult to see how the Board could be appointed except by the President by and with the advice and consent of the Senate. It is, however, arguable that the presence of the ex-officio members—the Secretary of the Treasury as chairman, and

the Comptroller of the Currency—introduces an element which tends to entangle Federal Reserve Policy with politics. To be precise, the suggestion is that the political necessity to give adequate colour to the prosperity slogan of the Republican party prevented the Board from restraining in time that great expansion of credit from, at least, 1924 onwards which was directly responsible for generating over-optimism and an extraordinary mass speculation. What gives point to the allegation of subservience to the Treasury is that “the great diversity of interest between politically influential sections of the United States makes Treasury policy in this country peculiarly subject to economically backward public opinion.”\* If, however, it is the case that the President’s appointees to the Board are not able, willing, or strong enough to stand up against a minority Treasury representation which desires to place political party advantage above sound financial policy, or does so blindly, the fault is not with the legal structure of the Board but elsewhere.

The main defect of the Federal Reserve System appears to the author of this book to be that the Board are unduly hampered in their work, which is certainly difficult and intricate enough to occupy their full energies and attention. They are

\*The Times Trade and Engineering Supplement, 29th June, 1929, p. 15.

hampered in the first place by what is, perhaps, unavoidable in a democratic country like the United States: their susceptibility to a public opinion which in these matters is not always intelligent. Action which they know to be needed tends to get delayed because public opinion is not ripe for it. The people of the United States, as Bryce has said, are habitually distrustful of the various organs and agents of government. They grudge the tremendous power, which they suppose the System has, to decree prosperity or depression. They may doubt whether the Board have the power and ability to control credit wisely, and they may even doubt whether the Board have the will or freedom to control it entirely honestly; in any case there seems to exist, among those whom it would be cynical not to regard as the less intelligent, a preference to trust in chance or fate rather than in the honesty and ability of their officials. The Board may have also to contend against the opposition of the wise but wicked who prefer fishing in troubled waters: the sort of men on whom Congressman Beedy had his eye when he said: "American business men want these fluctuations in prices, not only in securities but in commodities, in trade generally, because those who are now in control of the situation are making a profit out of that very situation. There is nothing to be gained by them by stabilization, but practically all is to be lost. The gain from

stabilization comes in the welfare of the countless thousands who are not in the capitalist class.”\*

The result seems to have been detrimental to firm and courageous leadership and tending towards timidity and subterfuge. When it has been necessary, as in 1920, to check rising prices because of their unhealthy overstimulation of business enterprise, the Board have been slow to act and, to disarm criticism, have proclaimed that they were not able to control the price level and were acting, not for that impossible and unpopular purpose, but for some other reason. When it has been necessary, as in these last few years, to check wild speculation and rising security market values, the Board have been dilatory and over-cautious in acting and have strenuously maintained that they do not want to interfere with the loan practices of banks or to set up as an arbiter of security values, whereas the truth was they must have desired a change in loan practices and a break in the Stock market and took steps to bring such about, not, of course, as an end in itself, but as a means to an end. If the Board have to work with an eye on public opinion, it is hampering. That they have some excuse for timidity may be conceded when the outburst of popular resentment in 1921 is remembered, or the unsuccessful attempt in July, 1929, to obtain from the Circuit Court of Appeal an injunction re-

\*H. R. 11806, p. 382.



straining the Federal Reserve Bank of New York from doing any act or thing calculated to curtail the credit resources of the United States or to force a liquidation of brokers' loans and, generally speaking, seeking to cripple the powers of credit control.\* Further evidence of popular resentment will doubtless be forthcoming after the October, 1929, collapse of the Stock market. It is also worth mentioning that any attempts by the Board to co-operate with the Central Banks of Europe are not infrequently met with considerable suspicion and with accusations of sacrificing American interests. The only remedy for this state of things is one which time will probably bring: a better instructed opinion of the aims and working of the Federal Reserve System and a growing confidence in the Board. The work of the Board in collecting and publishing the fullest statistics and the periodical issue of expository reports is excellent and should have its effect in time.

One imagines that the Board are also hampered by the well-meaning attentions of Congress. Legislation is proposed which the Board do not want and long sessions of Congressional Committees are held at which the members of the Board are expected to appear in order to give full explanation and submit to lengthy cross-

\*F. G. Raichle v. Federal Reserve Bank of New York, reported in the Bulletin for August, 1929, p. 566.

examination; all of which must be distracting to men whose time and energies are fully occupied by most difficult and exacting work. Allusion may be made again to the serious handicap to the work of the Board in the absence of any correlation between their credit policy and the foreign trade policy of the country.

Even inside the System itself, the Board may find hampering conditions. They have to count with a Federal Advisory Council that may publish recommendations, as in May, 1929, which are against the Board's policy; they have to work with and through twelve Federal Reserve Banks who may show recalcitrance. In 1919 it had to be decided by the Attorney-General that the Board had power to change the rediscount rate even against the desires of the Federal Reserve Bank concerned, and this power was exercised in the case of the Chicago Federal Reserve Bank in August, 1927. They have to keep control from slipping in fact into the hands of the powerful Federal Reserve Bank of New York, a danger illustrated by the Conference with European bankers in 1927, and they have to guard themselves against being too much influenced in their judgments by the expert knowledge of their competent permanent staff. There seems to be some significance in Dr. Miller's words: "The Federal Reserve System is a pretty big organization. There are many persons in it. We have a con-

siderable number of amateur economists, and from my point of view they constitute one of its dangerous elements. There are altogether too many in and around it for the good of the system, and there had been some influx into the Federal Reserve mind of half-thought-out ideas— notions almost metaphysical in their character. These have penetrated the minds of some of the operators of the Federal Reserve System.”\*

It is possible that the Federal Reserve Board at times spare a moment to regard with envy the Directors of the Bank of England still working as yet without distraction in a mysterious and peaceful obscurity, publishing a minimum of information, holding themselves legally accountable to nobody, ostensibly ignoring outside criticism, and having a gentlemanly assumption that their motives and their wisdom are alike beyond reproach.

Firm leadership and wholehearted co-operation are reciprocating. One cannot expect firm leadership when a failure in co-operation is feared, nor can one expect hearty co-operation unless firm leadership is evident. For this reason, they are and must be a more or less slow growth. That they have not reached perfection in the fifteen years—often quite abnormal years—of the existence of the Federal Reserve System, is no matter for surprise; rather is it a matter for congratula-

tion that the progress in efficiency has been as considerable as it has been, and there is confident hope that it will continue.