

CENTRAL BANKING

BY

M. H. DE KOCK, Ph.D. (Harvard)

DEPUTY GOVERNOR OF SOUTH AFRICAN RESERVE BANK

WITH A FOREWORD BY

JOHANNES POSTMUS

GOVERNOR OF SOUTH AFRICAN RESERVE BANK



P. S. KING & STAPLES LIMITED
FOURTEEN GREAT SMITH STREET, WESTMINSTER, S.W.1

CONTENTS

CHAP.	PAGE
FOREWORD BY J. POSTMUS	vii
PREFACE BY THE AUTHOR	xi
I. THE RISE OF CENTRAL BANKING	1
II. THE CENTRAL BANK AS THE BANK OF ISSUE	17
III. THE CENTRAL BANK AS THE GOVERNMENT'S BANKER, AGENT AND ADVISER	37
IV. THE CENTRAL BANK AS THE CUSTODIAN OF THE CASH RESERVES OF THE COMMERCIAL BANKS	61
V. THE CENTRAL BANK AS THE CUSTODIAN OF THE NATION'S METALLIC RESERVES	75
VI. ✓ THE CENTRAL BANK AS THE BANK OF REDISCOUNT AND THE LENDER OF LAST RESORT	89
VII. THE CENTRAL BANK AS A BANK OF CENTRAL CLEARANCE, SETTLEMENT AND TRANSFER	112
VIII. ✓ THE CENTRAL BANK AS THE CONTROLLER OF CREDIT	122
IX. ✓ DISCOUNT-RATE POLICY OF CENTRAL BANKS	148
X. ✓ DISCOUNT-RATE POLICY (<i>continued</i>)	169
XI. ✓ OPEN-MARKET OPERATIONS OF CENTRAL BANKS	189
XII. ✓ OPEN-MARKET OPERATIONS (<i>continued</i>)	213
XIII. OTHER METHODS OF CREDIT CONTROL ; RATIONING OF CREDIT ; DIRECT ACTION AND MORAL SUASION ; CHANGES IN RESERVE REQUIREMENTS ; CHANGES IN MARGIN RE- QUIREMENTS ON SECURITY LOANS ; PUBLICITY	225
XIV. CENTRAL BANKS AND BUSINESS CYCLES	242
XV. CONSTITUTION AND ADMINISTRATION OF CENTRAL BANKS	265
XVI. RECENT TRENDS IN CENTRAL BANKING	284
INDEX	305

FOREWORD

WHEN George Rae wrote his preface to *The Country Banker* he remarked that most people regarded principles of banking—mistakenly as he thought—as a subject devoid of human interest. Had he lived until this day he would have been surprised at the great interest which the general public has developed in all matters relating to money and banking.

The various monetary expedients resorted to by Governments during the War and post-War periods, under the stress of abnormal conditions and requirements and under the cover of an almost universally suspended gold standard, amounted to a contradiction of the formerly accepted principles of sound banking and finance and left the impression on the public mind that wonders could now be achieved with monetary management and credit control. There appeared to be no longer any need for the State to be rigidly governed by the conditions which applied to the individual, such as those of living within one's means and cutting one's coat according to one's cloth. The State was regarded as having at its disposal instruments for arbitrarily increasing its means either through the printing-press or central bank credit or both, the use of which could be made to produce notable benefits for the community without serious disadvantages if monetary management were wisely applied.

The man in the street who formerly "regarded banking devoid of interest" now demanded that more attention be paid by the State to the employment of those instruments of monetary policy to the immediate advantage of the community, and he wanted to know all about this subject. So books appeared by the dozen to suit the occasion and the purpose.

There was a temporary lull in public intervention in monetary affairs, which was caused, firstly, by the shock of the severe depreciation in the currencies of several countries, necessitating drastic devaluation in some cases and virtual repudiation in others, and secondly, by the discipline inherent in the international gold standard as it came to be gradually restored during the years 1925-8; but when the process was resumed again after the onset

of the great depression and the subsequent world-wide suspension of the gold standard, it was taken up with greater vigour and intensity than ever before. The benefits of the freedom of movement and scope for manipulation permitted by managed money, as compared with the so-called tyranny and rigidity of the gold standard, were extolled; and in disregard of the tragic experiences of inflation and currency depreciation during the post-War years it was again believed with almost childlike faith that monetary management could cure the economic ills of the world which were wrongly attributed to the gold standard.

In recent years again, many books, pamphlets and articles have been written telling the public about the virtues of managed money and the immense powers of credit control possessed by central banks and available for good if they would only exercise these powers; old and well-tried principles have been declared out of date; new theories have been developed; autarchy and government by regulation have replaced free enterprise; boards of control are trying to direct the bewildered business man; and in the belief that central banks have it within their power to control credit as a means of controlling price levels and business cycles, many have demanded of them that they should assume the rôle of supreme controllers and employ their "omnipotent" instruments of credit control for the purpose of achieving and maintaining the desired levels of prices, wages, production, trade, employment, etc. The question as to "who is going to control the controller", should the central banks actually have these magic powers, does not appear to have received the requisite attention.

It is in circumstances like these that I consider a detailed outline by a practical central banker of all the important functions and powers of a central bank, with due emphasis not only on their benefits to the banking structure in particular and the economic structure generally but also on their limitations and dangers, to be fully justified. It may at least be expected to strengthen the hands of the group of economists who have been trying to point out the existence of insuperable difficulties in the way of complete control of credit by a central bank or any other authority. Thousands now read books on matters relating to currency and credit, eager as they are to keep abreast

of the times and to find the solution of their doubts, and if the average reader closes this book with a feeling that such subjects as "central banking" and "credit control" are highly complicated matters, which do not permit of mechanical formulæ and which should be left to the discretion and judgment of experienced experts, he will have learned from it more than from so many others.

J. POSTMUS.

PRETORIA,

October, 1938.

AUTHOR'S PREFACE

It is only in recent years that central banking has been adopted as a subject for scientific analysis and for separate treatment as compared with other types of banking.

Prior to the publication of *Central Banks* by Kisch and Elkin in the beginning of 1928 there was no book that had the words "central bank" or "central banking" in its title, although as early as 1917 Sprague had added a special chapter on "central banks" to Dunbar's *Theory and History of Banking*, and references had, of course, been made to central banks and certain central banking problems and methods in general works and reports on money and banking. Moreover, prior to 1928 various books had appeared dealing with the history of banks of issue, such as those of Conant, Noël, Levy, Servais, and Dierschke and Müller, or with individual banks, such as those of Francis, Philippovich and Andréadès on the Bank of England; They, Courtois, Loubet, Hayem and Felsenhard on the Bank of France; Gerritsen on the Netherlands Bank; Van Elewyck on the National Bank of Belgium; and Willis, Burgess, Goldenweiser, Kemmerer, Beckhart and Harding on the Federal Reserve System of the United States.

Since 1928 the following books containing the words "central bank" or "central banking" in their titles have been published:

- Gold and Central Banks*, by Mlynarski (1929);
- Functions and Operations of Central Banks (with special reference to the South African Reserve Bank)*, by the Author (1929);
- Theory and Principles of Central Banking (with special reference to the working of the Bank of England and the Federal Reserve System of the United States)*, by Shaw (1930);
- Art of Central Banking*, by Hawtrey (1932);
- Central Banking in Canada*, by Creighton (1933);
- Central Banking under the Federal Reserve System (with special consideration of the Federal Reserve Bank of New York)*, by Clark (1935);

Rationale of Central Banking, by Vera Smith (1936);
Theory and Practice of Central Banking (with special reference to American experience), by Willis (1936).

During this period further books were published regarding the history and operations of individual central banks, namely, those of Reed, Warburg, Spahr, Badin, Hardy, Laughlin and Harris on the Federal Reserve System; Sayers, Acres and Bowman on the Bank of England; Ramon on the Bank of France; Parchmann and Northrop on the Reichsbank; de Jong on the Netherlands Bank; de Bree on the Java Bank; and Jauncey on the Commonwealth Bank of Australia.

While the above-mentioned literature constitutes a valuable nucleus for the science of central banking, the bulk of this work is either too purely descriptive of the history, statutes, or operations of central banks (in most cases only one central bank at a time) or too purely theoretical or controversial. Moreover, the books which deal with the theory and principles of central banking are devoted almost exclusively to the situation as it exists in Great Britain and the United States, which have international money markets in London and New York, and practically ignore the position of the great majority of countries which do not have well-organised money markets if at all. In addition, in discussing the aims and policies of central banks they do not sufficiently take into account the psychological and technical difficulties with which central banks are confronted in performing their functions and carrying out their policies.

There is need, therefore, not only for a survey of the central banking situation in the world at large, but also for one which seeks to weave the evolution of the functions and principles of central banks along with the theoretical, psychological and practical aspects of central banking into one whole.

It has been my aim to assist in meeting this need by giving greater weight to central banking conditions and methods in all kinds of countries and to the disturbing and complicating factors of a psychological and technical nature. With an abundance of advocates of monetary reform whose assumptions and proposals do not take due account of the limitations imposed by the operation of

such factors, and with increasing public interest in these monetary reform schemes, it is important that more attention be given to the difficulties and limitations of central banking in the light of practical experience.

I wish to make it quite clear, however, that, in making the foregoing comments, it has not been my intention to belittle the work done by economic theorists in the field of central banking. On the contrary, I would like to take advantage of this opportunity to acknowledge my gratitude and indebtedness to economists in various parts of the world for their valuable contributions to the theoretical analysis of matters connected with central banking principles and operations. Economic theory in itself cannot be expected to provide for all the possible disturbing forces, the effects and repercussions of which cannot be accurately determined beforehand, but it does seem appropriate that, when schemes for practical monetary reform are based on a given theory, due allowance should be made for the complications and deviations from the theory which have, under modern conditions, come to possess something of the normal.

In general, my aim has been mainly that of trying to adjust the emphasis on the various factors according to their value and importance as viewed from the practical side of central banking. In this connection I wish to pay tribute to *The Reserve Banks and the Money Market*, a book written by Dr. Burgess, a Vice-President of the Federal Reserve Bank of New York, from a similar point of view but only as applied to the Federal Reserve Banks of the United States.

M. H. DE KOCK.

PRETORIA,
November, 1938.

CHAPTER I

THE RISE OF CENTRAL BANKING

PRIOR to the commencement of the twentieth century there had been no clearly defined concept of central banking. A gradual evolution had been taking place in various countries over a long period of years, but the process had not always been a conscious one and a systematic and consistent technique had not yet been developed and formulated. The temperament and discretion of individual managements had played the principal part in the decisions and operations of the bank which had, as it were, become the centre of the monetary and banking system in each of several countries.

In many of the older countries one bank had come to assume more and more the position of a central bank, owing to its acquiring the sole or the principal right of note issue and conducting the banking operations of the State. They were not originally called central banks, but were generally known as banks of issue or as national banks. The regulation of the note issue, subject to safeguards imposed by the State and the maintenance of the gold or silver standard where such was in force, were the principal functions of such banks. In due course, these banks of issue acquired other functions and powers until the term "central bank" came to be generally used and to have a more or less standardised meaning.

The oldest central banks were in some cases developed from existing commercial banks. The first to assume the position of a central bank was the Bank of England, followed by the Riksbank of Sweden, and they were also the first joint-stock banks to be established in their respective countries. The Bank of England is not only the oldest central bank,¹ but it has also retained till this day its place as the premier central bank of the world, and the history of the Bank of England is universally accepted as illustrating the evolution of central banking principles and technique.

The Bank of England acquired a special position in

¹ In the sense that it was the first to operate as a central bank, while the Riksbank of Sweden was the first to be established.

relation to the British Government from the outset of its career. It became the Government's banker. In fact, it was brought into being by public subscription in 1694 for the express purpose of advancing money to the Government, in return for certain rights and privileges conferred by legislation. These included the privilege of note issue subject to certain limitations, followed three years later by what was generally interpreted to be a monopoly of joint-stock banking in England for the period of the Bank's charter ; and these privileges,¹ together with its function as banker to the Government, gave it great prestige in the eyes of the public as well as of the private bankers of England.

Through the medium of the banking transactions of the Government the private banks were brought into close and continuous contact with the Bank of England, and it soon became clear to these banks that there was an advantage in keeping an account with the Bank of England, particularly as it was at the same time the principal bank of issue, i.e. the bank whose notes commanded the greatest confidence and the widest circulation. The tendency to keep larger and larger balances with the Bank grew as time went on, until by the end of the eighteenth century the stage was reached when the other banks did not keep in their own tills much more currency than was required for their day-to-day needs. In this way the Bank of England came to be regarded as the custodian of the cash reserves of the banks.

In 1826 the establishment of other joint-stock banks was authorised by law, and during the next ten years more than a hundred joint-stock banks were opened all over England. Those that were established outside a 65-mile radius from London obtained the right to issue their own notes, but the Bank of England retained its privileged position in that legislation passed in 1833 declared only its notes as legal tender. Moreover, under the Bank Act of 1844 the note issues of the other banks were limited to fixed amounts and provision was made for their lapsing under certain circumstances, as a result of which the partial monopoly of note issue was virtually restored to the Bank. During this period, also, the Bank, having been authorised to do so in 1826, opened branches in various parts of England.

The tradition of maintaining balances with the Bank,

¹ These privileges were renewed and extended from time to time, in return for further loans to the State or for other considerations.

which was already firmly entrenched prior to the introduction of joint-stock banking was continued by the new banks, and its position as the centre of the English banking structure was further strengthened in 1854, when the plan was adopted of settling the differences between the various banks at the end of each clearing by transfers between their respective accounts at the Bank.

In the meantime the Bank had gradually come to accept the position of being the " lender of last resort ", as Bagehot called it, and to assume responsibility for endeavouring to maintain not only the currency but also the credit system of the country on a sound basis. The crisis of 1847, which was caused by excessive speculation in railway stocks, inflation of credit, and bad harvests followed by a considerable importation of wheat, brought about such a heavy drain on the reserves of the Bank that the Government intervened and authorised the Bank to break that part of the Bank Act of 1844 which required all notes issued by the Bank above the so-called fiduciary limit to be covered by gold. The Bank was empowered to exceed that limit in order to meet the requirements of the public.

The close relation between currency and credit was again demonstrated by the crisis of 1857, which was brought about by overtrading and overexpansion of credit, and this again rendered necessary the suspension of the Bank Act. A third occasion for the suspension of the Bank Act arose in 1866, when another crisis was caused by overspeculation in the stocks and shares of the many new companies which were formed at that time and the failure of a large financial house, Overend, Gurney & Company.

In only one of these three instances, namely, in 1857, did the Bank actually find it necessary to avail itself of the authority to increase its fiduciary issue beyond the limit imposed by the Bank Act. In the other instances the mere fact that money would be available if required appeared to be sufficient to relieve the tension. Moreover, in all three instances the Bank raised its discount rate¹ (known as ' Bank rate) in order to reduce the demand for banking accommodation, contract credit generally, and protect its gold reserve, but its action did not prove to be immediately effective as it was not taken until after the panic had started, and that was too late.

¹ It was raised as high as 10 per cent. in 1857 and 1866.

These crises demonstrated clearly the extent to which the position of the Bank could be affected by speculation and undue expansion of credit, and, accordingly, the need, for taking steps in good time to protect its reserve. The use of the Bank rate as an important instrument of credit policy was now firmly established. Henceforth the Bank's regulatory function received greater prominence and the leadership of the Bank as the central institution of the British financial structure was more generally accepted.

The following occasion on which the Bank had to face a difficult position was in 1873, when it was promptly and successfully handled, and again in 1890 when, as the result of widespread and excessive speculation in foreign securities which led to the failure of Baring Brothers, an issue house with extensive ramifications, a serious emergency was created. The Bank, realising the potential repercussions of such a failure in the light of its previous experiences with failures and panics, took charge of the situation and undertook, in co-operation with other English banks and financial houses, to guarantee the payment at maturity of all obligations of the failing house. The Bank succeeded in allaying public alarm and averting a general panic, and there was no necessity to suspend the Bank Act.

The successful exercise of its paternal influence in these emergency situations not only gave the Bank great prestige and established it finally as the central bank of Great Britain but also stimulated the development of central banking in other parts of the world.

In various countries, during the course of the nineteenth century, the State had either endowed an existing bank with the sole or principal right of note issue, or caused a new bank of issue to be established with special powers and privileges, accompanied by varying degrees of State control and supervision.

The Riksbank of Sweden, which had sprung from a privately-owned bank founded in 1656 and reorganised as a State bank in 1668, followed in the footsteps of the Bank of England and gradually developed into a central bank. During a large part of its earlier career it enjoyed a monopoly of note issue which was re-affirmed by legislation in 1809, but the "enskilda" banks which were established from 1830 onwards took the liberty of issuing their own notes and later obtained legal authority for their issues. It was

not until 1897 that the sole right of issue was finally restored to the Riksbank. Although a State-owned bank, whose President was appointed by the Government and whose six other directors were elected by the Riksdag (Parliament), it succeeded in acquiring a large measure of independence in matters of banking policy and administration and in attaining a position of unquestioned leadership in the Swedish financial system.

The Bank of France, which was founded in 1800 partly with the aid of State funds, but mainly with private capital, was closely connected with the State from the beginning. It became the Government's banker and received the exclusive right of note issue in Paris, but the Government claimed a participation in the control of the Bank through the appointment of the Governor and two Sub-Governors, while the shareholders were represented by a Board of 15 Regents elected by the 200 largest shareholders. In 1848 its scope and capital were enlarged as a result of the transformation of nine provincial banks with note-issuing powers into branches of the Bank of France. In due course more branches were established and the Bank obtained a monopoly of note issue in the whole of France. In accordance with the intention of its founder, Napoleon Bonaparte, the Bank became "national in its operations as well as in name", and like the Bank of England it became not only the banker of the State and the bank of issue, but also the custodian of bank reserves and the ultimate source of credit in an emergency. Unlike the Bank of England, however, the Bank of France did not give up the bulk of its commercial banking business when it had established itself as the central bank of France, but continued to serve a large number of regular customers with discounts and collateral loans.

The Bank of the Netherlands was established in 1814 after the old Bank of Amsterdam had for various reasons become discredited. The need was felt for a bank of the new type which was developing in England, Sweden and France, as referred to above. It became the sole bank of issue and banker to the State and developed into a bankers' bank and a bank of reserve with the responsibilities which such functions entail. It was founded with private capital, but the President and Secretary of the Managing Board were to be appointed by the Government, while the other

members of the Managing Board and the Board of Directors were to be elected by the shareholders. Moreover, the Government was to receive a share in the profits of the Bank when the net annual profits exceeded $3\frac{1}{2}$ per cent. of its capital.

The National Bank of Austria was instituted in 1817 as a joint-stock company in order to restore order in the monetary position of Austria, which had seriously deteriorated as a result of the excessive issue and depreciation of Government paper money. The Bank was accorded the exclusive privilege of note issue and proceeded to convert the Government money into its own bank-notes as far as circumstances would permit. This process was almost completed by the end of 1847, but owing to the wars and uprisings in which Austria was involved between 1847 and 1866 the Government again resorted to the issue of paper currency, and several loans had also to be made to the Government by the Bank. The Bank was reorganised as the Bank of Austria-Hungary in 1878, and subsequently steps were taken to retire the Government paper money and to place the monetary system on a sound basis.

The Bank of Norway, which was opened in 1817, was brought into being by private capital, but like the Riksbank of Sweden its President was appointed by the Government and its other directors were elected by the Storting (Parliament). It was granted the sole right of issue and made the Government's banker, and its further development followed on much the same lines as the Riksbank of Sweden.

The National Bank in Copenhagen was founded with private capital in 1818 to take over the business of the Rigsbank, a State bank which had been created in 1813 to withdraw the depreciated Government paper money from circulation and to issue bank-notes in their place. The National Bank became the sole bank of issue and was called upon to reorganise the monetary system and generally redeem the notes of the old Rigsbank. Apart from the issue of notes, it functioned from the beginning as the depository of Government funds, and later developed into a bank of reserve and rediscount. The only State control was in the form of the appointment by the Government of two out of the four or five managers, while the Board of Directors was elected by the shareholders.

The National Bank of Belgium was created in 1850 as

the sole bank of issue and the financial agent of the Government. Prior to that date there were four banks of issue, and the notes of none of these banks had a national circulation, nor did they operate successfully as agents of the Treasury. The National Bank was a privately-owned institution, but the Governor of the Bank was to be appointed by the Government. As in the case of the Bank of France, the National Bank of Belgium, besides being the bankers bank also conducted a large discount business with other clients and even operated extensively in foreign exchange.

The Bank of Spain, which had sprung from a State bank founded in 1829, was established under that name in 1856. At first it had to share the right of issue with the provincial banks, and it was not granted a monopoly of note issue till 1873. Although the capital was raised by private subscription, the appointment of the Governor of the Bank rested with the Government.

The Bank of Russia was founded in 1860 as a State bank with the declared object of consolidating the monetary circulation and the floating debt of the Russian Empire. The country had suffered greatly from the evils of depreciated Government paper money and from the lack of proper banking facilities. The Bank was granted the sole right to issue bank-notes and was called upon to stabilise the currency and promote the development of commerce, industry and agriculture by means of short-term credits. The Governor and Deputy-Governor were appointed by the Government, while a Council consisting of Treasury officials was instituted to supervise the operations of the Bank.

The Reichsbank of Germany was founded in 1875 on the Bank of Prussia, whose ownership rested partly with the State but mainly with private shareholders. At the time of the formation of the German Empire there were in the several German States 33 banks of issue, of which the Bank of Prussia was the most important. It was agreed that these banks should retain their right of issue subject to certain limitations and to a uniform set of regulations, but that there should be a central bank of issue which was also to act as banker to the Imperial Government and to pursue, like the Bank of England, a bank-rate policy for the protection of the gold reserve and the credit structure of Germany.

The Bank of Prussia was taken as the nucleus of such a bank, which was called the Reichsbank. The Prussian Government was paid out its share of the capital and surplus, and the whole of the capital of the Reichsbank was obtained by private subscription. The Imperial Government, however, reserved to itself the power of appointing the Management Board, while the shareholders were to be represented by a committee elected by themselves. The Government also claimed a share in the profits of the Bank.

As a result of the limitations imposed on the issue of notes most of the old banks surrendered their right of issue to the Reichsbank, so that by 1893 there were only seven banks of issue apart from the Reichsbank. Their aggregate issues, however, were small compared with the issue of the Reichsbank. Moreover, the Reichsbank's notes were the only notes that really enjoyed a national circulation, and its position, not only as the central bank of issue but also as the bank of reserve, rediscount and central clearing, was never in doubt.

The Bank of Japan was set up in 1882 to restore order out of the chaos caused by the excessive issues of notes by the several national banks. These banks were ordered to withdraw their notes within a certain period, and the Bank of Japan obtained the sole right to issue notes. It was a joint-stock company, but the whole directorate of the Bank consisting of the Governor, Deputy-Governor and four directors were to be appointed by the Government. The Bank developed very much on the lines of the Reichsbank of Germany and the National Bank of Belgium.

In such countries as Portugal, Roumania, Bulgaria, Servia, Turkey, Java, Egypt and Algeria, banks with a monopoly of note issue were also brought into being during the nineteenth century.

Thus, by the end of the nineteenth century almost every country in Europe, along with Japan and Java in the East, and Egypt and Algeria in Africa, had established a bank of issue with special privileges and powers. All these banks became the financial agents of the Governments of their respective countries and were called upon to render all kinds of financial services to the State, including that of financing the Treasuries in times of war and economic depression. Moreover, starting with the Bank of England, these banks, one after the other and in varying degrees, had

come to assume various other functions, such as holding a large part of the cash reserves of the commercial banks, rediscounting for the commercial banks and other financial institutions or making collateral advances to them, operating as a clearing-house for the commercial banks, maintaining the monetary standard adopted by the State, and undertaking the responsibility and leadership in matters relating to the financial and credit structure generally.

As regards their business relations with customers other than Governments and banks, the range varied from the Bank of England, which by the end of the nineteenth century had already come to give up most of its commercial banking business and to deal mainly with operators in the money market, to the Bank of France, which had a large number of branches and conducted a large business with regular clients, including many small tradesmen all over the country.

With regard to their constitutional relationship with the State, the Bank of England stood at the one end, a privately-owned institution without any participation by the Government in its management and supervision, and at the other end was the Bank of Russia, a State-owned institution managed by Government nominees and supervised by Government officials.

Whatever the constitution and range of business, however, a series of traditions and practices were gradually being built up by experience and by a process of trial and error, and these formed the nucleus of the technique of central banking, which was to witness great developments during the first three decades of the twentieth century.

At the beginning of the twentieth century the countries of the New World¹ were still without central banks, and, in most cases, even without partial centralisation of the note issue. In the most important country, the United States of America,² every bank established under the National Banking Act had the right to issue bank-notes against deposit with the Federal Treasury of an equivalent

¹ Of the Old World such countries as China and India were also still without the vestige of a central bank.

² It deserves to be mentioned that the First Bank of the United States (1792-1812) and the Second Bank of the United States (1816-30) had been institutions resembling the central banking type in some ways, and that the failure to secure a renewal of the charter of the Second Bank had deferred central banking development in the United States for nearly 80 years.

amount of certain Government Securities, and none of these banks acted exclusively as the banker or fiscal agent of the United States Government or as a lender of last resort. A more or less similar state of affairs prevailed in most of the Republics of South and Central America and in Canada, Australia, South Africa, New Zealand, etc.

The financial panic of 1907 drew so much attention to the glaring weaknesses of the decentralised banking system of the United States that a special commission was appointed and an exhaustive enquiry ordered into the monetary and banking systems of the older countries. The outcome of this was the establishment, in 1914, of a central banking system for the United States in the form of twelve Federal Reserve Banks, each having authority over a defined area, with a co-ordinating Federal Reserve Board at Washington. These banks were granted a partial monopoly of the note issue and became the fiscal agents of the Government, the banks of rediscount and reserve, and the lenders of last resort in their respective territories. While the constitution of these banks was different in several respects from that of the central banks of Europe and their powers more closely circumscribed by legislation, they performed practically the same functions and adopted the same practices.

Provision was made for State participation in the administration of the Federal Reserve System through the appointment by the President of the members of the Federal Reserve Board, and then through the appointment by the Federal Reserve Board of three out of the nine directors of each Federal Reserve Bank, including the chairman. The other six directors were to be elected by those commercial banks which became members of the system in their respective districts, and while three of these could be bankers, the other three were to be representative of the commercial, industrial and agricultural interests of the community. Moreover, the member banks subscribed the whole capital of the Federal Reserve Banks and had to keep with the latter the minimum reserves against their deposit liabilities as laid down by law. Thus, the Federal Reserve Banks were more of the nature of a bankers' bank than any other central bank. The Government was also to participate in the profits of the Reserve Banks after payment of a cumulative annual dividend of 6 per cent. to stockholders.

Although the Federal Reserve Banks of the United

States were virtually superimposed upon an extensively developed banking structure, in contrast to the gradual development of central banks alongside commercial banks in the older countries, and were for that reason opposed and obstructed by certain sections of the community, they soon succeeded in working their way into the financial system of the United States and proved to be of great benefit and assistance to the Government and the banks during the War and post-War period. The comparative success of the Federal Reserve System, under the unfavourable conditions emanating from unit banking as opposed to branch banking and from the existence of banking laws in each of the 48 States in addition to the Federal banking laws, played an important part in focusing attention on the desirability of having a central banking system in any country.

Moreover, the International Financial Conference, which was held at Brussels in 1920, passed a resolution to the effect that all countries which had not yet established a Central Bank should proceed to do so as soon as possible, not only with a view to facilitating the restoration and maintenance of stability in their monetary and banking systems but also in the interest of world co-operation.

During the next 15 years, commencing with the establishment of the South African Reserve Bank in the beginning of 1921, there was great activity in the formation of central banks in the newly-created states of Europe and in the countries of the New World, as illustrated in the following table :

1921	South African Reserve Bank
1922	Reserve Bank of Peru Bank of Latvia Bank of Lithuania
1923	Bank of the Republic of Colombia
1924	National Bank of Hungary Bank of Poland Bank of Danzig Commonwealth Bank of Australia and Bank of the Republic of Uruguay converted into central banks
1925	National Bank of Czechoslovakia Central Bank of Chile Central Bank of Guatemala
1927	Central Bank of Ecuador Bank of Estonia converted into a central bank
1928	Central Bank of China

- 1929 Central Bank of Bolivia
- 1931 Central Bank of Turkish Republic
- 1932 Bank of Mexico converted into a central bank
- 1934 Reserve Bank of New Zealand
Central Bank of Salvador
- 1935 Bank of Canada
Reserve Bank of India
Central Bank of the Argentine Republic
- 1936 Bank of the Republic of Paraguay converted into a central bank

At present, therefore, with the exception of Brazil,¹ Venezuela and Eire, there is no country of economic importance in the Old or the New World which has not set up a central bank of its own. Moreover, Brazil and Venezuela have the establishment of a central bank under consideration, and in both countries a bill providing for a central bank has been drawn up and submitted to the Legislature, while in Eire a Commission on Banking, Currency and Credit recommended in 1938 that the existing Currency Commission be converted into a central bank. This state of affairs may be attributed to the growing realisation that under modern conditions of banking and commerce it is a great advantage to any country, irrespective of the stage of economic development, to have centralised cash reserves and the control of currency and credit vested in one bank which has the support of the State and is subject to some form of State supervision and participation, whether directly or indirectly. Another factor is the realisation that a central bank offers the best means of communication and co-operation between the banking system of one country and that of another.

While their constitution and range of statutory powers differ to no small extent, all the so-called central banks show a tendency in practice to conform to, or work up to, an almost uniform pattern in respect of their functions and methods. The methods vary in degree, depending upon whether the central bank operates in a country which has

¹ The Bank of Brazil, in addition to its commercial banking business, does perform some central banking functions, such as holding deposits of the other banks and rediscounting for them, and acting as the Government's banker and agent, but it does not have the power of note issue, which is vested in the Treasury, and it cannot be looked upon as the "lender of last resort" with the special responsibility towards the entire credit structure which this function implies. In general, its commercial banking functions and duties predominate to such an extent that it cannot be classified as a central bank.

a highly-developed money market that serves as a world market, as in London and New York, or a subsidiary money market, as in Paris, Berlin, Amsterdam, Stockholm, Zurich and Brussels, or no organised money market at all, as in Canada, Australia, South Africa, New Zealand, Argentina, Chile, Colombia, Mexico, etc. ; but underneath these variations there lies a large measure of uniformity in practice, and central bankers are to be found all over the world with more or less the same outlook on monetary and banking matters and the same regard for certain traditional conventions.

Central banking has become an entirely separate branch of banking, as compared with commercial banking, investment banking, industrial banking, and agricultural banking. It has developed its own code of rules and practices, and the existence of a science of central banking has been acknowledged by many. A clearly-defined concept has been evolved, a central bank being generally recognised as a bank which performs, as best it can in the national economic interest, the following functions :

- (1) the issue of paper currency in accordance with the requirements of business and the general public, for which purpose it is granted either the sole right of note issue or at least a partial monopoly thereof ;
- (2) the performance of general banking and agency services for the State ;
- (3) the custody of the cash reserves of the commercial banks ;
- (4) the custody of the nation's metallic reserves ;
- (5) the rediscount of bills of exchange, Treasury bills and other suitable paper offered by the commercial banks, bill brokers and dealers, and similar financial institutions ;
- (6) the acceptance of the responsibility of the lender of last resort ;
- (7) the settlement of clearance balances between the banks ; and
- (8) the control of credit in accordance with the needs of business and with a view to the maintenance of the monetary standard adopted by the State.

A further requisite of a real central bank is that it must not to any great extent perform ordinary commercial

banking transactions, such as accepting deposits from each and every one and accommodating a large number of regular commercial customers with discounts or advances. Thus, references are sometimes made in books and reports to the fact that such central banks as the Bank of France, the Bank of Japan, the Bank of Finland, the Commonwealth Bank of Australia, the Bank of Java, and the National Bank of Egypt are not true central banks, since they perform certain functions which are "more germane to a commercial bank". It is required that commercial banking operations shall be conducted only to the extent that it is considered absolutely necessary for the sake of the public welfare. If a central bank has a large commercial banking business, its functions as the controller of credit and as the custodian of the cash reserves of the other banks might come into direct conflict with its own operations as a commercial bank. In recent years, moreover, it has come to be recognised over a wide range of countries that the success of a central bank depends largely upon the whole-hearted support and co-operation of the commercial banks, and that such co-operation can be effectively obtained only if the central bank refrains from competing directly with the commercial banks in their ordinary banking business, except when compelled to do so in the national economic interest.

While the older central banks perform the functions enumerated above mostly as the result of tradition, the newer central banks have had some of those functions imposed on them by special statute. Preambles outlining general policy have even become fashionable. For example, in the preamble to the Bank of Canada Act, the Bank of Canada is directed "to regulate credit and currency, to control and protect the external value of the national monetary unit and to mitigate by its influence fluctuations in the general level of production, trade, prices and employment so far as may be possible within the scope of monetary action"; and the preamble to the Reserve Bank of India Act refers to the Reserve Bank of India as being constituted "to regulate the issue of bank-notes and the keeping of reserves with a view to securing monetary stability in British India, and generally to operate the currency and credit system of the country to its advantage".

Moreover, the statutes of many of the newer central banks circumscribe their powers and functions to such an

extent that those statutes amount almost to a definition of what a central bank should or should not do. The noticeable trend in central banking legislation towards a more or less standard type, after allowing for the political constitution and the stage of economic development of different countries, affords a practical illustration of the existence of a clearly-defined concept of central banking.

The question as to which function more particularly characterises a bank as a central bank has exercised the minds of several economists. For example, Hawtrey¹ regards its function as the lender of last resort as the essential characteristic of a central bank and points out that, while the right of note issue gives a bank a great advantage in facing the responsibilities of the lender of last resort, it can nevertheless perform that function without the right of issue. Vera Smith,² on the other hand, says that "the primary definition of central banking is a banking system in which a single bank has either a complete or a residuary monopoly in the note issue", and that "it was out of monopolies in the note issue that were derived the secondary functions and characteristics of our modern central banks", whereas Shaw³ holds that, in order to have an automatic, self-regulating currency, the State should issue notes and use the central bank only for the distribution of the notes, if at all. Shaw also thinks that "the one true, but at the same time all-sufficing function of a central bank is control of credit".

Kisch and Elkin⁴ consider that "the essential function of a central bank is the maintenance of the stability of the monetary standard", which "involves the control of the monetary circulation", while Jauncey⁵ says that "clearing is the main operation of central banking". In the Statutes of the Bank for International Settlements, on the other hand, a central bank is defined as "the bank in any country to which has been entrusted the duty of regulating the volume of currency and credit in that country".

Moreover, the fact that several central banks have been named reserve banks, namely, the Federal Reserve Banks of the United States, the South African Reserve Bank, the

¹ *Art of Central Banking*, p. 131.

² *Rationale of Central Banking*, p. 148.

³ *Theory and Principles of Central Banking*, pp. v and 78-80.

⁴ *Central Banks* (Fourth Edition), p. 74.

⁵ *Australia's Government Bank*, p. 166.

Central Reserve Bank of Peru, the Reserve Bank of New Zealand, and the Reserve Bank of India, appears to show that in the opinion of some authorities the custody of bank reserves is the characteristic function of a central bank.

In practice, however, it is difficult to single out any function as the characteristic one or name all the functions in the order of their importance, since they are interrelated and complementary. For example, a specific loan operation of a central bank (i.e. in its capacity as a bank of rediscount) might have been caused by a commercial bank requiring more note currency (involving the central bank as the bank of issue) or foreign exchange or gold (involving the central bank as the custodian of the nation's reserves) or having to replenish its cash reserves and clearing balances (involving the central bank as the custodian of the cash reserves of the commercial banks and the bank of central clearance) which it could not obtain from any other source owing to general monetary stringency (involving the central bank as lender of last resort) and before effecting the rediscount the central bank might have raised its discount rate or imposed certain conditions in its capacity as the controller of credit.

A true central bank should always be ready to perform any of the functions enumerated above if the conditions and circumstances in its area of operation render it necessary or desirable for it to do so. The guiding principle for a central bank, whatever function or group of functions it performs at any particular moment, is that it should act only in the public interest and for the welfare of the country as a whole, and without regard to profit as a primary consideration.

SELECTED REFERENCES

In connection with the historical section of this chapter I wish to acknowledge my indebtedness, in particular, to the following works :

Andréadès : *History of Bank of England.*

Conant : *History of Modern Banks of Issue.*

Dunbar : *Theory and History of Banking.*

Mackenzie : *Banking Systems of Great Britain, France, Germany, and the United States of America.*

Willis and Beckhart : *Foreign Banking Systems.*

CHAPTER II

THE CENTRAL BANK AS THE BANK OF ISSUE

EVOLUTION of Issue Function of Central Banks. The function of note issue was almost everywhere one of the first functions to be entrusted to central banks, and it has always been one of their principal functions. In fact, until the beginning of the twentieth century they were generally known as banks of issue.

The issue of notes, as of other currency, was always claimed to be a prerogative of the State, but whereas in the case of metallic currency the State retained its prerogative, it decided, with few exceptions, to hand the issue of notes over to banks when these, like note currency itself, were brought into being as a result of the need for means of facilitating the exchange of goods. Banks were given the right to issue notes, or, where banks had already put into circulation notes of their own in one form or another, they were legally authorised to continue issuing notes, subject to certain safeguards imposed by law. In some countries the function of note issue was entrusted to banks owing to the heavy depreciation of notes issued by the State and the loss of public confidence therein, while in others it was done in return for loans to the State or because the issue of notes was considered more appropriate in the hands of banks than those of the State.

In due course, as more banks came to be established in each country and note currency came into greater use with the rapid expansion of trade, the need for uniformity in the note issue and for better supervision of the note currency, as well as the desire to secure for the State a share of the profits of the note issue, caused almost every country to grant one bank either a complete monopoly of the note issue or a residuary monopoly, as Vera Smith¹ calls it. This stage was reached, for example, in Holland in 1814, England in 1844, France in 1848, Germany in 1875, Sweden

¹ *Rationale of Central Banking*, p. 148. "A residuary monopoly denotes a case where there are a number of note issuers, but all of these except one are working under narrow limitations, and this one authority is responsible for the bulk of the circulation."

in 1897, United States in 1914, Union of South Africa in 1921, Colombia in 1923, Australia in 1924, Chile in 1925, Italy in 1926, New Zealand in 1934, and Canada in 1935. In some cases, as in England and Sweden, the bank which was ultimately granted the monopoly of the note issue was also the first joint-stock bank to be established in those countries, but in many countries it was given to a new bank which was created under a special law or charter for the purpose, *inter alia*, of securing uniformity in the note issue. In all cases, however, the bank which was entrusted with the sole or residuary monopoly of note issue in its country is to-day the recognised central bank of that country; and this monopoly privilege was one of the primary factors contributing towards the development of those banks into central banks with duties or responsibilities of a semi-public character.

In the case of most of the central banks which to-day enjoy a complete monopoly of the note issue the other banks were required by law to redeem their notes as they were paid in or to withdraw their notes from circulation within a stated period, as in Sweden, Switzerland, Union of South Africa, Colombia, Chile and New Zealand; or the central bank was required to take over the issues of the other banks subject to certain conditions and provisions for their redemption, as in France, Spain, Japan and Italy. In England the other banks were allowed under the Act of 1844 to retain their note issues, but they were limited to the individual amounts outstanding at that time and provision was made for their lapsing under certain circumstances, the final extinction taking place in 1920; and in Germany, where 33 note-issuing banks were in existence on the establishment of the Reichsbank in 1875, all but four had, owing to the restrictions imposed on their issues, surrendered their right of issue to the Reichsbank long before 1935, when the privilege of the remaining four was withdrawn.

There are, at present, only a few central banks which do not yet enjoy a complete monopoly of the note issue. Those of the United States and Canada have, at least, a residuary monopoly. In the United States the issues of the national banks, which were limited to the outstanding amounts of the special Government bonds carrying the privilege of cover for such notes, lapsed in 1935-6 as

a result of the redemption of those bonds. There are, however, still Government notes in circulation, namely, the old "Greenbacks" of the Civil War and the silver certificates, secured dollar for dollar by silver coin in the Federal Treasury. These Government issues are limited, the Federal Reserve note representing three-quarters of the note currency in circulation, and for practical purposes the Federal Reserve System may be said to have a monopoly of the note issue. This is also the case with the Bank of Canada, since it was provided that the note issues of the chartered banks existing in 1935 were to be gradually reduced to 25 per cent. of their unimpaired paid-up capital.

The Central Bank of China, on the other hand, although the Minister of Finance announced towards the end of 1935 that it was to be reorganised as the Central Reserve Bank of China and to enjoy the sole right of note issue after a period of two years, still finds three other State-owned banks¹ having the right to issue notes. A Currency Reserve Board, with the Governor of the Central Bank of China as *ex-officio* chairman and with branches in various commercial centres, was established by the Chinese National Government under the Currency Decree of November, 1935, "for the purpose of centralising the issue and consolidating the credit of legal tender notes", and it was "to have custody of the reserves against legal tender notes and to control the issue and retirement of such notes".

Importance of Monopoly Privilege. While in theory, according to the analysis of Hawtrey, the function of note issue may not be essential to the satisfactory performance of other central banking functions, in practice, as has already been shown, it has come to be regarded as such an important constituent of the central banking structure that nearly every central bank in the world has been given either the sole or the principal right to issue notes in its particular territory.

The importance of the note monopoly is derived, not only from the uniformity that it achieves in respect of the

¹ The Bank of China, the Bank of Communications and the Farmers' Bank of China, whose note issues together amounted to 1,233,000,000 Chinese dollars at the end of May, 1938, as compared with 473,000,000 for the Central Bank of China.

note currency, which is the predominant form of hand-to-hand currency to-day, but also from the fact that, where a monopoly of the note issue is vested in the central bank, the notes of such an institution have, as compared with a situation in which various banks enjoy the right of issue, a special sort of prestige which is of very great value in emergencies.¹ Experience has proved that it renders possible the supply of a large demand for domestic purposes without involving the central bank in any appreciable danger of loss of gold through the presentation of the notes for redemption.

Moreover, it has come to be more generally realised that the monopoly of note issue in itself gives the central bank some measure of control over undue credit expansion on the part of the commercial banks,² as under ordinary circumstances the expansion of credit obviously entails a demand for more currency, and as there are definite limits to the economic or legal use of coins by the commercial banks in the place of notes. The central bank's sole right of note issue may be the means of causing the commercial banks to borrow from it at such times with a view to getting the additional supply of notes required for the purposes of the rapidly-expanding volume of trade and credit, since they could not issue notes themselves. The fact that the central bank could adopt the expedient of refusing to rediscount for them or of charging them penalty discount rates, if they were found to pursue manifestly unsound credit policies, must be regarded as one of the influences working in the direction of inducing the commercial banks to be cautious and to follow the lead of the central bank in discount and interest rates, at least in times of intense business activity if not at other times.

It may be said by some that the commercial banks could attempt to meet such a need for increased currency by promoting the use of cheques or the velocity of circulation as far as possible and encouraging the maintenance of larger current account balances through paying interest thereon, so as to discourage people from holding or carrying notes. These alternatives, however, offer only a very limited scope

¹ Dunbar's *Theory and History of Banking* (Third Edition), pp. 79-80.

² Except, of course, when they have very large credit balances with the central bank as a result of an inflow of capital or a large volume of exports or high prices for export commodities or for other reasons.

and in any case take some time to achieve even meagre results.

Elasticity and Security in Note Circulation. Apart from uniformity, it is important to have elasticity in the note circulation with a view to meeting all the legitimate needs of business and the general public. The note circulation should operate automatically and be capable of expanding freely according as the demand for currency increases, owing to expansion of trade, larger payrolls, or seasonal factors such as harvesting and holiday periods, and of contracting according as the demand for currency declines because of contraction of trade, smaller payrolls, or seasonal factors. Willis¹ refers to the "recognised principle of bank-note circulation" as "dictating that the issue of notes shall take place when and as demanded by those who have business transactions to perform, or wages to pay".

From the point of view of public confidence it is also important to have security in the note circulation, i.e. adequate cover for the note issue. The question as to how far elasticity in the note circulation can be carried without unduly weakening the security of the notes and running the risk of shaking public confidence has been the subject of controversy for over a hundred years. During that period there were, roughly speaking, five different methods evolved by legislators in connection with the regulation of note issues.

The first is the one adopted in England in 1844, the primary feature being that of the fixed fiduciary issue, which need be covered only by Government securities, while all notes issued in excess of this amount must be covered pound for pound by gold. This method was attacked on many occasions as being deficient in elasticity, on the ground that whenever there was an appreciable internal or external drain of gold an undue contraction of currency and credit was rendered necessary, and also that it was not sufficiently adaptable to heavy demands for currency in financial panics and other emergencies. On the other hand, it was held that it acted to a certain extent as a brake on undue expansion of currency and credit in times of prosperity.

In spite of the frequent attacks on the relatively in-

¹ *Theory and Practice of Central Banking* (Harper & Brothers), p. 264.

elastic English system of note circulation, even by Governmental Commissions of enquiry, it has remained in force, mainly, it appears, as a matter of tradition. An element of elasticity was, however, introduced in 1928, when it was provided that the Treasury could authorise the Bank of England to increase the fiduciary issue above £260,000,000 (the amount fixed at that time) to a specified amount for not more than two years altogether from the date on which the authority was originally given. The fiduciary issue was increased, for the first time, by £15,000,000 to £275,000,000 in August, 1931, in order to protect the credit base from the drain of gold. This increase was interpreted in a very unfavourable light on the Continent, since it was regarded as the beginning of inflationary tendencies, and it helped to increase the gold drain. The disadvantage of this expedient is, as the *Statist* pointed out at the time, that "elasticity can only be obtained at the cost of a definite loss of confidence", inasmuch as it "attracts unnecessary attention when that attention is least desirable". The Macmillan Committee¹ on Finance and Industry had also in the same year stated that "an approach by the Bank of England to the Treasury for permission to increase the fiduciary issue would be interpreted as a sign of weakness, and be the occasion of nervousness at a time when the opposite effect on sentiment was to be desired".

In recent years, however, greater use has been made of this expedient. In March, 1933, the fiduciary issue was reduced to the original figure of £260,000,000 owing to the inflow of gold at that time; and in December, 1936, it was further reduced to £200,000,000 to compensate for the sale of gold to the Bank of England by the Exchange Equalisation Account. Moreover, in November, 1937, it was raised to £220,000,000 in order to protect the reserve against heavy seasonal expansion in the note circulation due to Christmas demands, and reduced again to £200,000,000² in January, 1938, when the note

¹ Page 140 of Report.

² While this book was in the press, the fiduciary issue was raised to £230,000,000 in December, 1938, for the same reason as in the preceding year; and early in January, 1939, it was further raised to £400,000,000 in order to facilitate the transfer of £200,000,000 gold (at the statutory price of about 85 shillings per fine ounce) from the Bank of England to the Exchange Equalisation Account. In February, however, it was reduced to £300,000,000 as a result of revaluation of the remainder of the Bank's gold holdings at current market price.

circulation declined. Such variations in the amount of the fiduciary issue may ultimately have the effect of avoiding undue attention being attracted to an increase when made for the purpose of counteracting an outflow of gold.

The English system has been followed by Japan and Norway. It was also followed by Italy prior to 1926. Maximum normal limits were laid down for the note circulation of each of the three issuing banks, but notes issued in excess of these amounts had to be covered in full by gold, with the exception of notes representing advances made to the Treasury. A variation of the English system has also been adopted by some other countries. For example, in Sweden the Riksbank was authorised in 1913 to issue bank-notes up to double the amount of its gold holdings, and 125,000,000 kronor in addition to that amount, and subsequently provision was made by law to permit the issue of an additional 250,000,000 kronor in the event of a menace of war or any other serious crisis. It is interesting to note that use was made of this elastic provision in Sweden in 1933, when the limit of the fiduciary issue was raised to 350,000,000 kronor. Japan, in 1932, and Norway, in 1936, likewise raised the limits of their fiduciary note issues. In recent years Poland has also adopted the principle of a fiduciary issue, the notes issued in excess of the fixed amount (Zl. 100,000,000) having to be covered by a minimum of 30 per cent. in gold.

The second method is that followed by France between 1870 and 1928, namely, that of a fixed legal maximum to the note circulation. It was abandoned in 1928 because, as Lemoine¹ pointed out, it "was altogether too rigid and incapable of sufficient adjustment to the requirements of the present-day money markets", and also because it "provides no guaranty against inflation" owing to the possibility of "raising the limit by Parliamentary action whether such action is warranted or not".

It is significant, in the light of the foregoing, that the Macmillan Committee² recommended that the English note issue should be made subject only to a maximum total in circulation, in order to give it a higher degree of elasticity than that obtained under the fiduciary issue system. The Bank of England, according to their plan,

¹ *Foreign Banking Systems*, edited by Willis and Beckhart, p. 533.

² Page 142 of Report.

was to be free to issue notes, as demanded by the public, up to a fixed maximum (the figure suggested at that time being about £400,000,000), and it was to be subject to temporary suspension with permission of the Treasury. The Australian Royal Commission on Monetary and Banking Systems¹ also recommended, in 1937, that the Australian note issue should be limited by law to a fixed maximum (e.g. £60,000,000), subject to the right of the Commonwealth Bank to exceed the maximum by a stated amount (e.g. £10,000,000) with the consent of the Treasury. Thus, while France discarded the legal maximum system because in practice it had been found to be either too rigid or too elastic, an English and an Australian commission have recommended it for their countries.

The third method was that used formerly in the United States in the case of the national bank-notes, which had to be fully covered by certain Government bonds carrying the privilege of note cover and were limited to the outstanding amount of those bonds as well as to the paid-up capital of the banks. This system was found to be very unsatisfactory on account of its rigidity. It was, as Burgess² said, a safe currency, but "so fixed that it could neither readily be decreased in slack seasons and dull years, nor increased in busy seasons and periods of emergency"; and according to Kemmerer³ any elasticity possessed by national bank-notes was of a chewing-gum variety. It was also employed for a time in some other countries, for example, the Cape of Good Hope, where the notes had to be fully covered by Government securities and, in addition, limited to the paid-up capital and reserves of the issuing banks.

The fourth method was that adopted by Germany in 1875 and followed, with modifications, by the United States in 1914 when the Federal Reserve System was brought into being. The essential feature of this method, which has now spread over a large part of the world, is the provision of a proportional metallic reserve against the note circulation (25, 30, 33 $\frac{1}{3}$ or 40 per cent.), the remainder of the notes to be covered by trade bills and Government securities, with the further provision that

¹ Page 225 of Report.

² *Reserve Banks and the Money Market*, Revised Edition (Harper & Brothers), p. 73.

³ *Seasonal Variations in the Relative Demand for Money and Capital in the United States*, p. 153.

subject to certain conditions and penalties the reserve ratio may be allowed to drop below the legal minimum.

The evolution of this method is important since it reveals several points of scientific interest. When it was first introduced into Germany, it provided for a minimum cash reserve of one-third of the notes in circulation as an absolute limit, but a further limit was imposed on the note issue to the effect that beyond a certain fixed amount the notes were to be fully covered by cash in hand. The latter limit, which proved to be an inner limit, showed the influence of the English system, but a novel feature was added to it, namely, that the Reichsbank could issue notes in excess of this limit subject to the payment of a tax at the rate of 5 per cent. per annum on any such excess of notes. The idea behind this method was to impart elasticity to the note circulation at the very point where the English system was deficient in elasticity, while at the same time it discouraged the central bank from following a policy of undue expansion by imposing a tax on the uncovered excess. In other words, by taking away the profit incentive it helped to ensure the expansion of currency beyond the inner limit taking place only in emergencies and in peak periods of trade. It served its purpose relatively well, but owing to the rapid economic development of the German Empire the tax provision came into effect too frequently, and the fixed amount had to be raised on several occasions prior to the Great War.

Another novel feature in the German system was the provision that, apart from the minimum cash reserve of one-third, the remainder of the notes were to be covered by discounted paper having a maturity of not more than three months.

The United States incorporated the novel features of the German method in their Federal Reserve note issue, but modified and simplified their operation. The idea of a fixed amount beyond which notes were to be fully covered by gold or cash was discarded, and provision was made only for the Federal Reserve Banks maintaining a legal minimum gold reserve of 40 per cent. against their notes in circulation and 35 per cent. against their deposits. At first, in addition to the minimum gold reserve of 40 per cent. the notes were to be fully covered by trade or agricultural bills discounted for the member banks by the Federal

Reserve Banks. This was prompted by the desire for a so-called "pure asset currency", which would not only be a very safe and sound currency but would also expand or contract in accordance with the volume of business, as it was expected that the volume of discounted bills in the hands of the Federal Reserve Banks would reflect fairly accurately the volume of business activity in the United States. This was, however, found not to be the case, and the Federal Reserve Banks experienced difficulty at times in providing adequate note currency.

The next step was taken in 1916 when the base of the note issue was broadened by admitting as cover the short-term collateral notes of the member banks which represented another means of member-bank borrowing from the Federal Reserve Banks, and also the bills bought by the latter in the open market, while in 1917 gold was admitted as direct cover and only for the remainder were notes to be covered by bills and collateral notes. Finally, in 1932, Government securities were admitted as additional backing for Federal Reserve notes owing to the heavy demand for currency for domestic hoarding and the demand for gold from abroad at that time. In these ways the currency base was considerably broadened with a view to securing adequate elasticity.

The other elastic provision of the German system was applied in the direction of permitting, in the case of emergencies, a shortfall below the legal minimum reserve ratio rather than an excess above a certain amount of notes. Provision was made for authority to suspend the reserve requirements for 30 days and renew the suspension for periods of 15 days each, subject to the payment of a graduated tax on the notes not covered by the legal minimum and to the obligation to raise discount rates in accordance with the extent of the shortfall.

The basis of the Federal Reserve note issue, as it was constituted in 1917, was adopted by most of the many new central banks which were created after the Great War, and also by Italy in 1926 and France in 1928 when they reorganised their currency systems. Even Germany decided in 1924 to adopt the modifications introduced by the United States; and in 1933 the Reichsbank was also empowered to use fixed-interest securities bought for its own account as cover for notes in addition to bills discounted.

The fifth method is the one that has been in use in Holland for many years and in the Union of South Africa since 1930, namely, that of prescribing only a legal minimum gold reserve against notes and deposits of 40 or 30 per cent. and making the notes a first charge on all the assets of the central bank. In other words, the idea of specifying the particular kinds of assets (discounted bills, purchased bills, collateral notes, or Government securities), which may be used as cover for that part of the note issue not covered by gold, was discarded by these countries and the central bank given greater freedom of action. This was done because the restrictions on the note issue were found by the central bank to be burdensome at times when there was a big demand for note currency and many of the assets of the central bank were of a type different from that specified in the law, and also because it was realised that in those countries where deposit currency played a much more important part than note currency, so much stress on security for the latter seemed rather misplaced. The control and adjustment of credit by the central bank in accordance with the requirements of national economic welfare, and the maintenance of adequate gold reserves for the total credit structure, are the matters to be stressed, and where this is being followed the regulation of the note issue is a subsidiary matter and can be left to the discretion of the central bank.

This is borne out by what Sprague¹ has said of the Federal Reserve system :

For proper use of the right of issue the main reliance must and should be on wise and experienced management for the reserve banks. . . . Restrictions which would make overissue impossible would also deprive the right of issue of all usefulness as a means of extending credit.

Moreover, Burgess² holds that

in fact Federal Reserve notes would be just as safe and just as elastic if they were an obligation of the Reserve Banks, without specific security but backed by all Federal Reserve assets, just as are the deposits.

State Notes versus Bank Notes. While in practice the

¹ As Editor of Dunbar's *Theory and History of Banking* (Third Edition), p. 268.

² *Op. cit.*, p. 76.

State has almost everywhere entrusted the note issue to the central bank, and while this is generally accepted as proof in itself that the central bank has been found by experience to be a more suitable and appropriate medium for the issue of note currency, there are still strong adherents of the view that in the interest of the community the State should exercise its prerogative in respect of note currency as it has done in the case of metallic currency. Shaw¹ even expounds the view that a State note issue based on full value is the only means of securing an "uncontrolled, automatic, self-regulating note currency", and that the State should use the central bank, if at all, only for the distribution of notes as is done with metallic currency.

The following quotations will suffice to illustrate Shaw's reasoning in the matter of note issues :

The principles of the true or ideal paper money, viz. a State-issued paper money of full face value, guaranteed by a full cover redemption fund composed of securities, issued automatically, retired automatically, self-regulating, never redundant, never deficient, neutral in its effect on prices, but rising equal to any strain upon it, guaranteed against debasement by the State which issues it, and incapable of debasement by the community which purchases and uses it.

these true principles preclude and abrogate any exercise of the note issue and note control function by a Central Bank ;

in this perfect form such paper is incapable of overissue and debasement, and is therefore proof against manipulation at the hands of a needy Government ;

so long as a State sells paper money at a full face value the public will only buy so much as it absolutely needs, and so much as it actually can afford to pay for ;

every known case of deliberate depreciation of currency has been the act of a needy Government which has imposed its will upon a Central Bank.

It is difficult to understand why a needy Government should not hesitate to bring pressure to bear on the central bank to debase the note currency, but would refrain from debasing notes when it was the issuer itself, just because it had originally undertaken to issue full-value currency and only in response to actual demand from the public. "Necessity knows no law," and a needy Government

¹ *Theory and Principles of Central Banking*, pp. 30-80.

usually considers itself justified in brushing aside undertakings and laws made in normal times. History is full of examples of currency depreciation by the State, not only where it had a monopoly of the note issue, but also where it had previously given banks the right of issue, and even where it had given a central bank the sole right of issue, which was circumscribed as "the sole right to issue bank-notes".

It is true that there are also examples of currency depreciation as a result of needy Governments imposing their will upon central banks, but if the latter had resisted them indefinitely they would have resorted to other means of achieving their object. In this as in other matters central banks are frequently confronted with the necessity of choosing the lesser of two evils. The resistance which may be offered by a central bank against unsound currency designs on the part of the State is at least one advantage in favour of the central bank being the issuer of notes.

This point of view is corroborated by the following statements made by the Dutch Minister of Finance in November, 1936, during the discussion in the Legislature on the renewal of the Netherlands Bank charter :

A Government, which has at its command a State Bank, would in difficult circumstances be subject to the temptation to issue money through turning the printing press. It is well that in such a case a Government should come up against the resistance of private interests. . . . In the past the central bank has never allowed itself to be influenced by any other interest than that of public welfare.

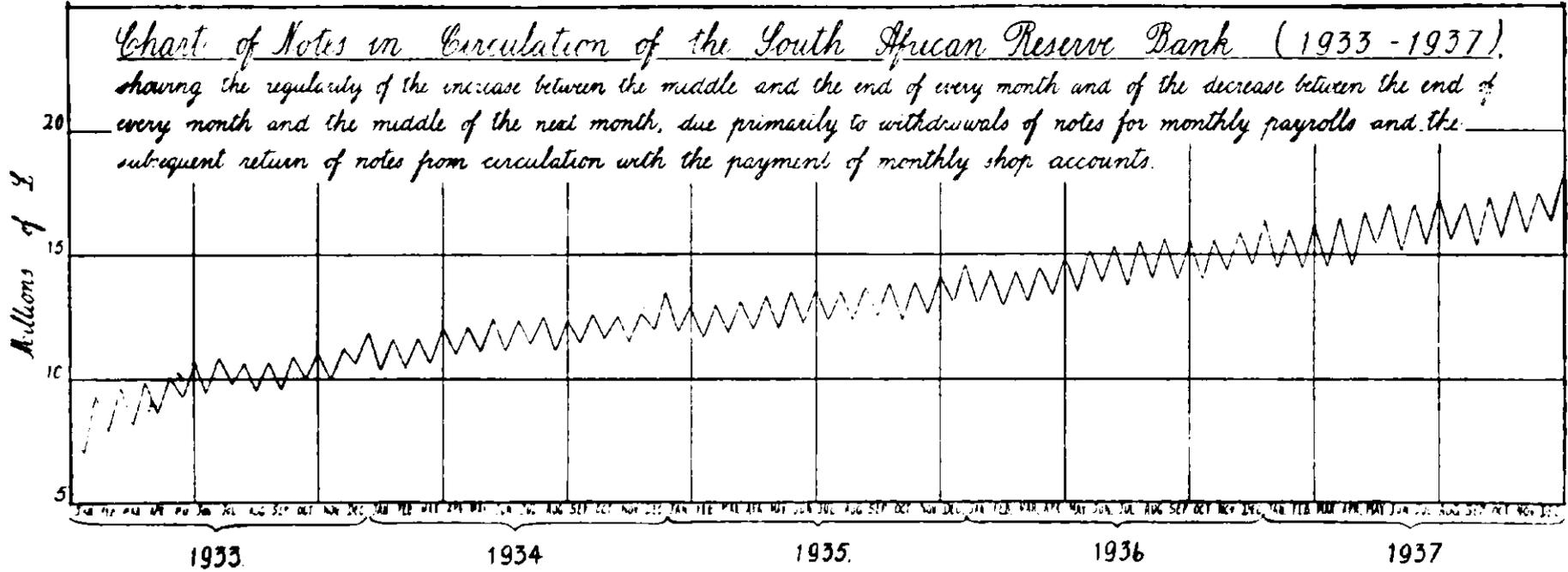
Moreover, there is no good reason why a State issue should have the only chance of being an automatic, self-regulating note currency. At least in every country where bank deposits constitute a much more important medium of exchange than note currency, the issue of notes by the central bank is not a controlled factor in the sense that conscious and deliberate policy is imparted to it. Conscious policy, if any, is directed towards the control of credit, and the issue of notes proceeds automatically, contracting and expanding, as Shaw demands of an ideal paper currency, in accordance with the needs of business and the general public. In other words, the central bank does not take the initiative in the issue of notes, but may

do so in the creation of credit, and the expansion of credit usually tends to bring about an expansion of the automatic demand for notes. Thus, if inflation and depreciation of currency do take place in such countries, they are the result of inflation of credit.

It is true that there has been a great deal of loose and confused thinking on the subject of note currency. The evolution of the methods adopted for the management of note issues has already shown how much stress was laid by legislators in the past on the need for security of the note issue and for guarantees against the inflation of note currency. Even now several countries provide only for a legal minimum reserve against the note circulation of the central bank, while the creation of deposits by the central bank is subject to no legal restriction. References are also made at times in writings and discussions to the control of note currency by central banks. In central-banking practice, however, notes are issued only as they are required and drawn by commercial banks on behalf of their customers for payrolls and holiday or other disbursements by the public, or by the Government for payments of wages and salaries, and notes are returned to the central bank by commercial banks according as their customers deposit notes in excess of their normal requirements, or by the Government according as revenue collections are made in the form of notes.

The weekly statements of all central banks bear adequate testimony of the fluctuations of the note circulation depending upon what week of the month or what month of the year or what stage of the business cycle it is. In the stage of prosperity, for example, while the general trend of the note circulation will be upward, there will be substantial fluctuations during the course of any month.

South African Reserve Bank. In the case of the South African Reserve Bank, while the note circulation rose from £8,432,000 on the 31st December, 1932, to £18,093,000 on the 31st December, 1937, the former amount declined to £7,122,000 on the 13th January, 1933, before rising again to £9,321,000 on the 31st of that month, and the latter declined to £15,482,000 on the 21st January, 1938, before rising again to £17,521,000 at the end of that month. The substantial increase between the middle and the end of a month and the appreciable decline between the end



of one month and the middle of the next month are to be attributed primarily to the prevalence of salary payments and payments of shop accounts on a monthly basis.

Date.	Note Circulation of the South African Reserve Bank.
	£
15 Dec. 1932	6,750,000
31 Dec. 1932	8,432,000
13 Jan. 1933	7,122,000
31 Jan. 1933	9,321,000
17 Feb. 1933	7,943,000
28 Feb. 1933	9,696,000
18 Dec. 1936	14,705,000
31 Dec. 1936	16,416,000
22 Jan. 1937	14,023,000
30 Jan. 1937	15,887,000
17 Dec. 1937	16,280,000
31 Dec. 1937	18,093,000
21 Jan. 1938	15,482,000
31 Jan. 1938	17,521,000

Federal Reserve Banks. Burgess,¹ in dealing with the position of the Federal Reserve Banks, points out that fluctuations in currency circulation normally reflect principally changes in payrolls and retail trade, and that there are notable increases at regular payroll periods and at holidays, particularly at Christmas. Referring in particular to the Federal Reserve Bank of New York, he produces statistics showing

the typical weekly movement, largely reflecting withdrawals for payrolls and the return of this currency as it is re-deposited in banks. . . . On Thursday banks begin to withdraw from the Reserve Banks the currency which their customers require for their weekly payrolls and for week-end expenditures. Thursday and Friday there are large withdrawals for these purposes. Saturday there are smaller withdrawals. On Monday this money begins to flow back to the Reserve Banks and the flow continues on Tuesday and Wednesday.

He also reveals that "there is a distinct tendency towards heavy withdrawals at the end of the month for monthly payrolls and a less noticeable tendency around the fifteenth of the month", and that "there are larger withdrawals just before holidays, and deposits afterwards".

¹ Op. cit., pp. 83-3.

Bank of England. In England, weekly fluctuations in the note issue can also be observed from the weekly statements of the Bank of England made out every Wednesday. For various reasons, however, these weekly fluctuations are not so pronounced as in many other countries. For example, from £462,703,000 on 6 January, 1937, Bank of England notes in circulation fell to £450,464,000 by 20 January, then rose to £457,311,000 by 3 February, dropped to £453,337,000 by 17 February, advanced again to £460,954,000 by 3 March, and £473,837,000 by 31 March, and declined to £464,024,000 by 21 April.

Date.	Note Circulation of the Bank of England. £
3 Dec. 1930	359,219,000
25 Dec. 1930	379,574,000
7 Jan. 1931	363,505,000
21 Jan. 1931	346,462,000
21 Nov. 1934	376,905,000
28 Nov. 1934	379,687,000
5 Dec. 1934	385,447,000
26 Dec. 1934	405,164,000
9 Jan. 1935	385,606,000
2 Dec. 1936	451,587,000
23 Dec. 1936	474,116,000
6 Jan. 1937	462,703,000
20 Jan. 1937	450,464,000
3 Feb. 1937	457,311,000
17 Feb. 1937	453,337,000
3 Mar. 1937	460,954,000
31 Mar. 1937	473,837,000
21 Apr. 1937	464,024,000

It will be observed that in spite of an upward trend the note circulation dropped between the beginning and the third week of every month and rose between the third week and the end of the month or the beginning of the following month. The greatest rise usually takes place between the third week of November and the fourth week of December because of the Christmas holiday requirements, and the greatest fall between the end of December and the third week of January owing to the return of currency from circulation. In the absence of daily statements the daily fluctuations during the week cannot be traced as Burgess has done in respect of the circulation of the Federal Reserve Bank of New York.

Apart from the fact that the note issue of the central bank is in many countries an "uncontrolled, automatic, self-regulating note currency", there is the point that, if, as Shaw says, the function of issuing notes could just as well be undertaken by the State subject to his conditions regarding full value and redemption, that of controlling credit is generally recognised, even by Shaw, as belonging essentially to the central bank; and experience has shown that the functions of issuing notes and controlling credit should be closely co-ordinated and could most satisfactorily and efficiently be exercised by a single authority, which would then be the central bank rather than the State.

Economic opinion in general is definitely against a State note issue on account of the temptation in which Governments are placed and the comparative ease with which Governments as big disbursers of money can in the long run force their notes into circulation. As Lewinski¹ points out, "bank-notes are, with rare exceptions, issued but on the demand of the recipient parties", whereas Government paper money can be "put into the channels of circulation in exchange for services and goods" and need not be "preceded by any demand for them". Moreover, Kisch and Elkin² emphasise the fact that

the danger of State control of the currency lies in the temptation to a Government to treat its political difficulties as justifying a course of action only permissible in an emergency of an entirely different order,

whereas

if there is an independent or quasi-independent bank the Government would find it difficult in practice to suspend the obligations of the bank except when a true national emergency occurs.

Government's Share in Profits of Note Issue. Since the monopoly of note issue is usually found by central banks to be a valuable privilege not only for purposes of control but also as a source of profit, the State has practically everywhere claimed a share in the profits of central banks.

At first banks of issue were required to pay an annual amount to the Government fixed from time to time or a special tax on the average amount of the note circulation

¹ *Money, Credit and Prices*, p. 55.

² *Central Banks* (Fourth Edition), p. 27.

in addition to general taxation. In 1846, however, when private capital was introduced into the Bank of Prussia, it was provided that the State should receive one-half of the profits of the Bank after the payment of a dividend of $3\frac{1}{2}$ per cent. to shareholders. This principle of the State sharing in the general profits of the central bank, instead of levying taxes on the note circulation or claiming the profits of the note issue as distinguished from the other profits of the central bank, was applied to the National Bank of Belgium, Reichsbank of Germany, Netherlands Bank, Bank of Japan, and the Federal Reserve Banks of the United States and subsequently to all the central banks which were established directly or indirectly on the Federal Reserve Bank pattern or whose reorganisation was influenced by it, with the exception, of course, of the central banks which are State-owned banks.

As the methods of profit sharing are constituted at present, provision is made (a) for a dividend to shareholders, varying from $3\frac{1}{2}$ per cent. in the case of the Netherlands Bank to 6 per cent. in the case of the Federal Reserve Banks of the United States, the National Banks of Belgium and Czechoslovakia, the Bank of Norway, and the South African Reserve Bank, as a first charge on the net profits, and thereafter a division of profits between the reserve fund of the bank, the State and the shareholders, or just between the reserve fund and the State as with the Federal Reserve Banks ; or (b) for the payment of 5 to 20 per cent. of the net profits to the reserve fund as a first charge on the profits, and a dividend of 5 to 12 per cent. to shareholders as a second charge, the remainder to be divided between the State and the shareholders as in the case of the central banks of Argentina, Chile, Colombia, Estonia, Germany, Hungary, Lithuania, Poland, Portugal, Roumania, Switzerland and Yugoslavia.

With regard to the Bank of England, where an Issue Department is kept quite separately from the Banking Department, provision has been made for the whole of the profits of the former to be paid over to the State. This separation of the Issue and Banking Departments has been followed only by the Commonwealth Bank of Australia, the Reserve Bank of India, the Central Bank of China, the Bank of the Republic of Uruguay, and the National Bank of Costa Rica.

The principle of the State sharing in the general profits of the central bank is to be preferred to that of the State taking the whole of the profits of the note issue, since the former gives the central bank greater freedom of action. The central bank may during any period make a substantial profit on the note issue, but only a very small profit or even a loss in its banking department owing to emergency relief or credit-control operations ; and it needs to be encouraged rather than discouraged in the fulfilment of the dictum that the central bank must perform its duties and responsibilities without consideration of profit in respect of any of its operations. In this connection the statutory limit placed on dividends to shareholders, and in some cases also on payments to the reserve fund, is wise, as it helps to remove the incentive to make large profits.

CHAPTER III

THE CENTRAL BANK, AS THE GOVERNMENT'S BANKER, AGENT AND ADVISER

CENTRAL banks everywhere fulfil the functions of banker, agent and adviser to the State. In fact, the older central banks performed these functions even before they were recognised as central banks. In the case of the new central banks, however, the performance of these functions usually coincided with their assumption of central banking functions generally.

In its capacity as the Government's banker the central bank keeps the banking accounts of Government departments and enterprises, receiving on deposit the revenues and capital receipts of the State and providing the cash and other banking facilities required for the purpose of State disbursements generally. These facilities include the granting of temporary advances to the State in anticipation of the collection of taxes or the raising of loans from the public, and of extraordinary advances to the State during wars and financial crises. Another banking service usually rendered is that of providing foreign exchange to meet the public debt service or the purchases of Government stores in other countries, and purchasing foreign exchange, where the State has floated loans in other countries.

As the Government's agent and adviser the central bank is sometimes called upon to perform a great variety of functions, such as the management of the public debt; the keeping of transfer registers in respect of Government stocks and certificates; the flotation, conversion or redemption of Government loans; the issue and redemption of Treasury bills; the administration of exchange-clearing agreements with other countries, and of exchange stabilisation or equalisation accounts, etc.

The Government's Banker : Advances to the State (Prior to World War). The function of banker to the State was closely associated with that of note issue. In the case of several of the older central banks the privilege of note issue was granted or extended in return for loans to the State.

The Bank of England, for example, was brought into being by public subscription in 1694 for the express purpose of advancing money to the Government, in return for certain rights and privileges conferred by legislation. These included the privilege of note issue subject to certain limitations, followed three years later by an implied monopoly of joint-stock banking in England for the period of the Bank's charter.

The original capital of the Bank of England was £1,200,000, and the whole of this amount was advanced to the Government at the rate of 8 per cent. per annum. In 1697 and 1709, when the Government was again in need of funds, the Bank was authorised to increase its capital and its note issue in return for further loans to the Government. By 1721 the permanent debt of the Government to the Bank had risen in this manner to £9,375,000. By the middle of the eighteenth century the permanent debt to the Bank had grown to £11,686,000 and the rate of interest had been reduced to a uniform rate of 3 per cent. ; and in 1800 it was increased by a further loan of £3,000,000 to £14,686,000. This amount was reduced in 1833 to £11,015,000, at which figure the permanent debt of the Government to the Bank has remained ever since. This debt to the Bank has throughout its career been closely associated with its enjoyment of certain privileges conferred by legislation. In fact, since 1833 the legal position has been that these privileges could be abolished at any time upon twelve months' notice and upon repayment of the debt of £11,015,000.

With regard to temporary advances, the Bank began in 1718 to make advances to the Government " in anticipation of the land and malt taxes, and upon exchequer bills and other securities ".¹ According to Conant² the usual limit of these temporary advances was £20,000 or £30,000, and it became a subject of complaint if the amount was increased to £50,000. Its original charter had provided for a penalty of three times the sum lent if the Bank advanced money to the Government without the consent of Parliament. To legalise the position legislation was passed in 1793 providing that the Bank should not be subject to any penalties for making such advances to the Government, but that the

¹ Gilbart's *History, Principles and Practice of Banking*, Vol. I, p. 36.

² *History of Modern Banks of Issue*, p. 96.

amount of sums so advanced must be laid before Parliament every year.¹

During the eighteenth century and until the forties of the nineteenth century the Government financed most of its short-term requirements by means of Exchequer bills which were purchased by banks and the public for the investment of their surplus funds. The Bank of England itself usually held some Exchequer bills in its portfolio which it either purchased as an investment or rediscounted for third parties, and granted temporary advances to the Government to make up the deficiency between the issues of Exchequer bills and the needs of the Government. For various reasons, however, the Exchequer bill declined in popularity since about 1840, and the Bank was called upon to make larger advances. These advances came to be known as deficiency advances for the purposes of Consolidated Fund Services (such as the service of the national debt) and ways and means advances for the supply Services, which represented the expenditures requiring the annual sanction of Parliament. Owing to the increasing needs of the Government the Treasury bill was introduced in 1877 and made an attractive investment for the surplus funds of banks and the public by giving it a fixed currency not exceeding twelve months (usually three months) and issuing it by tender under discount. At first it could be used only for the purposes of Consolidated Fund Services, but in 1902 it was applied to requirements for supply-Services as well.² As a result of the extensive use of Treasury bills for these purposes, the Bank was, up to the time of the World War, not required to make ways and means advances to any great extent.

Prior to 1914 the Bank of France had on several occasions to make substantial advances to the Government, for example, at the time of the Revolution in 1848 and the Franco-Prussian War in 1870 and in connection with the payment of the indemnity by France to Germany in 1871. These advances were intended to be of a temporary nature, and the greater part of these loans was repaid over a period of years, but beginning in 1857 each renewal of its charter and of its privilege of note issue was accompanied by an agreement on the part of the Bank of France to grant the

¹ Gilbart, *op. cit.*, p. 45.

² King's *History of the London Discount Market*, pp. 9, 13, 275-7.

Government a permanent loan. In 1897, when the permanent loan had increased to 180,000,000 francs, the Bank agreed to make it a non-interest-bearing debt. According to Conant,¹ however, these renunciations of interest were offset by the fact that the Government carried in its current account at the Bank a sum which was usually equal to the amount of these loans. In 1911 the permanent debt of the Government to the Bank was increased by a further 20,000,000 francs to a total of 200,000,000 francs.

The Netherlands Bank was obliged by law in 1888 to grant accommodation to the Government in the form of advances on current account on the security of Treasury paper, subject to such advances not exceeding Fl. 5,000,000 at any time and to interest being paid at the rate for ordinary advances. In 1903 the maximum for the Bank's advances to the State was raised to Fl. 15,000,000, and it was enacted that no interest should be charged thereon by the Bank.² As in the case of the permanent loans of the Bank of England and the Bank of France, this obligation on the Netherlands Bank appeared to have a close connection with its enjoyment of the monopoly of note issue.

The Reichsbank was authorised to discount Treasury bills or Treasury certificates directly for the Treasury or for third parties, but prior to the War it was seldom called upon to hold much Treasury paper in its portfolio.

In general, therefore, it may be said that up to the time of the War the fiscal relations between the State and the central bank were governed by a tradition which was evolved first in England, and then in France, Holland, Germany and several other countries. This tradition was to the effect that in the interest of sound finance the central bank should only be required, apart from a permanent or special loan in return for the monopoly of note issue, to grant advances to the State which would be repaid within a relatively short period out of the proceeds of taxes or of loans raised from the public. These advances were usually made only at those times of the year when revenue fell short of expenditure, such as between heavy interest payments and income-tax collections or other receipts, and when the issue of Treasury bills to the other banks and the public was considered to be incon-

¹ *Op. cit.*, p. 67.

² *Foreign Banking Systems*, edited by Willis and Beckhart, p. 738.

venient or uneconomical to the Treasury for one reason or another.

The fundamental factor underlying this central banking tradition appeared to be the recognition that the creation of additional central bank credit through granting advances to the State tended to bring about an arbitrary increase in the available supply of bank cash which might lead to the inflation of the credit and price structures generally. This result arises in particular from the special position of the central bank, not only as the bank of issue but also as the banker of the Government and the commercial banks, and not of the public to any great extent, if at all. When the central bank makes an advance to the Government the proceeds thereof are disbursed by the latter in the course of making payments directly or indirectly to various persons who deposit these funds to the credit of their accounts with the commercial banks. Whether these deposits consist of cheques or drafts on the central bank or notes of the central bank, the result is the same, namely, an increase in the cash resources of the commercial banks and, therefore, in their capacity to expand their investments, discounts and advances.

It is true that where the receiving banks or any of the original recipients are indebted to the central bank and apply those claims on the central bank to the reduction or discharge of their indebtedness, an equivalent amount of new central bank credit will be automatically cancelled. The remainder, on the other hand, will have the effect of increasing the cash reserves of the commercial banks, which represent the credit base of the community; and any increase in cash reserves, if substantial and persistent, may be used under certain circumstances for the manifold expansion of credit which is rendered possible thereby. In other words, it is a potential source of inflation, and it tends to undermine the control of the central bank over the money market.

When, however, in anticipation of receipts from taxation or from public loans the Government needs funds which cannot conveniently or economically be obtained from the money market, either because of temporary stringency or because the issues and maturities of Treasury bills could not be properly adjusted to the requirements of the Government, the central bank can perform a useful function by granting temporary advances to the Govern-

ment. In the first place, if such an advance is made for short periods only and liquidated out of the proceeds of taxes or of loans raised from the public either in the form of stocks or Treasury bills, it does not serve as a source of inflation, *per se*. Secondly, there are occasions during the year, particularly in countries where the money market is not well organised, when owing to a desire for liquidity by those liable for heavy dividend or tax payments a temporary stringency results, and when central bank advances to the State not only provide the latter with its needs for the time being but also help to counteract the stringency by placing more funds at the disposal of the market. In other words, the quantity of money is increased at a time when the velocity of circulation has declined.

Thus, when the Federal Reserve System was contemplated in 1913, the normal practice of the older central banks was to grant accommodation to the State only for short periods, as the State relied for its loan requirements principally on the issue of stocks and Treasury bills to the commercial banks, bill dealers, and the public generally. Accommodation to the State was granted by central banks either in the form of advances on current account, as in the case of ways and means advances by the Bank of England, or direct discounts of bills or certificates for the Treasury as by the Reichsbank, or a combination or modification of both. In addition to the temporary accommodation provided by the central banks on the initiative of the State, they also usually held in their portfolios varying amounts of Government stocks and Treasury bills which they acquired on their own initiative as investments to defray part of their expenses or as cover for a portion of their note issues, or which they obtained in the course of their rediscount and open-market operations. In general, however, apart from the permanent loans to the State, central banks did not hold much Government paper amongst their assets.

The Federal Reserve Act did not give the Federal Reserve Banks the power to make advances on current account to the United States Government or to rediscount Treasury bills or certificates for third parties. What the original act did do was to authorise the Federal Reserve Banks to buy and sell bonds and notes of the United States Government, and to rediscount for member banks their

customers' paper, issued or drawn for the purpose of carrying or trading in bonds and notes of the United States Government and endorsed by the member banks themselves subject to a maximum maturity for such paper of 90 days. The latter power was not specified directly or explicitly, but rather in the form of an exclusion from a prohibition, and was not expected to play an important part in rediscount operations. The power to buy and sell bonds and notes of the United States Government was primarily intended to give the Federal Reserve Banks some control over money-market conditions by enabling them to conduct open-market operations like some of the older central banks did, but it could, of course, be used for the purpose of granting accommodation to the Government.

In accordance with central banking tradition the Federal Reserve Banks did not originally contemplate buying Government bonds as a means of providing financial facilities to the Government, but only for purposes of investment and open-market operations. As regards temporary accommodation, an arrangement was made whereby Treasury overdrafts for a few days could be liquidated by means of a one-day certificate of indebtedness, issued by the Treasury to a Federal Reserve Bank to cover the amount of the overdraft on any particular day and replaced by another on the following day and so on until the proceeds of taxes, bonds or notes balanced the Government's accounts.

Advances to the State since 1914. The huge cost of the World War and the enormous loan requirements of the State placed a heavy burden on the credit structure of every country which was involved in that war. Under the stress of this burden central banking traditions were abandoned and central banking practices were considerably changed in the process of adaptation to war economy. The central banks of all the belligerent countries were obliged, directly and indirectly, to give financial assistance to their Governments on a large scale during the War and for some time after the War. Several of these banks were again called upon to grant large advances to their Governments during the period following the financial crisis of 1931. This also applied to many countries which were not directly involved in the World War but which were likewise severely affected by the emergency conditions prevailing during the last-named period.

In Great Britain greater use was made of ways and means advances by the Bank of England to the Government during the War, and the Bank increased its holdings of Government securities and its advances against Government securities. These activities of the Bank caused an increase in the cash of the commercial banks, and this increase enabled them in turn to buy more Government securities and increase their advances against Government securities. A series of large war loans were floated and considerable amounts of Treasury bills were issued, but the great bulk of these were placed with the commercial banks, other financial institutions, and the public. In general, in Great Britain less use was made of central bank credit¹ and greater use of taxation and of the capital resources of the community than in the other belligerent countries of Europe. In 1920 a policy of deflation was adopted, and the Bank was able to resume its former position of granting ways and means advances to the Government only for very short periods in anticipation of tax collections.

In connection with the financial crisis of 1931 and its aftermath the Bank of England was not called upon to do much in the way of advances to the Government, but it increased its open-market purchases of Government securities on various occasions as a means of supporting Government credit and as a matter of monetary policy.

The United States followed much the same policy as Great Britain. During the War the Federal Reserve Banks increased their holdings of Government securities and made large advances to member banks against their promissory notes covered by Government securities,² and indirectly to non-member banks as well. The expansion of central bank credit in these ways was even facilitated by making the advances against Government securities at interest rates equal to or lower than those carried by the securities themselves, and also at preferential rates as compared with commercial paper. No great use, however, was made of certificates of indebtedness as a means

¹ It must be mentioned here, however, that the issue of Treasury currency notes during the War and till 1928, when they were amalgamated with the Bank of England note issues, virtually played the part of central bank credit. The amount of Treasury notes outstanding at the time of amalgamation was £285,000,000.

² This power was given to the Federal Reserve Banks in 1916.

of direct accommodation to the Government. They continued to be used only for very short periods, as was the case prior to the participation of the United States in the War; and the Federal Reserve Banks continued to have no power to make advances on current accounts to the Government.

As in Great Britain a policy of deflation was adopted in the United States in 1920, and Government finance became a less dominating factor. Moreover, as in the case of the Bank of England the Federal Reserve Banks increased their open-market purchases of Government securities during the years 1931-3, but on a much larger scale. For example, they increased their holdings of Government securities from about \$300,000,000 in 1929 to \$2,430,000,000 by the end of 1933, and still further since 1937. These operations formed part of a monetary policy designed to promote reflation and counteract deflation and depression. In this connection Burgess¹ observes that

the line between purchases (of Government securities) made to improve the economic conditions of the country and purchases made to meet the convenience of the Government may often be difficult to draw; but if the central bank is genuinely free from undue political pressure, the distinction may be made.

In France and Germany as well as the other belligerent countries on the Continent extensive use was made of central bank credit both during the War and after. The Bank of France was obliged to make large advances to the Government from the beginning of the War. For various reasons France did not have recourse to increased taxation and long-term borrowing to nearly the same extent as Great Britain and the United States, but large amounts of short-term National Defence notes and Treasury notes were issued from time to time and sold to banks and others. The large advances by the Bank to the Government and also to the other banks against Government securities gave rise to a big increase in the note circulation of the Bank and the volume of bank cash, which in turn brought about an enormous increase in bank credit generally. The ultimate result was, of course, a considerable depreciation in the value of the franc.

¹ *Reserve Banks and the Money Market*, Revised Edition (Harper), p. 124.

The highly-inflationary methods of war finance adopted by France were continued by France after the War when a series of budget deficits caused the Government to resort to further borrowing from the Bank until the advances reached the huge total of 38,000,000,000 francs in July, 1926.¹ These advances were finally repaid in 1928 partly out of a new long-term loan floated by the Government and partly out of the profit resulting from the revaluation of the gold and exchange holdings of the Bank based on one-fifth of the former gold parity of the franc. Under a convention concluded in the same year, however, the Bank agreed to grant the Government a loan of 3,000,000,000 francs without interest in addition to the old permanent loan of 200,000,000 francs referred to above. The Bank also agreed to take non-interest-bearing negotiable bonds of the Autonomous Sinking Fund (*Caisse Autonome d'Amortissement*) to the amount of 5,930,000,000 francs in the place of the Treasury notes which the Bank held and which represented advances during the War against Russian Government bonds as collateral. The effect of these measures was to liberate the Bank from the political servitude to which it had been subject for 14 years, and to restore its former independence.

During the period 1931-5, however, a further series of budget deficits caused heavy borrowing by the Government in the form of Treasury notes with currencies ranging from three to 24 months, owing to the difficulty of floating long-term loans on favourable terms. By the beginning of 1935 the banks and other institutions had so many Treasury notes in their portfolios that they were unwilling to buy more, since under prevailing practice the Bank of France rediscounted these notes only when they had a maturity of less than three months. In this emergency the Treasury approached the Bank with a view to its rediscounting, or accepting as collateral for advances, Treasury notes and National Defence notes with maturities exceeding three months. The Bank at first declined to do so on the grounds, firstly, that Government borrowing from the Bank over and above the permanent loan of 3,200,000,000 francs was

¹ As the counterpart of the increase in advances to the State the note circulation of the Bank of France rose from 6,000,000,000 francs in July, 1914 to 56,000,000,000 in July, 1926, and its deposits from 1,000,000,000 to 4,000,000,000 francs respectively.

forbidden under the convention of 1928, and secondly, that the rediscounting of Treasury paper under such conditions would be tantamount to an indirect loan to the Treasury and would be strongly conducive to inflation. With a change of Governor the Bank ultimately submitted, but on the condition that advances on the security of such Treasury obligations be published as a separate item in the weekly report of the Bank, "so that the public might be informed if the amount rose too rapidly and became a threat of inflation".¹

The accentuation of the financial emergency in France by the continued flight of capital caused the Government to exert further pressure on the Bank, which then discounted Treasury bills on a considerable scale and grouped them together with commercial bills for more than a year. Under a convention of June, 1936, these indirect borrowings from the Bank amounting at the time to 13,800,000,000 francs were consolidated and regularised as provisional non-interest-bearing advances to the State, and provision was made for additional borrowing facilities of 10,000,000,000 francs.² In 1937 another convention was concluded between the Bank and the State, providing for further facilities up to 15,000,000,000 francs; and in the middle of 1938 the limit of the Government's borrowings from the Bank was raised by another 10,000,000,000 francs. These provisional advances had reached a total of over 50,000,000,000 francs in November, 1938, when a further convention was concluded between the Bank and the State, under which the profit resulting from the revaluation of the Bank's gold holdings at 170 francs to the £ was allocated towards part repayment of the provisional advances and the permanent State debt to the Bank was raised from 3,200,000,000 to 10,000,000,000 francs.

Margaret Myers³ has said of the Bank of France that the history of the relationship between Bank and Government resolves itself into a series of struggles in which the Bank has striven to maintain its independence and the Government has tried to bend the Bank to its own interests,

and that

between crises the Bank has been more successful than most central

¹ M. Myers: *Paris as a Financial Centre*, pp. 16-17.

² *Monetary Review 1937-38* (League of Nations), p. 83.

³ *Op. cit.*, p. 45.

banks in maintaining its independence, and in keeping itself free from the political manœuvres into which successive Governments have tried to draw it.

In general, however, the experience of the Bank of France has shown clearly the dangers and disadvantages to a country emanating from a tendency towards undue Government pressure on the central bank in times of financial strain.

In Germany the Reichsbank was also called upon to take an important part in the financing of the War and post-War requirements of the Government. The procedure adopted was that of discounting by the Reichsbank of three-months' Treasury bills or Treasury certificates in anticipation of public loans to be floated every six months. During the first two years of the War the proceeds of such loans were sufficient to repay the Treasury bills discounted by the Reichsbank, but thereafter there was a progressive increase in the excess of Treasury bills outstanding over loans issued. At the end of 1918 the floating debt of the German Government amounted to 55,200,000,000 marks, a large part of which consisted of bills discounted directly by the Reichsbank. The counterpart of this inflationary method of finance was an increase in the note circulation of the Reichsbank from 1,958,000,000 marks in 1913 to 22,200,000,000 marks at the end of 1918. Under the difficult conditions and heavy burdens with which the Government and the Reichsbank were faced during the post-War period, the process of inflation through the discounting of Treasury bills and the issue of notes by the Reichsbank was accelerated until they reached astronomical proportions towards the end of 1923.¹ The resultant depreciation and collapse of the mark was followed by the establishment of the Rentenbank and the stabilisation of the mark on the basis of 1 rentenmark (or goldmark) for 1,000,000,000,000 paper marks. The Rentenbank was ordered to grant the Government a credit of 1,200,000,000 rentenmarks, of which 300,000,000 rentenmarks were to be used for the repayment of the Treasury bills held by the Reichsbank, and no further Treasury bills were to be discounted with the Reichsbank.

¹ Treasury bills outstanding amounted to 191,580,465,422 milliard marks in the middle of November, 1923, and Reichsbank notes in circulation to 496,507,425,000 milliard marks in December, 1923. (Parchmann : *Die Reichsbank*, pp. 27-39.)

The Reichsbank was reconstituted in 1924 with the aid of the Dawes loan and made independent of the Government. Under the new law its powers of granting accommodation to the Government were narrowly defined. It was authorised to make advances to the Government to a maximum of 100,000,000 reichsmarks, but at the end of each year (altered in 1930 to 15 July) the Government was to be free of direct debt to the Reichsbank. To the Post Office and the Railways the Reichsbank could also grant short-term credits up to a maximum of 200,000,000 reichsmarks. Finally, the Reichsbank was empowered to discount Treasury bills for third parties up to a maximum of 400,000,000 reichsmarks.

With the financial stringency in Germany resulting from the large withdrawal of foreign balances in 1931 and the difficulty of obtaining and renewing foreign credits, and with an intensive Government programme of relief and reconstruction since 1933, the Reichsbank was again called upon to place its credit at the disposal of German economy, but rather in the form of rediscounts¹ to the commercial banks and other credit or financial institutions than direct accommodation to the Government. This is reflected in the increase in the discounts and advances of the Reichsbank from 2,537,000,000 reichsmarks at the end of 1930 to 6,192,000,000 reichsmarks at the end of 1937. At the latter date the Bank's holdings of Treasury paper amounted only to 118,600,000 reichsmarks, and that was by far the largest amount outstanding during the whole of that year.

Relations between State and New Central Banks. As a result of the unfortunate, sometimes disastrous, experiences which central banks had with Government paper during the War and post-War periods, the large number of central banks which were newly established or reorganised after the War had their powers of granting accommodation to the State or buying Government securities severely restricted.

¹ For a number of years the German Government met a large part of its requirements by issuing special bills (*Sonderwechsel*) to its contractors, and these bills enjoyed unrestricted facilities for discount at the Reichsbank, which was, in fact, called upon to rediscount large amounts of such bills. In March, 1938, however, the Reichsbank announced that the issue of *Sonderwechsel* would be discontinued and that all State expenditure not covered by tax revenue would be financed by loans issued at regular intervals in the open market. (*Monetary Review 1937-38*, pp. 55-7.)

The central banks of Chile and Colombia, for example, were prohibited from buying, discounting, or making advances against Government and Municipal obligations to a total amount in excess of 30 per cent. of their paid-up capital and surplus, and also from granting floating credits or allowing overdrafts. The South African Reserve Bank was allowed only to buy Government securities and Treasury bills, and to rediscount Treasury bills, of not more than six months' currency, and to invest sums not exceeding capital and reserve in Government securities of not more than two years' currency. The Reserve Bank of Peru was authorised to acquire Government securities and Treasury bills only if offered by banks as collateral for their promissory notes to be discounted by the Bank, subject to a maximum currency of 90 days for the promissory notes and subject also to a maximum advance of 90 per cent. of the market value of Government securities; and it was prohibited from granting loans on current account.

The National Bank of Czechoslovakia was not allowed to grant directly or indirectly any credit to the State, or to acquire State bonds for its own account, except that one-half of the reserve fund was to be invested in State bonds of the Republic, but it was authorised to make advances against Government securities for a period not exceeding three months. The National Banks of Austria and Hungary were prohibited from entering into business relations with the State which involved the granting of loans or credits to the State, but they were allowed to make advances against Government securities for not more than three months and to discount three months' bills drawn by State Commercial undertakings provided they are managed as independent enterprises with separate accounts. The powers of the reorganised Reichsbank were, as stated previously, also narrowly defined.

Under the stress, however, of the world-wide depression which set in towards the end of 1929 and was aggravated by the financial crisis in Europe in 1931, many of these central banks became the victims of Government pressure. Not only were their powers of granting accommodation to the State increased or the restrictions thereon suspended, but they were virtually obliged to provide the financial facilities demanded by the State.

In Chile and Colombia the maximum holdings of

Government paper by the central banks were at first raised in 1931 from 30 per cent. of their paid-up capital and surplus to 45 per cent. in the latter country and 80 per cent. in the former, but shortly afterwards these limits were suspended and the central banks were then authorised by legislation from time to time to make specific advances to the State. The same procedure was adopted in the case of the related central banks of Peru, Ecuador and Bolivia. As a result of this legislative authority combined with Government pressure, the central banks of South America were faced with a considerable increase in their holdings of Government paper.

The new or reorganised central banks of Europe have undergone a similar experience. Budget deficits and assistance to failing banks and depressed industries have forced the State to bring pressure to bear on the central bank, as in Austria, Hungary, Poland, Bulgaria and Greece, for accommodation in one way or another. The result has been that State debt again figures prominently in the balance sheets of these banks.

The powers of the South African Reserve Bank were extended in 1930 with a view to authorising it to invest a sum not exceeding its paid-up capital and reserve in Union Government securities of any currency, instead of being limited to two years' currency, and to make advances for not more than three months against Government securities and Treasury bills of any currency instead of being restricted to six months' currency. This was done, however, because of the great scarcity of Union Government securities of short currency. All the other restrictions regarding Government paper have remained in force.

With regard to the new central banks which have been established since 1932, such as those of New Zealand, Salvador, India, Canada and Argentina, varying degrees of restriction have been imposed.

The Bank of Canada has been authorised to make advances to the Government subject to a maximum of one-third of the estimated revenue for the fiscal year and subject also to such advances being repaid before the end of the first quarter after the end of the fiscal year. Moreover, it can buy or rediscount short-term Government or Provincial securities having a maturity not exceeding two years, but it may not hold Government or Provincial

securities of a maturity of more than two years in excess of one-half of its outstanding note and deposit liabilities, nor may it hold such securities with a maturity of more than 10 years in excess of five times the amount of its paid-up capital and surplus.

The central banks of Argentina and Salvador may make advances to the State subject to a maximum of 10 per cent. of the estimated revenue for the fiscal year in the former case, and 10 per cent. of the estimated customs revenue in the latter. With regard to Government securities, the Central Bank of Argentina may buy Government securities subject to certain limits, but that of Salvador is prohibited from holding Government securities as investments.

The Reserve Bank of India has not been restricted in the amount of the advances which it may make to the Government, but they must be repaid within three months from the date of the making of the advance. Moreover, it may buy Government securities of any currency provided that the amount of such securities held at any time in its Banking Department shall not exceed the aggregate amount of the share capital of the Bank, the reserve fund and three-fifths of the deposit liabilities of the Banking Department, and provided further that the securities maturing after one year or after 10 years shall not exceed certain limits.

The restrictions which were imposed on the Reserve Bank of New Zealand under the Act of 1934 were considerably reduced in 1936 and 1937. It was authorised to grant advances to the State up to the full amount of the estimated revenue for the fiscal year and to buy or advance against Government securities and securities guaranteed by the Government, of any amount and any maturity, and also to buy or rediscount Treasury bills maturing within three months. Moreover, it was empowered to grant accommodation to the Government, by way of overdraft, for the purpose of financing the purchase and marketing of any New Zealand produce under the Primary Products Marketing Act; and it was also given the power to underwrite Government loans.

Conclusions. In reviewing the financial relations between the State and the central bank during the past hundred years, one observes a series of trends towards alternate increases and decreases in the degree of Government pressure and reliance on the central bank for direct and

indirect accommodation. During the nineteenth century there were various examples of undue Government pressure on banks of issue until about the 'seventies and 'eighties, when, coinciding with the gradual extension of the gold standard all over the world, there developed a strong tendency towards the adoption of a conservative financial policy by the State and the granting of greater independence to the central bank. This condition prevailed until 1914, when, with the waging of war and the suspension of the gold standard, central banking traditions were abandoned and central banks were reduced to subservience to the needs of the State.

During the period 1923-8, however, coinciding with the gradual restoration of the international gold standard, State debts to the central banks were reduced and consolidated and the majority of central banks were liberated from the domination of the State. Moreover, the many new central banks which were established at this time were restricted by legislation in their advances to the State and in their holdings of Government paper generally. The reverse process commenced in 1930 and was aggravated by the financial crisis in Central Europe in the middle of 1931, followed by the suspension of the gold standard in Great Britain and, subsequently, in practically the remainder of the world. Government pressure was again applied to central banks for accommodation, and a perusal of the balance sheets of many central banks reveals the existence not only of direct State debts, but also of large holdings of Government securities and Treasury bills as investments and collateral for advances.

It appears to be no mere coincidence that the degree of Government pressure and reliance on the central bank has varied with the maintenance or suspension of the gold standard. It is virtually an axiom that the gold standard automatically imposes a large measure of discipline on the economic life of a nation and demands the liberation of the central bank from political expediency. During periods of suspension of the gold standard the State is not subject to the same necessity of exerting itself to make ends meet. The State is then subject to the temptation of resorting to the central bank as a ready and convenient means of obtaining almost unlimited credit, which would enable the State to take the line of least resistance. Thus, the central bank

which, through the centralisation of the note issue and reserves, can be a powerful instrument for good, may for the same reasons be converted into a powerful instrument for evil. History is full of examples of inflation and currency depreciation resulting from credit creation on behalf of the State. In fact, experience, has shown that heavy Government borrowing, either directly from the central bank or indirectly through rediscounts, is the easiest means, and sometimes the only means, of bringing about substantial inflation. In this respect, therefore, it is also not just a coincidence that the degree of expansion of central bank credit for Government purposes has had some relationship with the extent of currency depreciation.

It is to be hoped that, as has happened in the past, the process will soon be reversed again in the direction of less Government pressure and dependence on the central bank. In this connection it is gratifying to note that, of the five new central banks established in Argentina, Salvador, India, Canada and New Zealand, only the last-named was free from substantial restrictions on the making of advances to the State or the holding of Government paper generally. It is likewise gratifying to observe that, with the exception of the Reserve Bank of New Zealand and the Bank of Canada, statutory provision has been made in the other cases for a large measure of independence. This is important as history has demonstrated on various occasions the need for political independence on the part of the central bank in order that it may be in a position to offer strong resistance to unsound demands of the State.

In the interests of both parties the relationship between the central bank and the Government should, as far as possible, be on an ordinary business basis, as between a banker and his principal client who is entitled to special consideration at least by virtue of the importance of his position and the magnitude of his transactions. The Government may always consult the central bank on the best ways and means of meeting its short-term and long term loan requirements and may approach the central bank as its banker for direct or indirect accommodation if at any time it experiences great difficulty in satisfying its requirements from the usual outside sources. The central bank however, while it should always be prepared to give sympathetic consideration to the requests and needs of the

Government, should be placed, by law or tradition, in a position where it considers itself free to treat all requests and representations of the Government on their merits and from the standpoint of the national economic interest. .

It is important that the true relative position between the Government and the central bank in matters of monetary policy should be fully accepted by both parties. The Government should be recognised as the ultimate authority responsible for laying down the monetary policy and monetary standard of its country, and the central bank as the party responsible for carrying out the monetary policy and maintaining the monetary standard, with the added responsibility of seeking to safeguard the national economic welfare to the best of its ability. In view of these responsibilities the central bank should not only be consulted by the Government in the formulation of the monetary policy but should also be given a relatively free hand and assisted wherever possible by the Government in carrying out such monetary policy. On the other hand, the central bank should not be unmindful of the difficult and extenuating circumstances in which the Government is placed in times of prolonged war and acute economic depression.

In short, the Government and the central bank have mutual interests and complementary duties and responsibilities. The Government, as representing the nation, should have the support, respect, sympathy and advice of the central bank, and the latter, as the centre of the nation's monetary and banking system, is entitled to the same from the Government. No party should resort to exerting undue pressure or making undue claims on the other. Both are organised for the purpose of serving the public interest in their individual capacities, and while the maximum good can only be achieved through their full co-operation and mutual consideration for one another's duties and responsibilities, nothing but evil can result from the lack of such co-operation and consideration.

Government Banking Accounts. In keeping the banking accounts of Government ¹ departments and enterprises, the central bank performs the same functions as the commercial bank ordinarily performs for its customers. It credits their

¹ In many countries the central bank keeps the accounts not only of the Central or Federal Government, but also of the Provinces or States.

accounts with all moneys deposited ¹ whether in the form of cash, cheques or drafts, and debits their accounts with all amounts drawn in cash for salaries and wages and other cash disbursements and with the amounts of cheques or drafts drawn by them on it and presented for payment. The control over the Government accounts is usually centralised in the Treasury, except in the case of State commercial enterprises or boards which are managed independently of the Treasury and which, therefore, make their own arrangements with the central bank.

Owing to the magnitude of the Government's financial operations the keeping of the Government banking accounts obviously entails an enormous amount of clerical work and expense. In the case of many central banks the State has provided for remuneration either directly in the form of a specific payment to the central bank based on the turnover of the accounts or an agreed annual amount, or indirectly through an arrangement whereby the Government has to maintain a minimum credit balance in its accounts with the central bank, even if it has to borrow from the latter at times in order to maintain the requisite balance. In other cases, however, the central bank has under its charter or statute, or under a private agreement with the Government, to keep the Government accounts free of charge; and as in the case of permanent loans to the State this obligation on the part of the central bank is usually associated with its enjoyment of the monopoly of note issue and any other privileges which may have been conferred by legislation.

Central banks everywhere operate as bankers to the State, not only because it may be more convenient and economical to the State, but also because of the intimate connection between public finance and monetary affairs. The State is the largest receiver of revenue and the biggest disburser of expenditure in any country, while the central bank is charged with the duty and responsibility of controlling or adjusting credit in the national economic interest. As the manifold financial activities of the State can easily interfere with money-market conditions and exchange rates

¹ In the United States the Federal Treasury has continued to hold a substantial amount of actual cash and also to keep some of its deposits with commercial banks, whether arising out of the proceeds of issues of Government securities or out of deposits of current receipts in places distant from Reserve Bank cities.

and with the credit policy of the central bank, the banking operations of the State can best be centralised in the central bank. In its combined rôles as banker, agent and adviser to the State, the central bank is then placed in a better position to avoid or counteract disturbances to the money market caused by large credit balances in Government accounts or heavy quarterly and half-yearly drawings by the Government in payment of interest, debt redemption, pensions and other items.

Another banking service rendered by the central bank is that of providing foreign exchange to meet the national debt service or the purchases of Government stores in other countries, and purchasing foreign exchange where the State has raised loans in other countries. In many debtor countries the State requires large amounts of foreign exchange to meet interest and other charges abroad, and as the exchange position of such countries is very delicate at times, the central bank must know beforehand what the exchange commitments of the State are. It has to acquire the requisite foreign exchange by purchase in the open market or by agreement with the commercial banks or the principal export industries, or by a combination of these methods ; and at the same time it has to exercise some form of control over the exchange rates as it is responsible for the maintenance of the monetary standard adopted by the State.

Government's Agent and Adviser. In general it may be said that the older central banks are required to perform a greater number and variety of services as agents and advisers to the State than in the case of the newer central banks. The main reason for this seems to be that, owing to the late appearance of the latter, the State Treasuries of the countries concerned were already well developed and organised for the carrying out of such duties. The trend has, however, been in the direction of passing some of these duties to the central bank from time to time. The Reserve Bank of New Zealand and the Bank of Canada, for example, were entrusted with the management of the national debt in 1936.

With the older central banks the process of undertaking various financial services for the State was also a gradual one. The Bank of England, for example, first took over from the Exchequer the duty of receiving subscriptions for Government loans in 1718. Then it undertook in

1751 the service of paying interest on the national debt. In due course it assumed all the duties connected with the administration and management of the national debt, including the floating debt. It undertakes the payment to stockholders of interest on the national debt; the keeping of transfer registers in respect of Government stocks; the receipt of subscriptions for Government loans and the making of all other arrangements in connection with the flotation, conversion or redemption of Government loans; the issue and redemption of Treasury bills; and the giving of advice and information regarding the state and trend of the money and capital markets, the terms and other conditions on which new Government loans could be issued or old loans converted, etc.

As regards remuneration for these services, which was laid down by Act of Parliament, the Bank of England was first paid at the rate of £562 10s. per million pounds of debt per annum. This was reduced in 1786 to £450 per million, and in 1808 to £340 per million on the first 600 millions and £300 per million on the excess. By 1892 it had been reduced to £325 per million on the first 500 millions, and £100 per million on the excess. In this connection, however, it must be mentioned that in 1833 provision was made for the Bank to deduct the annual sum of £120,000 from the amount payable by the Government for the management of the debt in consideration of the privileges conferred by legislation. In 1844 the amount to be deducted was increased to £180,000 per annum because the Bank obtained a further privilege in the exemption from the stamp duty on notes. By 1914 the payment for the privileges amounted to about £200,000 per annum. Since 1928 the Bank has to pay the whole of the profits of the Issue Department to the Government.

The Bank was also paid a commission on the issue, circulation and redemption of Treasury bills at the rate of £100 per million pounds of bills in existence on the 1st December in each year, increased to £200 per million in 1892.¹

While the position of the Bank of England as agent served as a basis for the relationship between the central bank and the Treasury in other countries, it was not closely

¹ Andréadès : *History of Bank of England* (Second Edition), pp. 398-401; and Gilbert, Vol. I, pp. 36, 44, 51, 79 and 91.

followed everywhere. In France, for example, the central bank was at first entrusted with the payment of interest on the national debt and the management of the business connected with its redemption, for which it was paid a commission of $1\frac{1}{2}$ per cent. This was subsequently reduced and converted into a fixed payment, but even then it was considered too high by the Government; and as a mutually satisfactory arrangement could not be reached, the management of the national debt was finally restored to the Government. In 1897 it was proposed by the Government to hand it over to the Bank of France once more, but without payment. This was not acceptable to the Bank, and the Treasury decided to retain the administration of the debt. It was arranged, however, that the Bank should cash gratuitously for the benefit of the Treasury the bearer coupons of the French rentes and Treasury bills, and also that the Bank should gratuitously help in the issue of Treasury bills.¹ The Bank has also assisted the Treasury with the issue of big loans on various occasions, such as during the War.

Like the Bank of England the Federal Reserve Banks of the United States perform numerous services as agents and advisers to the Treasury and Government institutions generally. They have taken over from the Treasury all the work connected with the distribution of its securities, whether bonds, Treasury notes or Treasury bills; they receive subscriptions for new issues and deliver the securities to subscribers; they undertake the exchange or transfer of registered and coupon securities; they cash interest coupons and pay off maturing obligations; they buy and sell securities in the market for various Treasury accounts; they hold in safekeeping for the Treasury large amounts of securities including amounts unissued; they act as agents for the Reconstruction Finance Corporation, Home Owners' Loan Corporation, and other similar Government agencies. Moreover, before an issue of Government securities is made, its terms are discussed with the officers of the Federal Reserve Banks, who maintain contacts with the dealers, the banks, and other buyers of Government securities in order to interpret changes in market conditions to the Treasury.²

¹ *Andréadès, op. cit.*, p. 400.

² *Burgess: Reserve Banks and the Money Market*, Revised Edition (Harper), pp. 106-8.

Burgess states that the number of employees in all the Federal Reserve Banks engaged in handling the banking and agency transactions for the United States Government is about 2,400, and the annual expense probably over \$5,000,000. Prior to 1921 they were reimbursed by the Treasury for most of this expenditure, but since that time they have been reimbursed only for certain specified expenditures in connection with new security issues, the Reconstruction Finance Corporation, and other agencies; and about half the work done for the Treasury is done without charge. The Treasury has, however, maintained a credit balance with the Federal Reserve Banks of about \$80,000,000.¹

Exchange Clearing Agreements and Stabilisation Funds. In recent years, with the introduction of exchange clearing agreements between certain countries and exchange stabilisation or equalisation funds, the central banks of the countries concerned have also operated as agents for the State in the administration of these agreements and funds, keeping separate banking accounts for these purposes and carrying out all the transactions in gold, foreign exchange and Treasury bills connected therewith.

¹ Burgess: *Reserve Banks and the Money Market*, Revised Edition (Harper), p. 109.

CHAPTER IV

THE CENTRAL BANK AS THE CUSTODIAN OF THE CASH RESERVES OF THE COMMERCIAL BANKS

THE central bank has become the custodian of the cash reserves of commercial banks by a process of evolution which was closely associated with its functions as bank of issue and banker to the Government.

It was, for example, through the medium of the banking transactions of the Government and the partial monopoly of the note issue enjoyed by the Bank of England, that the private banks of eighteenth-century England were brought into close contact with the Bank of England. It soon became clear to these banks that there was an advantage in keeping an account with the Bank of England, particularly as it was the principal bank of issue, i.e. the bank whose notes commanded the greatest confidence and the widest circulation in the country. The tendency to keep larger and larger balances with the Bank grew as time went on, until by the end of the eighteenth century the stage was reached when the other banks did not keep in their own tills much more currency than was required for their day-to-day needs. After 1826, when the establishment of other joint-stock banks was authorised by law and many such banks were opened all over England, the traditional practice of maintaining balances with the Bank of England was also adopted by the new banks. In this way the Bank of England came to be generally accepted as the custodian of the cash reserves of the commercial banks.

This practice also developed in other countries where one bank had become the sole or principal bank of issue and the Government's banker. In the case of the older countries, the commercial banks voluntarily kept a part of their cash reserves with the central bank, as there was no law compelling them to do so.

With the establishment of the Federal Reserve Banks in the United States a new principle regarding bank reserves was introduced into central banking, namely, a statutory provision that member banks had to maintain

with the Reserve Banks certain minimum cash reserves against their deposit liabilities. This feature of the Federal Reserve Banks was incorporated, in one form or another, in the statutes of several of the central banks which were subsequently established in South and Central America, South Africa, New Zealand, India, etc.

Significance of Centralised Cash Reserves. The centralisation of cash reserves in the central bank, whether laid down by law or governed by tradition, is an important factor in the monetary and banking situation of a country. Its significance lies in the fact that centralised cash reserves can form the basis of a much larger and more elastic credit structure than the same amount scattered among the commercial banks. The underlying principle is that, when bank reserves are pooled in one unit instead of being spread over many units and their use is safeguarded by reasonable and elastic restrictions, such reserves may be put to work to the fullest extent possible during periods of seasonal strain and in emergencies in the interests of banking and business as a whole. In short, in the hands of the central bank the reserves can be mobilised and utilised more efficiently.

That centralisation is strongly conducive to economy in cash reserves is demonstrated by the fact that, in practically every country in which a central bank has been set up in modern times, the commercial banks have found it possible to reduce their cash reserves if necessary without loss of liquidity or security. For example, in the United States the commercial banks reduced the ratio of their cash reserves to their liabilities to the public from 13.5 per cent. in 1913 to 9.4 in 1926 and 9.3 in 1929, and in the Union of South Africa from 19 per cent. at the end of 1913 to 17.2 at the end of 1926 (five and a half years after the inception of the central bank), 14.1 per cent. at the end of 1928 and 11.6 in the middle of 1931.¹

It is, of course, in conjunction with rediscounting by the central bank that centralisation of cash reserves promotes economy in their use. In the absence of a central bank each of the commercial banks would have to carry sufficient cash reserves to meet any period of seasonal strain or emergency, whereas with a central bank to turn to at such

¹ In recent years, however, both in the United States and the Union of South Africa, a series of favourable balances of payments on current and capital accounts have brought about a superfluity of cash reserves.

times a substantially smaller cash reserve is needed. The commercial banks can then either conduct a larger volume of business with the same cash reserve or the same business with a smaller reserve.

Referring to "the shift of required reserves from the vaults of member banks to the vaults of the Federal Reserve Banks", Burgess¹ pointed out that it "was not simply a change in physical location", but that it "made a change in the character and effectiveness of the reserves and enabled them to serve more adequately their original purposes". He also emphasised that there are two kinds of emergencies to be met. In the one case, when only a few banks need additional funds, the reserves "can be shifted to the point where the need is greatest at any time", while in the other, when the need for funds is general, the centralised reserves can be used to increase the total amount of funds available.

As already mentioned, in most of the countries of the Old World the keeping of reserves with the central bank is left to the discretion of the commercial banks, and the amount of percentage is, of course, governed largely by tradition. It appears to have been the absence of a similar tradition and the urgency of a strong central banking structure which were mainly responsible for the imposition, in some countries, of statutory requirements regarding the minimum cash reserves to be kept with the central bank. There is reason to believe that central banks generally regard such statutory requirements as being of great advantage to the central bank in the performance of its customary functions. The central bank is then at least assured of a minimum amount of funds with which it can operate. Where, however, the tradition is voluntarily observed, it naturally acts as a deterrent to the introduction of a legal minimum.

Statutory Centralisation of Cash Reserves in Central Bank. As previously stated, the Federal Reserve Act of the United States in 1913 introduced a new principle regarding cash reserves, namely, that commercial banks should be required by law to maintain minimum cash reserves with the central bank.

Under the original Federal Reserve Act the member

¹ *Reserve Banks and the Money Market*, Revised Edition (Harper), pp. 26-7.

banks were required to hold minimum cash reserves amounting to 5 per cent. of their time deposits and 12, 15 or 18 per cent. of their demand deposits¹ depending upon whether they were country banks, reserve city banks or central reserve city banks² respectively. Of these reserves they had to hold certain minimum proportions in the Federal Reserve Bank of their particular district and in their own vaults, and the balance either in the former or the latter or both. In 1917 an important alteration was made as a result of the experience gained during the first three years of operation. Instead of distinguishing between the minimum reserves to be kept with the Reserve Bank and those in their own vaults, the law laid down merely the minimum reserves³ which the member banks should keep with their Reserve Bank and which were fixed at 3 per cent. of their time deposits and 7, 10 or 13 per cent. of their demand deposits depending upon whether they were country, reserve city or central reserve city banks. As to the remainder of their cash reserves, member banks were left entirely to their own discretion as to what amount of till money they should keep on hand for their day-to-day operations and as to where they should keep any surplus cash reserves which they might have at any time.

When the establishment of the South African Reserve Bank was under consideration in 1920, it was decided to incorporate this feature of the Federal Reserve Act and to require the commercial banks to keep with the Reserve Bank minimum cash reserves amounting to 3 per cent. of their time liabilities in South Africa and 13 per cent. of their demand liabilities (reduced to 10 per cent. in 1923). This feature was also adopted in the case of several other new central banks.

In New Zealand, for example, the commercial banks are

¹ The distinction made between time and demand deposits was to the effect that the former were deposits subject to notice of withdrawal within not less than 30 days, and the latter in less than 30 days.

² Under the original Act provision was made for three central reserve cities, but these were subsequently reduced to two (New York and Chicago); the reserve city banks were located in the other important business centres (over 50); and the country banks comprised those in the remaining areas.

³ The way in which it was provided for by law was to prescribe the minimum reserve percentages which the member banks had to maintain against their time and demand deposits and to stipulate that only their balances with the Federal Reserve Banks could be counted as legal reserves.

required to maintain balances in the Reserve Bank amounting to not less than 3 per cent. of their time liabilities and 7 per cent. of their demand liabilities in New Zealand. In India the minimum reserves to be kept with the Reserve Bank by the "scheduled" banks are fixed at 2 per cent. of time liabilities and 5 per cent. of demand liabilities, but contrary to the practice in the United States, South Africa and New Zealand demand liabilities in India are interpreted as liabilities to be met on demand, i.e. within 24 hours, instead of within 30 days. In Argentina the banks have to maintain total cash reserves equal to not less than 8 per cent. of their time deposits and 16 per cent. of their demand deposits, and of these minimum reserves two-thirds have to be held with the Central Bank; i.e. they have to keep with the Central Bank minimum balances amounting to $5\frac{1}{3}$ per cent. of their time deposits and $10\frac{2}{3}$ per cent. of their demand deposits.

In a number of other countries minimum cash-reserve ratios have also been imposed by law on the commercial banks either in respect of their demand liabilities only, as in Denmark, Mexico, Portugal and Roumania, or in respect of both their time and demand liabilities, as in Bolivia, Canada, Chile, Colombia, Ecuador, Greece and Switzerland; but in all these cases no provision has as yet been made for minimum balances to be maintained with the central banks. In other words, while their cash reserves must, with few exceptions, be held in the form of notes, coin and balances with the central bank, no minimum proportion of such reserves to be kept with the central bank has been laid down, as in the case of Argentina. Their general practice is, however, to keep a substantial proportion thereof on deposit with the central bank.

In Colombia the original statute of the Bank of the Republic in 1923 contained a provision somewhat on the lines of the original Federal Reserve Act, namely, that the balances of member banks with the Bank of the Republic could be counted as legal reserves only up to half the amount of the minimum cash reserves to be held by the member banks. In 1931, however, it was provided that their total balances with the Bank of the Republic could be included by the member banks in their reserve calculations; and in the Bank's annual report for 1930-1 this amendment was referred to as "a further most important provision of

the new legislation, favouring the concentration of the country's reserves in the hands of the bank of issue". The existing provisions relating to cash reserves in Colombia are 5 per cent. of time deposits and 15 per cent. of demand deposits for member banks, and 10 and 30 per cent. respectively for non-member banks; in Chile 8 per cent. for time deposits and 20 per cent. for demand deposits; in Ecuador 10 and 25 per cent. respectively; and in Bolivia 10 and 20 per cent. respectively.

In Canada it was decided to make no distinction between time and demand liabilities in the matter of legal reserve requirements. The commercial banks are required to hold cash reserves equal to not less than 5 per cent. of all their deposit liabilities within Canada, but they are allowed to include in the cash reserves to be held by them not only their balances with the Bank of Canada, but also Bank of Canada notes held in their tills or vaults.

New Methods Investigated and Introduced in United States. In the meantime discussions and investigations had taken place in the United States with the object of establishing bank reserves "on a more logical or effective basis than now appears to be possible under present laws". At the end of 1929 a Committee of officers of the Federal Reserve System was appointed with this purpose in view. They reported that the existing system of legal requirements for member bank reserves had "not operated to relate the expansion of member bank credit to the needs of trade and industry, nor has it adequately reflected changes in the volume and activity of member bank credit". They held that, although the law

in requiring lower reserves against time deposits than against demand deposits, and lower reserves against the demand deposits of country banks than against the demand deposits of reserve and central reserve city banks may have been expected to impose higher reserves on more active deposits than on less active deposits,

in practice it did not sufficiently take into account the velocity of the turnover of deposits. Moreover, whenever there was a shift from demand to time deposits, the existing system permitted a large expansion in the total volume of bank credit without a corresponding increase in the cash reserves which member banks had to maintain with the Reserve Banks. According to their interpretation,

experience shows that since 1914 and especially since 1922 the proportion of primary reserves held by member banks has steadily declined in relation to the volume of member bank deposits and to their activity.¹

To remedy these defects the Committee considered that an entirely new approach to the reserve problem was necessary. They proposed that

the formula used in calculating reserve requirements take into account directly, instead of indirectly as in the existing law, the activity as well as the volume of the deposits held by each individual member bank, without regard to the location of the bank or the terms of withdrawal on which the deposits are technically held, and, therefore, that

each member bank be required to hold a reserve equivalent to (a) 5 per cent. of its total net deposits, plus (b) 50 per cent. of the average daily withdrawals actually made from all of its deposit accounts.²

Their proposals provided for the removal of the distinction between time and demand deposits and between country, reserve city and central reserve city banks, and for the inclusion in the legal reserves of member banks of their vault cash, with certain limitations.

It was considered by the Committee that their proposed formula would increase the Reserve Banks' powers of control over credit conditions, particularly since in a period of rapidly expanding activity and growing speculation the velocity or rate of turnover of deposits would also tend to increase considerably, and this would automatically increase the reserve balances which the member banks would be required to keep with the Reserve Banks under section (b) of the formula. Moreover, under their formula a shift from demand to time deposits would not increase the credit-creating capacity of the member banks to nearly the same extent as under the old system.

In 1932 the Federal Reserve Board³ expressed the opinion

that the adoption of a system of reserves based on velocity of accounts as well as on their volume, as recommended by the System's Com-

¹ *Report of the Committee on Bank Reserves of the Federal Reserve System* p. 5.

² *Ibid.*, p. 6.

³ *Annual Report for 1932*, p. 26.

mittee on reserves, would be an important step in strengthening the influence that the Federal Reserve System could exert in the direction of sound credit conditions.

Moreover, in referring to the Committee's proposal in the course of his testimony on the Stock Exchange Bill in 1934, Governor Black of the Federal Reserve Bank of Atlanta said that

the proposal would result in an automatic increase of reserve requirements when boom conditions arise and an automatic decrease of reserve requirements in times of depression,

and that

the proposal furthermore has the advantage of making the increase in reserves applicable not to all banks in all localities alike, but rather to those banks in those communities only where excessive speculative activity is manifesting itself.

The Committee's proposal was not, however, translated into law. Instead, while the old formula as amended in 1917 was retained, legislation was passed authorising the Board of Governors of the Federal Reserve System (formerly Federal Reserve Board) to change the member banks' reserve requirements by regulation "in order to prevent injurious credit expansion or contraction", the minimum reserve percentages not to be less than those laid down in 1917 nor more than twice such percentages. This power to change the minimum reserves to be kept with the Reserve Banks by the member banks was intended as an additional means of enabling the Reserve Banks to control the money market and to contract or expand the credit-creating capacity of the member banks.

It was brought into use for the first time in August, 1936, when the reserve requirements were raised by one-half because of the fear that the big increase in the cash reserves of the member banks resulting from the heavy inflow of gold might be used as a basis of injurious credit expansion.

Owing to the continued inflow of gold, the Board of Governors decided, in the beginning of 1937, to make a further increase in reserve requirements in two stages up to the limit allowed by legislation, namely, double the minimum reserves provided for in 1917 and adhered to till 1936; i.e. on the 1st May, 1937, when the final increase was brought into effect, the reserve percentages stood at

14, 20 and 26 per cent. of demand deposits for country banks, reserve city banks and central reserve city banks respectively, and at 6 per cent. of time deposits.

In April, 1938, however, as part of a monetary policy designed to counteract a recession in economic activity, the minimum reserves were reduced by $12\frac{1}{2}$ per cent. from their new high level; i.e. they were reduced to 12, $17\frac{1}{2}$ and $22\frac{3}{4}$ per cent. respectively in the case of demand deposits, and from 6 to 5 per cent. of time deposits.

Influence on Other Countries. The introduction of changes in reserve requirements as an additional instrument of credit control in the United States has attracted a great deal of attention in other countries where central banks have experienced difficulty in controlling the credit situation and money-market conditions.

In New Zealand legislation was passed in 1936 which empowered the Governor of the Reserve Bank, acting with the authority of the Minister of Finance, to vary the percentages of balances to be maintained by trading banks with the Reserve Bank, subject to such balances not being at any time less than those provided for in the original statute, namely, 3 per cent. of time liabilities and 7 per cent. of deposit liabilities.

In Australia, where no statutory provision has yet been made for the holding of minimum reserve balances¹ with the Commonwealth Bank by the trading banks, a Commission appointed to investigate the monetary and banking system of Australia recommended in 1937 that legislation be passed empowering the Commonwealth Bank Board, with the consent of the Treasurer, not only to require the trading banks to keep for a period of six months deposits with the Commonwealth Bank of not less than a stated percentage of their total deposit liabilities in Australia, but also to vary the percentage within the limit fixed by the consent of the Treasurer, and to extend the period for a further twelve months, subject to this power not being exercised for more than 18 months during any period of two years.²

Moreover, in Sweden legislation was introduced in 1937,

¹ The Commonwealth Bank Act of 1924 provided, however, for compulsory clearing through the Commonwealth Bank by all the trading banks, as a result of which the latter have to maintain with the former such balances as would at least be adequate for clearing purposes.

² Pages 228 and 229 of Report.

under which the Government could for a limited period authorise the Riksbank, at the latter's request, to require all joint-stock banks with own funds in excess of 5,000,000 kronor to hold their legal reserve¹ of 25 per cent. against sight liabilities only in the form of till money, balances with the Riksbank, and sight claims on foreign banks, and to prescribe at will the minimum proportion of such legal reserve which they should keep with the Riksbank.²

The fact that statutory provision for such powers, which had formerly been granted only to new central banks, was now also made in the case of one of the oldest central banks, must be regarded as of great importance.

In this connection it is also worthy of note that the Macmillan Committee,³ in discussing the cash reserves which the London clearing banks should keep with the Bank of England and in their own tills, had stated that "the appropriate amount of the reserves of the member banks cannot now be left to their own individual self-interest but must be governed by the proper requirements of the system as a whole", and that, since "there are substantial advantages in the traditional procedure of this country by which our banks are not subjected to any special legislation", "it would be preferable . . . that these recommendations should be carried into substantial effect by agreement between the Bank of England and the banks concerned".

Conclusions Regarding Cash Reserves of Commercial Banks. It will be observed that the principle of statutory centralisation of cash reserves in the central bank, which was first introduced in the United States, has been adopted by several countries which have established new central banks. At first the factor of the increased liquidity of the commercial banks as a direct result of the legal provision for their holding minimum balances with the central bank was stressed in particular. In due course it came to be recognised generally that the increased liquidity of the commercial banks was derived rather from the rediscount

¹ In Sweden, as in Norway and Finland, the law had prescribed for minimum liquid reserves instead of cash reserves, and the liquid reserves could consist of short-term paper and securities discountable at the central bank and sight claims on domestic banks as well as till money, balances with the central bank and sight claims on foreign banks.

² *Monetary Review 1937-38* (League of Nations), p. 99.

³ Pages 158 and 160 of Report.

facilities afforded by the central bank than from the fact that they were required by law to maintain minimum reserves with the central bank. There is, however, a close connection between the two in the sense that the centralisation of cash reserves increases the scope and extent of the rediscount facilities which can be afforded by the central bank. In short, the increased liquidity of the commercial banks is an indirect result of the centralisation of cash reserves, and not a direct one.

In recent years relatively more emphasis has been placed on the fact that the obligation imposed on commercial banks to keep minimum cash reserves with the central bank has given the latter a minimum quantum of funds with which it can operate, and has not only strengthened its financial position but also given it at least some means of control over the banking and credit situation.

The Macmillan Committee ¹ reported in 1931 that

the main reason for expecting the banks to keep reserves above the minimum needed for daily convenience is no longer primarily the safety and solvency of the banks themselves, as it was in former times, but the necessity for providing the Central Institution with adequate resources wherewith to manage the monetary system and safely furnish the member institutions with precisely those conveniences, for rapidly liquidating earning assets, upon which the latter depend when determining the amount of their cash reserves ;

and in the same year the Committee ² on Bank Reserves of the Federal Reserve System stated in their report that "it is no longer the primary function of legal reserve requirements to assure or preserve the liquidity of the individual member bank", and that

the two main functions of legal requirements for member bank reserves under our present banking structure are, first, to operate in the direction of sound credit conditions by exerting an influence on changes in the volume of bank credit, and, secondly, to provide the Federal reserve banks with sufficient resources to enable them to pursue an effective banking and credit policy.

Moreover, Gregory ³ drew attention to the fact that

the ease with which the central bank can affect the money market situation at any given moment will vary (in addition to other

¹ Page 158 of Report.

² Page 5 of their Report.

³ *Gold, Unemployment and Capitalism*, p. 168.

environmental conditions) . . . with the reserve requirements which are imposed by law or by custom upon the other banks ;

and in discussing the disparity between the imposition of legal cash reserve minima in countries where central banking was relatively new and the absence of such minima in countries where central banking had already reached an advanced stage, the *Midland Bank Monthly Review*¹ commented that " this disparity is partly to be explained by the desire to place new central banks in possession of sufficient funds to pay their way and perform their controlling functions " .

The greater measure of control which has been achieved by means of statutory centralisation has naturally induced various countries to explore ways and means of improving and facilitating that control. This has already led to the adoption of a system of varying reserve requirements in the United States and New Zealand, and further developments could be expected in due course.

However, while the centralisation of cash reserves has given central banks the necessary funds and an instrument of credit control, it has also created a moral obligation on their part to avoid, as far as possible, competing directly with commercial banks in their special fields of business since otherwise the latter might have a certain amount of justification for saying, as some of them have done, that the central bank was using their own funds against them and could underquote them because of its paying no interest on their deposits.

As against this attitude it must be pointed out that the power of the central bank, through holding the cash reserves of the commercial banks, to compete with the latter is not as great as is commonly believed. The central bank is everywhere required to maintain a higher reserve ratio to its liabilities than the commercial banks have to do, and as competition in the form of discounts and advances would tend to increase its liabilities without automatically adding to its reserves, there are definite limits to its competitive powers. Furthermore, the increase in the central bank's liabilities, resulting from such competition and the consequent creation of central bank credit, would in general tend to be reflected primarily in an increase in bankers'

¹ Issue of May-June, 1937.

deposits with the central bank and, to a smaller extent, in the deposits of its private customers, and perhaps also in its note circulation. Whichever form it takes it would represent an increase in potential claims against the central bank for gold under the gold standard, for gold exchange under the gold exchange standard, for sterling under the sterling standard, etc. Thus, if such competition led to over-expansion of credit, which in turn brought about conditions causing a deterioration of the balance of trade position or an export of capital, the increased demand for foreign exchange would reduce not only the amount of the central bank's reserves but also its reserve ratio, as its liabilities would not automatically show a proportional reduction.

In this connection it must be emphasised that under the existing monetary conditions the technical position of the commercial banks *vis-à-vis* the central bank in the matter of cash reserves has been changed. Under a free gold specie or gold bullion standard the commercial banks had it within their power,¹ as a means of defending themselves against what they might regard as undue competition or an unfair attitude on the part of the central bank, to attack the reserve ratio of the latter by withdrawing their excess balances² with it in gold. With the gold standard suspended or abandoned they cannot withdraw their balances in gold.

In many countries, owing to statutory provision for the centralisation of gold holdings in the central bank or the Treasury, the commercial banks may not even hold gold that has come into their possession through domestic production or importation. In the United States, where an element of the gold standard is present in the form of a fixed price for gold in dollars but where gold holdings are centralised in the Treasury, gold can be obtained by the banks for export only under certain conditions. Moreover, in some countries the commercial banks may convert their balances with the central bank into foreign exchange, but as the exchange rates are determined by the central banking and Governmental authorities, the commercial

¹ In practice, however, this power is largely a problematical one and dangerous to use, if for no other reason than that it would weaken the central bank and the banking structure as a whole.

² i.e. over and above the balances required for clearance purposes or for statutory minimum reserves.

banks run the risk of exchange losses if they buy exchange in excess of their current requirements.

The general and practical position under the prevailing monetary conditions is, therefore, that commercial banks can withdraw their excess balances with the central bank only in the form of notes, and this would leave the reserve ratio of the central bank unaltered,¹ since its reserves as well as its total liabilities would not be affected, its deposit liabilities being reduced by the same amount by which its note liabilities are increased.

In short, while the suspension of the gold standard renders the central bank more subservient to the State, it also renders the commercial banks more subservient to the central bank and, through it, to the State. This increased subservience to the State on the part of the entire banking system cannot fail to produce harmful results in the long run. For the attainment of positive results the relationship between the central bank and the commercial banks must, as in the case of the relationship between the central bank and the State, be based on free and full co-operation to their mutual advantage and that of the country as a whole and on the willing acceptance of moral obligations by both parties. In the common interest the commercial banks are under a moral obligation to keep all their surplus cash reserves with the central bank, and the latter has a moral obligation not to abuse the additional strength and power which it derives from its holding all the surplus cash reserves of the banks.

In conclusion, it is worthy of note that in a large number and variety of countries, whether statutory centralisation of cash reserves has been provided for or not, the commercial banks have grown accustomed to keeping in the central bank all their cash reserves, except till money requirements, even though at times they may have large excess cash balances. They regularly draw currency towards the end of the month and pay in surplus currency at the beginning of a month in spite of their balances at the central bank being far in excess of legal reserves. In other words, they have come to accept fully and unequivocally the position of the central bank as the custodian of cash reserves.

¹ Except in the case of the few countries where statutory provision for the minimum reserves of the central bank still applies only to its note liabilities.

CHAPTER V

THE CENTRAL BANK AS THE CUSTODIAN OF THE NATION'S METALLIC RESERVES

THE central bank's function of holding the metallic reserves of the country as a whole and accepting the responsibility of maintaining the monetary standard¹ adopted by the State, was derived from its functions as the principal bank of issue and the custodian of the cash reserves of the other banks.

In Great Britain the Government, because of the privileges granted by law to the Bank of England, and the banks, because of their keeping their cash reserves with the Bank of England, came to regard the Bank as having special responsibilities in the matter of safeguarding the value of the currency. This attitude was further strengthened by the Bank Act of 1844, which declared the Bank of England notes to be legal tender and gave the Bank a virtual monopoly of note issue by limiting the note issues of other banks to the amounts outstanding at that time and providing for their lapsing under certain circumstances. Moreover, as the Bank of England notes constituted the national paper currency and banknotes were payable on demand in specie, the Bank had in any case to maintain what it found by experience to be an adequate metallic reserve against its notes. The evolution of the tradition that the Bank also had to maintain an adequate metallic reserve against the entire credit structure of Great Britain was just a further development of its position of responsibility.

The traditions governing the functions and operations of the Bank of England as the custodian of the metallic reserves for the country at large were adopted in due course by other banks which acquired a monopoly of note issue and assumed central banking responsibilities. In fact, they became part and parcel of central banking as such.

Prior to the introduction of the Federal Reserve System the general position in the world was that provision was

¹ Whether gold-specie standard, gold-bullion standard, gold-exchange standard, silver standard, bimetallism, or managed paper currency.

made by law, apart from the condition of convertibility of notes into gold or silver, for full metallic cover against the note circulation of the central bank above a fixed amount, as in England, Norway, Japan and Italy, or for metallic reserves on the basis of a percentage of the notes in circulation, as in Holland, Belgium and Denmark, or for a combination of both methods, as in Germany and Sweden. With the exception of Holland and Belgium, however, no statutory provision was made for metallic reserves against the deposit liabilities of the central banks. The maintenance of adequate reserves against such liabilities was left to the judgment and discretion of the central bank. In France there was at that time not even a statutory requirement regarding metallic cover for the note issue, as the method followed was only that of laying down from time to time a fixed legal maximum to the note circulation.

In Holland and Belgium the central bank was required, even before 1913, to maintain minimum metallic reserves of 40 and 30 per cent. respectively of their demand liabilities, i.e. demand deposits as well as notes. Their deposit liabilities, however, were usually small compared with their notes in circulation.

In most of the countries on the Continent it was customary, even after the adoption of the gold standard, to admit silver coins, and sometimes silver bullion as well, as part of the metallic reserve. In fact, until the beginning of the twentieth century silver usually constituted a substantial part of their metallic reserve. In Germany the minimum cash reserve which the Reichsbank had to keep against its note issue under the Act of 1875 could consist of German coins of any metal and Imperial-Treasury notes¹ as well as gold bullion; and in Denmark the central bank was allowed to include in its metallic reserve its net balances with the central banks of Sweden, Norway and Germany.

In the matter of reserves a novel feature was introduced by Germany in 1875, namely, that the Reichsbank was authorised to let the cash reserve against its notes fall short of the minimum laid down by law in the sense of permitting

¹ In 1874 a limited amount of these notes were issued by the Imperial Treasury to the German States which had previously issued their own paper currency, for the purpose of extinguishing such note issues. These notes were convertible in gold on demand at the Imperial Treasury.

it to issue notes in excess of the amount allowed under the law, subject to the payment of a tax at the rate of 5 per cent. per annum on the notes not covered by the legal minimum. The principles underlying this novel feature may be summed up as follows: firstly, it renders possible the elasticity in currency which is required during peak periods of trade and in emergencies; secondly, it gives practical expression to the dictum that, as banks are required to keep reserves against emergencies, they should be placed in a position to use such reserves when the emergencies occur; and thirdly, the tax, by removing the profit incentive, helps to discourage the central bank from following a policy of undue expansion.

STATUTORY PROVISION FOR METALLIC RESERVES UNDER FEDERAL RESERVE SYSTEM

After an exhaustive enquiry into the methods followed by other countries, the United States incorporated the following features in the provisions for metallic reserves to be kept by the Federal Reserve Banks under the Federal Reserve Act of 1913.

In the first place, the percentage basis for reserves against notes was adopted, as was the case in Germany, Holland, Belgium and Denmark. The figure selected was that current in Holland at the time, namely, 40 per cent.

Secondly, it was decided to apply the reserve requirements also to the deposit liabilities of the Federal Reserve Banks, as in Holland and Belgium, and not merely to the note circulation, as in the other countries. The figure adopted was 35 per cent. of deposits compared with 40 per cent. of notes, whereas in Holland and Belgium no distinction was made between notes and deposits.

Thirdly, the minimum reserve of 40 per cent. to be held against notes was to consist only of gold bullion and gold coin,¹ but lawful money (silver coins, "Greenback" notes and national bank-notes) was admitted in addition to

¹ The Federal Reserve Banks now hold gold certificates instead of gold bullion and coin, since under the Gold Reserve Act of 1934, the gold holdings of the Federal Reserve System were transferred to the United States Treasury and gold certificates issued in their place. Moreover, under the Silver Purchase Act of 1934 provision was made for the inclusion of silver bullion in the metallic reserves of the Federal Reserve System subject to a maximum ration of 1 silver to 3 gold in total value at the prices laid down by law for this purpose.

gold bullion and gold coin as part of the reserve against deposits.

Fourthly, the novel feature of the German system referred to above was adopted with modifications. The Federal Reserve Banks were permitted, in the case of emergencies, to let the reserve ratio fall below the legal minimum percentages against notes and deposits. Provision was made for authority to suspend the reserve requirements for 30 days and renew the suspension for periods of 15 days each, subject to the payment of a graduated tax on the notes not covered by the legal minimum and to the obligation to raise discount rates in accordance with the extent of the shortfall. The obvious intention of the latter proviso was to ensure that the Federal Reserve Banks would follow a policy of credit contraction in such emergencies as brought about a substantial shortfall below the legal minimum reserve.

INFLUENCE ON OTHER COUNTRIES

The provisions concerning the reserves to be held by the Federal Reserve Banks exercised a considerable influence, not only on the many new central banks which were established after the Federal Reserve System, but also on some of the older ones. In fact, it is probably the phase of the central banking system of the United States which was most closely and most extensively followed by other countries.

The South African Reserve Bank adopted all the features of the Federal Reserve Banks referred to above, with the exceptions that the same reserve percentage was applied to deposits as to notes, namely, 40 per cent., as compared with 35 per cent. against the former and 40 per cent. against the latter in the case of the Federal Reserve Banks; and that, while silver coins were admitted along with gold in the reserve to be held against deposits, their amount was restricted to one-fifth of the amount required as reserve, i.e. only up to 8 per cent. of the deposits.

In Chile, Colombia, Peru, Bolivia and Ecuador, provision was made for higher reserve percentages against notes and deposits, ranging from 50 per cent. in Chile and Peru to 60 per cent. in Colombia, but foreign exchange was allowed to be included with gold in the reserve, for example, in Colombia up to two-fifths of the amount to

be held as reserve. As in the case of the South African Reserve Bank, no distinction was made in the reserve percentages against notes and deposits. They also adopted measures somewhat similar to the provisions of the Federal Reserve Act relating to the suspension of reserve requirements, subject to the payment of a graduated tax depending upon the extent of the deficiency below the legal minimum and to the obligation to raise discount rates accordingly.

The reserve percentage basis, allowing for the inclusion of foreign exchange in the calculation of reserves against notes and deposits, and provision for the suspension of reserve requirements on more or less the same lines as in the case of the Federal Reserve Banks were likewise adopted by many of the new central banks which were established in Europe after the Great War, as in Austria, Czechoslovakia,¹ Hungary, Poland,² Estonia and Danzig, and subsequently in New Zealand, India, Argentina and Salvador. These features were applied also to some of the older central banks, such as those of Germany, Italy, Bulgaria and Greece. In the case of France it was laid down that, instead of the old legal maximum for the note circulation, a reserve of 35 per cent. should be maintained against deposits as well as notes, but the reserve was to consist exclusively of gold and no provision was made for the suspension of reserve requirements; and in Canada the reserve of 25 per cent. against notes and deposits was also to consist only of gold, but while reserve requirements could be suspended no tax liability or obligation to raise discount rates was attached thereto.

Reduction in Statutory Reserves of Central Banks.

Since 1930 there has been a strong trend in the direction of reductions in the statutory reserves to be held by central banks. This was influenced, firstly, by the severe depression of 1930-3 and the heavy loss of gold and foreign exchange by many countries; secondly, by the desire for greater elasticity in monetary and banking policy; and thirdly, by the World Economic Conference of 1933, which agreed upon the adoption of a 25 per cent. reserve ratio.

Amongst the countries which have in recent years

¹ Czechoslovakia decided in 1934 to exclude foreign exchange from the legal reserve.

² In 1933 Poland abandoned the system of a 40 per cent. cover in gold and foreign exchange against notes and deposits in favour of a gold cover of 30 per cent. against notes and deposits in excess of Zl. 100,000,000.

reduced the minimum reserve ratios of their central banks to 25 per cent. are Czechoslovakia, Bulgaria, Denmark, Yugoslavia, Mexico and Chile. In Ecuador the ratio was lowered to 25 per cent. in 1932 but was raised to 40 per cent. in 1935; and in Colombia the reserve against deposits was reduced to 25 per cent. but that against notes was lowered only to 40 per cent. Moreover, the new central banks of Canada, Argentina, New Zealand and Salvador commenced operations under statutes requiring only a 25 per cent. reserve. Various other countries reduced their statutory reserves, e.g. South Africa, Latvia and Danzig, to 30 per cent. Germany, Italy, Peru and Bolivia, on the other hand, instead of reducing their reserve requirements, either suspended them or failed to observe them.

Use of Foreign Exchange as Reserve. Prior to the Great War little use had been made of foreign exchange as a direct and specific reserve against note issues. In the Philippines the gold-exchange standard had been introduced in 1903, under which reserves of United States currency had to be maintained in the form of balances or investments in New York as Philippine currency was redeemable in drafts on New York; and in India a qualified form of gold-exchange standard had been in operation for years based on the redeemability of Indian currency in gold or drafts on London. Moreover, in Denmark the central bank had been allowed since the latter part of the nineteenth century to include in its reserve against the note circulation its net balances¹ with the central banks of Sweden, Norway and Germany; and the central banks of such countries as Germany, Holland and Belgium had regularly followed the practice of maintaining a substantial amount of foreign bills in their portfolios as the first line of defence for their currencies, although they were not permitted to include foreign exchange in the reserves which they were required by law to hold against their note and deposit liabilities.

After the Great War, however, when the need for economy in gold and elasticity in monetary and exchange matters was greatly increased, modified forms of the gold

¹ Under the Law of 1936 it was laid down that non-interest-bearing balances on demand with foreign central banks, approved by the Royal Bank Commissioner, may take the place of gold up to 5 per cent. of the note circulation.

exchange standard became the fashion and foreign exchange was admitted as part of the statutory reserve against notes and deposits in a large number and variety of countries, such as Germany, Italy, Belgium, Austria, Hungary, Roumania, Poland, Bulgaria, Greece, Finland, Estonia, Chile, Colombia, Argentina, Peru, Australia, New Zealand, India, Mexico, Bolivia, Ecuador, Salvador and Danzig. In some of these countries the amount of foreign exchange which could be included in the legal reserve was limited to a certain proportion of such reserve, varying from one-quarter to one-half, whereas in others the relative proportions of gold and foreign exchange were left to the discretion of the central bank.

At first it was customary to lay down by law or regulation that the foreign exchange was to consist only of balances, bills and securities payable in gold, sometimes even specifying London and New York as the only eligible centres, but with the general suspension of gold payments it was merely required that they should be payable in the principal banking centres of Europe and America, or in the leading world markets, or in foreign financial centres, or in currencies not subject to extraordinary fluctuations of exchange.

In many of the remaining countries the central banks, although not permitted to include foreign exchange in their legal reserves, nevertheless followed the practice of holding balances in the country or countries with which their countries had important commercial and financial relations. The holding of foreign exchange by these central banks was intended to serve not only as the first line of defence for their currencies, but also as the stock-in-trade for their ordinary dealings in foreign exchange.

As a result of all these developments the foreign-exchange operations of central banks have become an important part of central banking, compared with the pre-War situation when direct participation in foreign-exchange transactions was regarded in many countries as not a proper sphere of activity for central banks. It was held that the latter should exert their influence on exchange rates through their discount-rate policy and open-market operations (i.e. through their control of money-market or credit conditions) and through their redeeming their notes in gold. In recent years, owing principally to the abnormal

monetary and exchange conditions, central banks generally have tended to play an increasingly important part in exchange operations, and in some countries they have even come to fulfil the function of central exchange bank, acquiring the surplus exchange which accrues from a favourable balance of payments and making up the shortfall which has to be met in the event of an unfavourable balance.

In several countries, as in Great Britain, United States and France, the central banks operate in the exchange market and control exchange rates for account of State Equalisation or Stabilisation Funds; in a larger number of countries in South and Central America, Central and Eastern Europe, and Asia, the central banks have been entrusted with the function of controlling the exchange market by legislation or regulation; and in certain other countries the central banks control the exchange market through agreement and co-operation with the commercial banks, as in Australia, New Zealand, India and most of the Scandinavian countries, or through arrangement with the principal export industry, as in the Union of South Africa where the central bank acquires all the newly-mined gold which represents over 70 per cent. of the value of the total exports.

Suspension of Reserve Requirements. As already referred to, in the case of many of the new central banks which were established after the Great War, and even some of the older ones, provision was made for the suspension of reserve requirements on more or less the same lines as in the case of the Federal Reserve Banks, i.e. provided a graduated tax is paid and discount rates are raised. During the difficult years 1930-3, however, many of these central banks either found themselves seriously embarrassed by these provisos or anticipated being embarrassed by them in due course. In particular the proviso relating to the raising of discount rates in accordance with the deficiency in the reserve ratio was found to be unduly rigid in its application, since under given circumstances it might necessitate the central bank raising its discount rate to a level fraught with great danger and disadvantage to the national economic interest.

In a number of countries the issue was avoided by making drastic reductions in reserve requirements or by

admitting the inclusion of certain assets other than gold and foreign exchange in the reserve. Such countries as Germany, Italy, Peru and Bolivia, however, either formally suspended their reserve requirements, including the tax liability and the obligation to raise discount rates, or failed to observe them.

In the case of the South African Reserve Bank, on the other hand, the provisos relating to the payment of a graduated tax and the raising of discount rates were abolished by an amendment of the law in 1932, but the provision for the suspension of reserve requirements with the consent of the Treasury was retained. This was also done by amending legislation in 1936 in the case of the New Zealand Reserve Bank and the National Bank of Bulgaria; and when the Bank of Canada Act was passed in 1934, the Bank was given the power to suspend reserve requirements with the consent of the Government, but without any liability attaching thereto in respect of taxation and rates. The Bank of Mexico, which was converted, into a central bank in 1932, may also let its reserve fall below the legal minimum without incurring any such liability.

CONCLUSIONS REGARDING RESERVES OF CENTRAL BANKS

In every country legislation has been passed at one time or another, requiring the central bank to maintain certain minimum reserves. At first the reserve requirements were applied merely to the note issue, but beginning with Belgium and Holland, and then the United States, the majority of countries decided upon the practice of requiring their central banks to keep minimum reserves against their deposit liabilities as well as their notes in circulation. This development was obviously related to the growing realisation that deposit currency was coming to play a more and more important part in the economy of most countries and that the deposit liabilities of the central banks represented claims upon them as much as their notes in circulation did. Moreover, since in some countries the commercial banks were required by law to keep minimum reserve balances with the central bank based upon a percentage of their time and demand deposits, and in others as a matter of convention or convenience, the deposit liabilities of the central bank frequently served as

an approximate reflection of those of the entire banking system.

It is only in Great Britain, Sweden, Norway, Denmark, Switzerland, Japan, Latvia and Lithuania, that statutory provision has not yet been made for the keeping of minimum reserves by the central bank against its deposits as well as its note circulation. In practice, however, the central banks of these countries have regularly aimed at keeping reserves considerably in excess of those which they are required by law to maintain against their note issues.

The imposition of statutory reserve requirements on the central bank is aimed, on the one hand, at achieving a substantial measure of public confidence in the value of the currency by ensuring a minimum amount of security for the note issue and deposits of the central bank, and, on the other hand, at placing some restriction on the expansionist activities of the central bank, and indirectly also on the expansion of the banking structure as a whole. In this connection, however, it must be emphasised that the statutory reserve must ordinarily be regarded merely as a minimum.

In the long run the maintenance of adequate reserves must be left to the discretion and judgment of the central bank. The uncertain element is usually the amount of gold that may be required for export for the purpose of regulating exchange rates and maintaining the monetary standard of any country, and this tends to differ at different times in the same country as well as between one country and another. Countries differ greatly not only in the stage of economic development and the type of economy, but also in the temperament of their people; and these differences determine, to a large extent, the adequacy or otherwise of reserves. By experience and observation the central bank will have some idea as to what reserve could be regarded as more or less adequate under the circumstances prevailing in its country at any particular time, and to what extent and with what intensity the reserve would likely be affected by world cyclical changes in business activity or by bad domestic harvests or by international political complications or by intermittent lack of confidence in the currency.

Some countries are particularly vulnerable in monetary and exchange matters, either because of lack of diversity

in economic activity and predominance of a few export commodities subject to rapid price changes, as in the case of Argentina, Brazil, Chile, Canada, Australia and New Zealand, or because of the existence of an international money market and a large volume of foreign short-term funds which may be withdrawn at any moment, as in the case of Great Britain and the United States, or because of intermittent political instability and the consequent lack of confidence in the exchange value of the currency, as in the case of France.

In these countries the central bank has frequently experienced the need for relatively large reserves of gold or foreign exchange with a view to securing a substantial measure of freedom and elasticity in monetary policy. This is reflected, for example, in the statute of the Central Bank of the Argentine, in which the object of the Bank is stated to be, *inter alia*,

to concentrate sufficient reserves to moderate the consequences of fluctuations in exports and investments of foreign capital, on currency, credit and commercial activity, in order to maintain the value of the currency.

This represents an excellent summary of the position in all such countries as Argentina, Brazil, Chile, Canada, Australia and New Zealand.

Until recent years the Bank of England usually held relatively small gold reserves compared with the volume of business and financial transactions conducted through the London market and with the size of the British credit structure, and also compared with the reserves carried by the Bank of France and the Federal Reserve Banks. As a result the Bank of England had to make liberal use of the discount-rate policy for the purpose of protecting its gold reserves, and it was known as the central bank which made the most frequent changes in discount rates. Since 1932, however, London has added considerably to its gold stocks, whether in the hands of the Bank of England or the newly-created Exchange Equalisation Fund. The United States have also experienced a considerable increase in their already large stocks of gold.

On the other hand, it must be borne in mind that a substantial part of the gold reserves of Great Britain and the United States represents not only fugitive capital from

France and some other countries on the Continent where monetary uncertainties prevail, but also the balances and investments of the large number and variety of countries previously mentioned whose central banks are authorised to include foreign exchange in their reserves; and even if ultimately confidence were to be re-established generally on the Continent and much of the fugitive capital were to be repatriated, London and New York would appear to be destined to remain the custodians of an appreciable part of the reserves of many central banks. As such custodians they would require to hold large gold reserves against the sudden withdrawal of balances.

A phase of the central bank reserve question which has received a good deal of attention in recent years is the desirability of giving the central bank greater freedom and elasticity in the administration of reserves. This has been reflected in the downward revision of reserve percentages all over the world and in the admission of foreign exchange as part of central bank reserves, and also in the almost general provision for the suspension of reserve requirements¹ subject to the consent of the Government or the Treasury.

Provision has been made for the suspension of reserve requirements, since it is being realised more clearly that reserves are kept for use in a crisis or other emergency and that the central bank must be placed in a position to use its reserve in such emergencies promptly and effectively and without attracting undue attention. As the Annual Report of the Bank of the Republic of Colombia in 1930-1 stated, with reference to the sale of foreign exchange and the export of gold during that critical period,

the gold reserves of a bank of issue are primarily intended to be used freely and fully for just such purposes, in critical situations, even though in doing so they fall below legal limits, if necessary.

In this connection, also, the Macmillan Committee² said that

the effect of enforcing the principle of the fiduciary issue is to forbid the Bank of England to use by far the greater part of its gold for the only purpose for which it is held or could be used,

¹ In England it was provided for in the form of authority to increase the fiduciary issue with the consent of the Treasury.

² Pages 139 and 143 of Report.

and that " what we envisage . . . in the future is a Bank of England with both increased resources and greater freedom ".

The provision for the suspension of reserve requirements, however, is not intended to encourage central banks to operate ordinarily in the vicinity of the minimum reserves. A central bank should normally endeavour to maintain its reserve well above the legal minimum so as to have a margin of security and elasticity, and if it observes a definite trend in the direction of a reduction in the reserve as a result of disequilibrium in the internal economy, it should commence to apply corrective measures before the reserve approaches the legal minimum.

In this connection novel features were introduced in the new central banks of the Argentine and Salvador. In both these countries the commercial banks were required to subscribe a substantial part of the capital of the central banks, and it was provided by law that, while the minimum reserve was 25 per cent. of their note and deposit liabilities, the commercial banks were to receive no dividend on their shares in the central bank if the reserve fell below 30 per cent. three times in any year in the case of the Central Bank of Salvador, and below 33 per cent. during 60 consecutive days or 90 days in any year in the case of the Central Bank of the Argentine. Moreover, in the former case the rediscount rate was to be increased by $\frac{1}{2}$ per cent. for each 1 per cent. by which the reserve fell below 30 per cent.

With regard to the suspension of reserve requirements, provision was made in a number of countries that suspension should be accompanied by the payment of a graduated tax on the excess note circulation and by the obligation to raise discount rates in accordance with the extent of the reserve deficiency. The underlying principles were, firstly, that the central bank should be deprived by a special tax of any incentive to follow a policy of undue expansion, and, secondly, that the central bank should be compelled to enforce credit contraction through increases in its rate in such emergencies as brought about a deficiency in the reserve.

In practice, however, these provisions were found in several of these countries to be too rigid in their application, and it was feared that under certain circumstances they

and made advances upon Government securities, and also upon Exchequer bills, and later even upon merchandise. The reluctance of the Bank to lend on this occasion has been due to the dwindling of its gold holding. When it changed its policy and lent freely, it was taking the risk of the complete exhaustion of its reserve. The unwillingness of the Bank to lend in the crisis of 1847 was due to the risk of a breach of the Bank Act of 1844, which limited the supply of currency to the fixed fiduciary issue plus gold bullion and specie. The Government promised legislation indemnifying the Bank for breaking the law, and this placed the Bank in a position to lend freely. The same happened in 1857, when the indemnifying Act had actually to be passed by Parliament. Whereas in 1847 and 1857 the Government had taken the initiative, in the crisis of 1866 "the Bank took the initiative in approaching the Government" and "accepted the responsibility of unstinted lending". Even after 1866, however, there was still discussion about this question and difference of opinion as to the responsibilities of the Bank.

Vera Smith¹ also gave examples of the reluctance with which, in the early nineteenth century, the Bank of England responded to the tendency on the part of the Government and the banks to regard it as a regulating institution holding some special position of duty in the currency and credit system of the country. For example, in 1819

the Bank directors made a representation to Parliament protesting against what they regarded as an attempt to establish a system which would place upon them the responsibility for supporting the whole National Currency.

Also, after the crisis of 1866 when

the Governor of the Bank made a public announcement before the proprietors that the Bank had conceived a duty to have been imposed on it of supporting the banking community and had accordingly lent unflinchingly during the crisis at a cost of a great reduction in its reserves,

one of the Bank Directors who was a former Governor stated that it was

a most pernicious doctrine to expect the Bank to do what was quite inconsistent with the ordinary workings of a deposit bank, namely,

¹ *Rationale of Central Banking*, pp. 13, 125 and 126.

to make advances when the public demanded them to an almost unlimited extent, and maintained that the banking community must be taught not to rely on the Bank coming to their aid when they had rendered their own assets unavailable.

It was only after the publication of Bagehot's *Lombard Street*, in 1873, that the responsibilities of the Bank of England as the lender of last resort were "unequivocally recognised"¹; and it was Bagehot himself who coined the expression "lender of last resort".

Thus, the function of rediscount preceded that of lender of last resort, the distinction between the two being that in the latter function is implied the acceptance of the responsibility of endeavouring to guarantee, as far as possible under the prevailing circumstances of a country, the liquidity of the entire credit structure of that country, and not merely that of the central bank itself. The function of lender of last resort was definitely associated with the granting to one bank of the monopoly of note issue and the general banking business of the Government, with the implied understanding that it also has the support of the Government in times of emergency. The same process of evolution was also followed in the case of practically all the older central banks of Europe, such as the Bank of France, Netherlands Bank, Riksbank of Sweden, Bank of Norway, etc.

After its final recognition in England in 1873, the function of lender of last resort was assumed almost automatically not only by the existing banks of issue having special privileges, but also by all the new special banks of issue which were subsequently established. In fact, it came to be regarded as a *sine qua non* of central banking. There was no argument about it when the Federal Reserve Banks of the United States were established, and within its first two years the South African Reserve Bank was called upon to face the responsibilities of lender of last resort when one of the commercial banks became involved in difficulties, and it did so unflinchingly.

This universal development affords, at least, some ground for Hawtrey's statement that the characteristic function of a central bank is that of lender of last resort.²

In several countries rediscounting as such was under-

¹ Hawtrey, *op. cit.*, p. 126.

² *Ibid.*, p. 131.

taken, before there was a recognised central bank, either by a State commercial bank, as in Australia and Argentina; or by the State Treasury, as in Canada; or by city banks on behalf of country banks with which they had a correspondent relationship, as in the United States.

Definition of Rediscounting. In the narrower sense rediscounting is applied only to first-class trade and agricultural paper brought to the central bank by commercial banks and bill dealers or brokers, who are temporarily in need of funds and want to convert some of their short-term assets into cash. In this sense one may use the expression of Willis¹ that "when rediscount occurs . . . the operation performed by the central bank is essentially that of dealing in pure credit"; and from this point of view the underlying principle is that, if the central bank dealt only in prime, self-liquidating paper based on goods in various stages of production and distribution, it would help to give such paper the special attraction and encouragement which it deserves and would, by way of example, tend to set up a relatively high standard of elasticity and security requirements on the part of banks and discount houses themselves.

The original idea behind rediscounting was that no sound and genuine business transaction² should be restricted or abandoned just because of a shortage of bank cash, and that, as such transactions would or could ordinarily be represented by bills of exchange, it would be sufficient to confine rediscounting to bills having a maturity corresponding more or less with the time taken to complete the transaction. It was considered that, if rediscounting were provided for on too liberal a basis and without regard to the type of transaction involved or the period allowed for repayment, it might be conducive towards laxity in the discount and loan operations of banks and discount houses and towards deterioration in the quality of their credit. On the other hand, if rediscounting were based on stringent rules and conditions, banks and discount houses would be inclined to exert themselves, by means of offering preferential rates or other inducement

¹ *Theory and Practice of Central Banking* (Harper), p. 116.

² The statutes of some central banks emphasise that their functions shall include that of accommodating commerce and business, as in the case of the Federal Reserve Banks, or promoting commerce, industry and agriculture, as in the case of the Banks of Latvia and Lithuania.

to merchants and manufacturers, to have constantly available in their portfolios a substantial supply of good, short-dated paper in order to be assured of obtaining at any time ample accommodation from the central bank; and this would in turn tend to render the general financial position more liquid.

Prior to the Great War the Bank of England and some of the other central banks of Europe regularly followed the policy of rediscounting only genuine trade bills of relatively short maturity, except in a few isolated cases of emergency when their requirements were temporarily toned down to meet the demand for accommodation. This was also the case with the Federal Reserve Banks when they commenced operations in 1914, since their powers of rediscounting were severely restricted under the original Federal Reserve Act. During the War and post-War periods, however, the abnormal conditions compelled all central banks to relinquish some of their restrictions and widen the basis of rediscounts, or, where restrictions had been imposed on rediscounting by law, the central bank's powers of rediscounting were enlarged by amendments to the law.

Subsequently the tendency towards a wider basis of rediscounts remained, not only on account of the enormous growth of the credit structure caused by the huge debts incurred in connection with the War, but also because of the growing tendency towards overdrafts and open credits as the means of financing trade. As a result the supply of trade and agricultural bills or promissory notes became relatively scarce and no longer served as an adequate basis for obtaining central bank credit. Hence rediscounting has come to be applied also to Treasury bills and to short-term collateral loans to banks and other financial institutions against bills or promissory notes and Government securities. Moreover, in the case of trade and agricultural bills provision has been made in various countries for an extension of the maturity or usance of bills eligible for rediscount.

In this wider sense, as now current in most countries, rediscounting may be defined as the conversion, directly or indirectly, of commercial bank credit into additional central bank credit. In London the process of rediscounting is indirect in the sense that it is customary for

the banks to call up their loans to discount houses and bill brokers rather than rediscount with the Bank of England themselves, leaving it to the discount houses and bill brokers to seek accommodation from the central bank. In other centres with organised money markets, such as New York, Chicago, Boston, San Francisco, Paris, Berlin, Amsterdam, Zurich and Stockholm, a certain amount of rediscounting¹ with the central bank is also done at times by non-banking institutions, but the more general procedure is for the central bank to rediscount directly for the commercial banks. In countries without organised money markets rediscounting by the central bank is almost exclusively done directly for the commercial banks.

Significance of Rediscounting. The real significance of rediscounting in the monetary system lies in the fact that it increases the elasticity and liquidity of the credit structure. It renders possible an appreciable and immediate increase in the supply of bank cash should such be found to be necessary at any particular time. By affording a ready medium for the conversion into cash of certain assets of banks and other financial institutions, it helps to maintain their liquidity and their ability to meet withdrawals of deposits or demands for accommodation. It also renders possible a considerable degree of economy in the use of cash reserves.

At certain times of the year, e.g. at the end of the month when cash is drawn for salary payments, or at the end of the year or half-year when various debt settlements and dividend, interest or tax payments have to be made, or during the holiday seasons when there is a large demand for cash for retail purchases or pleasure purposes, or during the period of harvesting and marketing of the principal farm products, there is a heavy strain on the cash reserves of the commercial banks. Moreover, in times of intense business activity or when gold moves out of a country and thus reduces the basis of bank credit, the strain caused by the regularly recurring factors mentioned above is considerably aggravated and may reach breaking-point and thus precipitate a crisis or panic. In

¹ In the markets of the United States, however, this type of transaction is not usually referred to as rediscounting with the central bank, but as sales of acceptances to a Federal Reserve Bank at the latter's buying rate for such paper.

margin for widening the basis of rediscounts in abnormal times.

Finally, it must be emphasised that, while a central bank should definitely regard it as an important part of its duty to help banks in distress and act as lender of last resort, this does not imply that banks have an irrevocable right to unlimited accommodation from the central bank under all circumstances. In the United States, for example, where this question has been debated and analysed more intensively than anywhere else owing to the existence of thousands of independent unit banks, it has been laid down that,

in extending credit accommodation to a member bank, the Federal Reserve bank is required to consider the general character and amount of the loans and investments of the member bank and whether it has been extending an undue amount of credit for the speculative carrying of or trading in securities, real estate, or commodities or for any other purpose inconsistent with the maintenance of sound credit conditions ;

and it has been explained officially that

the law a bank is not entitled to credit from a Federal deposits or merely because it has eligible and acceptable paper, possible a commercial bank's business has been such as to endanger cash reserves. promote the development of unsound credit

At certain times of month when cash is drawn end of the year or half-year commercial bank is found to be and dividend, interest or tax payments solvency in the sense that or during the holiday seasons when there is a general emergency for cash for retail purchases or pleasure of being succour during the period of harvesting and marketing of principal farm products, there is a heavy strain on the cash reserves of the commercial banks. More of one times of intense business activity or when gold is taken out of a country and thus reduces the basis of bank credit the strain caused by the regularly recurring factors mentioned above is considerably aggravated and may reach breaking-point and thus precipitate a crisis or panic. In

¹ In the markets of the United States, however, this type of transaction is not usually referred to as rediscounting with the central bank, but as sales of acceptances to a Federal Reserve Bank at the latter's buying rate for such paper.

meet the claims of depositors to the extent of all the liquid and good assets of that bank, leaving the remaining depositors with only the frozen and bad assets.

In the long run, no hard and fast rule can be laid down, each case having to be treated on its merits by the central bank after due consideration of all the factors involved; and frequently it will be a matter of choosing the lesser of two evils.

POWERS OF REDISCOUNTING

In the case of the Bank of England no restrictions were imposed under its charter on its powers of rediscounting bills or making collateral advances. When it began to assume the responsibilities of lender of last resort, however, it decided to follow a policy of restricting its rediscounts and advances to certain types of paper only and varying its rate of discount according to the demand for currency or credit and the state of business activity rather than using other means of rationing credit. In due course this policy became a tradition and was followed by other banks which came to act as central banks in their respective countries, with some modifications depending upon local conditions, until it was generally recognised as an essential feature of central banks that they should deal in certain types of paper only, that their rediscounts and advances should not extend beyond a certain period, and that they should never make unsecured advances. In accordance with this tradition, central banks were to limit their rediscounts to the best and most liquid types of paper available, with a view principally to maintaining themselves in what might be called a super-liquid position.

Some central banks which were given relatively wide powers for rediscounts and loans voluntarily restricted their activities, as in the case of the Bank of England, while others had to function under charters or laws which limited their powers in particular to the activities which central banks ordinarily performed.

The Bank of France¹ was empowered to discount bills

¹ For fuller details regarding the charters and laws under which central banks operate, see Appendix I of *Central Banks*, by Kisch and Elkin, and *Monetary and Central Bank Laws*, published by the League of Nations in 1932.

of exchange, commercial and agricultural warrants, and bills to order with a currency not exceeding three months, bearing two signatures in the case of warrants and bills with approved collateral and three signatures in the case of other bills, and to make advances against the deposit of French Government, colonial, municipal and other specified securities for 90 days, the period being open to extension.

The Netherlands Bank was given power to discount bills of exchange, drafts and promissory notes bearing signatures of at least two parties, with a currency not longer than required by trade custom, and debenture bonds, redeemable within six months and guaranteed by the discounter, and also to make loans for one month or advances on current account against securities, goods, warrants, coin, bullion and paper eligible for discount.

The Riksbank of Sweden was authorised to discount bills payable in Sweden within six months and to make advances on bonds, shares or other securities for a fixed period not exceeding six months, or on call for a period not exceeding three months, or advances redeemable at a fixed date within six months on merchandise deposited in a public warehouse or with a reliable third person.

The Reichsbank of Germany was given power to discount bills relating to bona-fide commercial transactions or goods with a currency not exceeding three months, carrying three good signatures, although the third signature may be dispensed with when special security is provided by collateral or otherwise, and to discount Treasury bills with a currency of not more than three months and endorsed by a third party of known solvency, and also to make advances for a period not exceeding three months on the security of Government or Municipal bonds maturing within one year (subject to a limit of three-quarters of market value), Treasury bills with a currency of not more than three months, bills of exchange, merchandise stored in Germany (subject to a limit of two-thirds of value), etc.

The Bank of Japan was empowered to discount trade bills endorsed by two or more reliable persons of means and payable within a hundred days, although merchandise or warehouse warrants may be accepted as collateral in the place of one signature, and to discount bills or notes

issued by the Government, and also to make advances on current account or loans, for fixed terms, upon the deposit of public loan bonds, bills or notes issued by the Government, and other securities guaranteed by the Government provided that the period of the loan shall not exceed six months and the amount shall not exceed 80 per cent. of the market value of the securities deposited.

In short, most of the older central banks enjoyed wider powers of rediscounting and lending than were found to be necessary under pre-War conditions, and in practice their requirements were more stringent than those laid down by their charters and laws. Moreover, while they were free to deal with anybody who possessed and offered eligible securities, some of them gradually came to adopt the standard set by the Bank of England towards the end of the nineteenth century. This standard, when translated into general practice, implied that, except in the case of unsatisfactory banking conditions and apart from its business relations with the State, a central bank should restrict its business primarily to banks, discount houses, bill dealers and brokers, and other financial institutions, and should not, to any extent, deal directly with merchants, manufacturers, primary producers, transport agencies, etc. Such banks as the Bank of France, Bank of Italy¹ and Bank of Japan, however, continued, for one reason or another, to have direct dealings with a large number of commercial customers, and thus to enter into direct competition with the commercial banks, and for this purpose they had branches in practically every town of any importance.

When the establishment of a system of central banking in the United States was finally decided upon in 1913, it was considered necessary to restrict by law the Federal Reserve Banks to those functions and powers which the recognised central banks of Europe were actually exercising. In other words, it was decided to bring the central banking law of the United States into conformity with strict central banking practice in Europe rather than with central banking law in Europe. The Federal Reserve

¹ In 1936 the Bank of Italy was reorganised with a view to its functioning more particularly as a central bank and reducing its dealing with the public to a minimum.

Banks, were, therefore, set up largely as banks of rediscount, with power to rediscount for the commercial banks which became members of the Federal Reserve System and to buy in the open market, from banks, firms, corporations or individuals, bankers' acceptances and bills of exchange of the kinds and maturities eligible for rediscount, with or without the endorsement of a member bank. Their powers of rediscounting for member banks were limited strictly to bills and promissory notes endorsed by the member banks' customers as well as by the member banks themselves.

Moreover, it was laid down that, in order to be eligible, such bills and notes must have arisen out of transactions actually related to agricultural, industrial or commercial purposes and the proceeds from such paper must have been used for producing, purchasing, carrying or marketing goods, and not for financing fixed investments or investments of a purely speculative character or for re-lending operations. Furthermore, eligible paper was not to have a maturity exceeding 90 days, except in the case of agricultural paper arising out of the activities of farmers in connection with the production, marketing and carrying of agricultural products and the breeding, raising, fattening and marketing of livestock. For agricultural paper the maturity allowed was six months.¹

It was soon found, however, that under abnormal conditions (such as during a great war or a severe and prolonged depression) the restrictive provisions of the Federal Reserve Act did not allow of sufficient scope for the creation of central bank credit (Federal Reserve credit). Accordingly in 1916 the Federal Reserve Banks were authorised to make advances, for periods not exceeding 15 days, to member banks against their promissory notes secured by Government securities or by paper eligible for rediscount, and to rediscount bankers' acceptances drawn to create dollar exchange. In 1923 they were also empowered to rediscount eligible agricultural paper for Federal Intermediate Credit Banks.

In 1932, under another set of highly abnormal conditions, a further expansion of the basis for Federal Reserve loans to member banks was found necessary, and it was provided that, in exceptional and exigent circumstances,

¹ The period was extended to nine months in 1923.

and when a member bank had no further eligible and acceptable assets available to enable it to obtain adequate credit accommodation, Federal Reserve Banks could make advances, for any period not exceeding four months, to such a member bank on its time or demand notes secured by any collateral satisfactory to the Federal Reserve Banks. Provision was also made in 1932, for the first time, to enable the Federal Reserve Banks, in unusual and exigent circumstances, to discount eligible paper directly for any individual, partnership or corporation which was unable to obtain adequate credit accommodation from other banks. Moreover, in 1934 the Federal Reserve Banks were empowered to make loans, for periods not exceeding five years, to industrial concerns for working capital purposes either directly or through a financial institution, but again it was laid down that these loans could be made only when credit was not obtainable on a reasonable basis from the usual sources.

In connection with the new regulation¹ on discounts and advances by the Federal Reserve Banks issued by the Board of Governors of the Federal Reserve System in 1937, it was stated that

the Board was also guided in its determination of eligibility requirements by the recognition of the fact that at a time of a deflationary trend it is important for the Federal Reserve System to lend with the greatest freedom consistent with safety,

since "at such times technical limitations on the character of eligible paper endanger rather than protect the safety of the banking structure", and that

the Board believes that the assurance of support in case of need given to member banks with sound assets will encourage these banks to give their communities the financial services that they require.

It will be observed that it has been found necessary to increase considerably the Federal Reserve Banks' powers of rediscounting and lending. This has brought the Federal Reserve Act more into line with the charters and laws of the older central banks. The experience of the Federal Reserve Banks has demonstrated the great danger of placing undue restrictions on central banks

¹ *Federal Reserve Bulletin*, October, 1937, p. 979.

based upon their policy and operations in normal times. While the original Federal Reserve Act largely conformed with the actual practice followed by the older central banks prior to 1914, it did not conform with their practice under the abnormal conditions of the War and post-War periods and the period subsequent to 1929, since they were likewise called upon to loosen their requirements and expand their operations, in short, to make greater use of their powers¹ than was previously found to be necessary or desirable.

Most of the new central banks which were established after the Great War were given wider powers than those which the Federal Reserve Banks had at that time. The rediscounting powers of the former were based largely on those of the latter, but the former were given the right to deal directly with the general public in the same kinds of paper as were eligible for rediscounts and advances to the commercial banks. The rediscounting and lending powers of these new central banks occupied a position almost midway between the powers provided for in the Federal Reserve Act of the early 'twenties and those in the laws and charters of the older central banks. The new central banks, however, also found out in due course that their powers of lending were too restricted, particularly in times of financial crisis, and consequently their powers had to be extended, principally in the direction of increasing the variety of securities against which they could make advances.

The South African Reserve Bank, for example, was empowered in 1930 to make advances not only against trade and agricultural paper eligible for discount and Government securities (including Treasury bills) with a maturity not exceeding six months, as was formerly the case, but also against long-dated Government and Municipal securities, one-name bills or promissory notes secured by documents of title representing staple commodities fully insured and having extensive and active markets,

¹ In the case of some of these older banks the lending powers also had to be extended. The Bank of France, for example, was empowered in 1936 to discount or rediscount bills drawn against wheat in storage, or drawn by concerns affected by the social reform laws and bearing the guarantee of the Caisse Centrale des Banques Populaires, or drawn against the receipts of certain French exporters representing amounts blocked in or not yet transferred from countries with transfer restrictions.

and non-speculative dividend or interest-bearing securities having a ready sale on the stock exchange. Moreover, the maturity of commercial paper eligible for discount was extended from 90 to 120 days.

Scope and Extent of Rediscounting. Owing to the decline in the volume of commercial and agricultural paper eligible for discount, and also to the preference shown by commercial banks and discount houses for short-term collateral loans¹ from the central bank, the scope and extent of rediscounting in the strict and narrow sense have been considerably reduced. The majority of central banks now find that their function of lender of last resort, apart from their relations with the State, is performed mainly in the form of collateral loans to banks and other financial institutions rather than rediscounts of bills of exchange and Treasury bills. Moreover, it is only in the case of such central banks as the Bank of France, Bank of Japan, Bank of Finland, Commonwealth Bank of Australia and National Bank of Egypt, that, in addition to rediscounts, a considerable volume of discounts and advances is done directly with the general public.

The importance of the part played by rediscounts at the end of each month or half-year or year or during holiday and harvesting seasons can be observed by referring to the records of central banks.

Federal Reserve Banks. The following table shows the rediscounts (including collateral loans to member banks) of the twelve Federal Reserve Banks outstanding on the first, middle and last² Wednesdays of four different months of the year 1926,³ which can be regarded as a comparatively normal year in the United States :

¹ As they are frequently required only for a few days over a month-end or year-end or holiday period, and as they involve less work and inconvenience for both borrower and lender, particularly in the case of loans against long-term Government securities which can be left in custody of the central bank for that purpose.

² In two of the months selected (March and June) the last Wednesday was also the last day of the month, and in the other two it was the twenty-ninth day of the month.

³ In recent years the open-market operations of the Federal Reserve System have obscured and nullified the normal working of rediscounts. For example, in 1934, the highest figure for end-of-month rediscounts was \$83,000,000, in 1935 \$111,000,000 and in 1936 \$9,000,000, while the holdings of Government securities purchased by the Federal Reserve System rose from under \$300,000,000 at the end of 1928 to \$2,430,000,000 at the end of 1933, and \$2,564,000,000 at the end of 1937.

REDISCOUNTS AND COLLATERAL LOANS OF FEDERAL
RESERVE BANKS OUTSTANDING IN 1926 ¹

Month.	First Wednesday.	Middle Wednesday.	Last Wednesday.
	\$	\$	\$
March . . .	583,200,000	480,600,000	632,400,000
June . . .	525,000,000	393,300,000	515,000,000
September . .	626,300,000	565,500,000	716,600,000
December . .	645,500,000	562,300,000	711,000,000

It will be observed that in each month there was a substantial decline between the beginning and the middle of the month and a considerable increase between the middle and the end of the month. The fluctuations of the rediscounts corresponded in a large measure to the fluctuations of money in circulation, showing that the withdrawal of note currency for wage and salary payments and holiday and other disbursements by the public is one of the principal reasons for rediscounting. As Burgess ² says, "in normal times changes in the amount member banks borrow from the Reserve Banks are due principally to changes in their customers' currency requirements." Other factors which may influence the volume of rediscounts at times are "gold exports and imports and changes in requirements for bank reserves because of changes in bank deposits".

Moreover, as between one month and another there are fluctuations in rediscounts depending upon what month of the year it is. For example, in 1926 the monthly averages of rediscounts and collateral loans of the Federal Reserve Banks increased from \$472,900,000 in June to \$555,200,000 in August and \$663,300,000 in October owing largely to the harvesting and marketing of the principal crops, and declined to \$614,500,000 in November before rising again to \$668,500,000 in December on account of the Christmas season. With the elimination of these factors the monthly average dropped to \$480,600,000 in January, 1927, and \$393,000,000 in February.³

¹ Figures obtained from the *Annual Report of the Federal Reserve Board for 1926*, pp. 48-9.

² *Reserve Banks and the Money Market*, Revised Edition (Harper), p. 78.

³ Figures obtained from the *Annual Report of the Federal Reserve Board for 1929*, p. 57.

REICHSBANK

The transactions of the Reichsbank give a good illustration of regular fluctuations of rediscounts during the course of a month, as reflected in the following table of domestic discounts and advances¹ in periods of 1927-8 and 1937-8 :

Date.	Domestic Discounts and Advances by Reichsbank Reichsmarks (000's omitted).
23 Aug. 1927	2,118,000
31 Aug. 1927	2,729,000
15 Sept. 1927	2,355,000
30 Sept. 1927	2,898,000
15 Dec. 1927	2,328,000
31 Dec. 1927	3,207,000
14 Jan. 1928	2,364,000
23 Oct. 1937	4,864,000
30 Oct. 1937	5,628,000
23 Nov. 1937	4,830,000
31 Dec. 1937	6,192,000
22 Jan. 1938	4,855,000
31 Jan. 1938	5,585,000

The monthly fluctuations detailed above were caused mainly by rediscounts for commercial banks and other financial institutions, and these rediscounts also represented by far the major portion of the Reichsbank's discounts and advances. For example, in 1927 and 1928 the bills discounted directly for account of commerce, industry, agriculture, etc., represented on an average less than 25 per cent. of the total bill holdings of the Bank, and in 1935 and 1936 the average was less than 10 per cent., but in the latter period the total bill holdings were double those of the former. Moreover, direct accommodation to the State was relatively small, as it was severely restricted under the new Bank Law of 1924. At the end of 1936 and 1937 the Bank's holdings of Treasury paper amounted only to 62,300,000 and 118,600,000 reichsmarks respectively.

The fluctuating element was provided mainly by the rediscounts. As is recorded in the *Annual Report of the Reichsbank for 1928*, "the bills came mostly from the

¹ The figures were obtained from the weekly statements and annual reports of the Reichsbank and comprised the items "inland bills and cheques" and "advances against collateral". They included, therefore, accommodation to the general public and the Government as well as rediscounts for the commercial banks and other financial institutions.

banks and other financial institutions, and these mainly determined the volume of the Bank's holdings", while "the direct presentations from other sources (trade, industry, agriculture, handicrafts and other circles requiring credit) remained almost unchanged both as regards amount and maturity."

SOUTH AFRICAN RESERVE BANK

The rediscounting operations of the South African Reserve Bank during periods when the cash reserves of at least some of the commercial banks tend to fall below the legal minimum, afford an excellent demonstration of expansion towards the end of a month and contraction after the beginning of a month, owing principally to the withdrawal of note currency for monthly payrolls and other payments and the return of notes with the payment of shop accounts and other disbursements. The following table shows the fluctuations of the domestic discounts¹ and advances (other than advances to the Government) in certain periods of 1931 and 1932 :

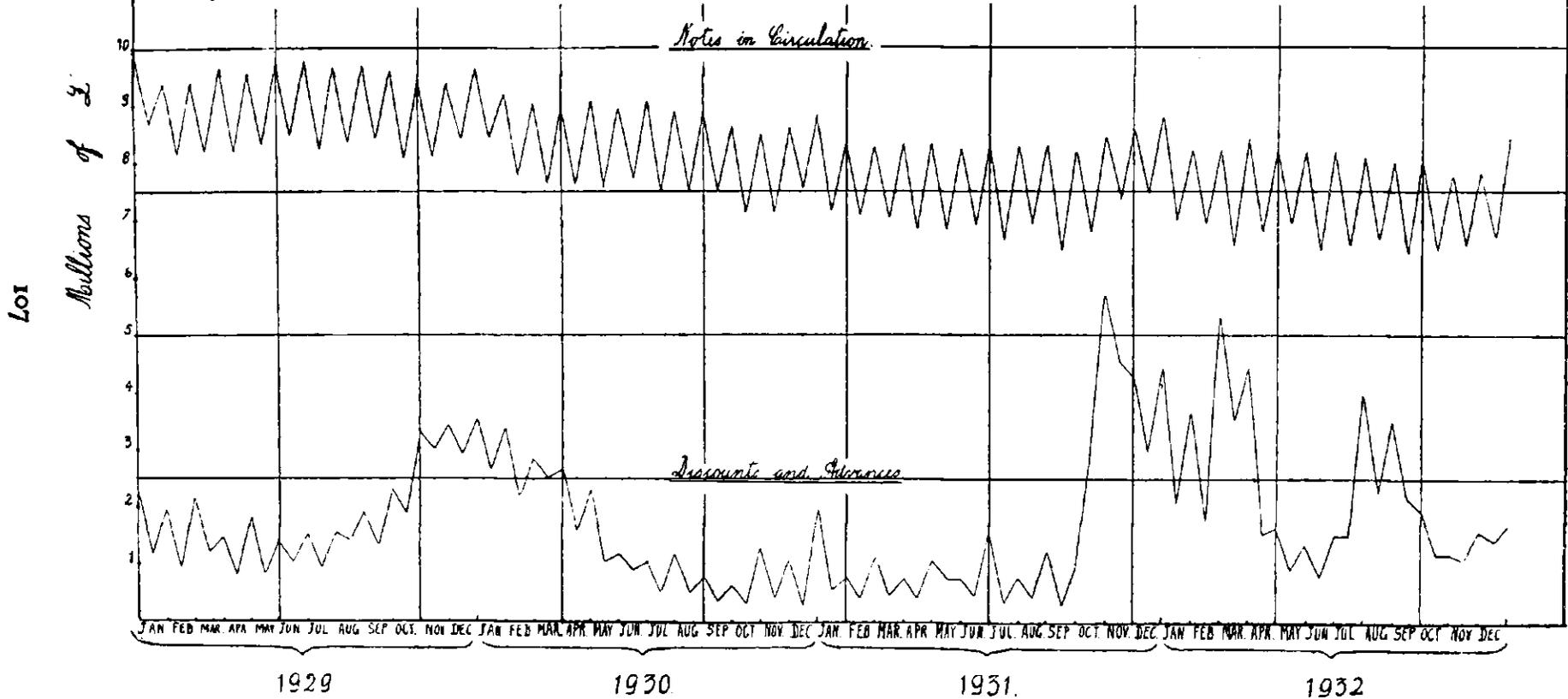
Date.	Domestic Discounts and Advances by South African Reserve Bank.
	£
19 June 1931	516,000
30 June 1931	1,545,000
10 July 1931	506,000
31 July 1931	760,000
14 Aug. 1931	404,000
31 Aug. 1931	1,215,000
15 Jan. 1932	2,099,000
30 Jan. 1932	3,622,000
19 Feb. 1932	1,824,000
29 Feb. 1932	5,365,000 ²
18 Mar. 1932	3,570,000
31 Mar. 1932	4,405,000
15 Apr. 1932	1,584,000

¹ The discounts included some discounts of trade bills and Treasury bills for the general public, but the bulk of discounts and advances at the end of the month represented rediscounts for the commercial banks.

² The high figure reflects the effect of heavy mining tax payments which are regularly made at the end of February and go to the credit of the Government's account at the Reserve Bank. Moreover, the high average figures during this period show also the effect of the exportation of capital consequent upon the depreciation of sterling, while the Union of South Africa adhered to the gold standard till the end of 1932.

Chart of Discounts and Advances and Notes in Circulation of the South African Reserve Bank (1929 - 1932),

showing a substantial degree of correlation between the monthly fluctuations of discounts and advances and those of notes in circulation



BANK OF ENGLAND

In the case of the Bank of England the fluctuations of rediscounts are in normal times prominent only in June and December, owing to the custom of half-yearly window-dressing by the commercial banks which call up some of their loans to discount houses and bill brokers in order to show a relatively strong cash position at the end of the half-year, thereby forcing the latter to borrow from the Bank of England over the end of the half-year.¹ For example, the following table shows the movements of discounts and advances² by the Bank of England during several June-July and December-January periods in recent years :

Date.	Discounts and Advances by Bank of England.
	£
11 Dec. 1929	8,828,000
1 Jan. 1930	42,171,000
22 Jan. 1930	5,780,000
24 June 1931	9,633,000
1 July 1931	34,319,000
8 July 1931	7,102,000
26 Dec. 1934	7,579,000
2 Jan. 1935	24,195,000
9 Jan. 1935	9,041,000
19 June 1935	5,795,000
3 July 1935	13,488,000
17 July 1935	9,277,000
23 Dec. 1936	6,448,000
30 Dec. 1936	17,467,000
20 Jan. 1937	8,906,000

Normally the substantial increases in discounts and advances over the middle and end of every year would be

¹ This did not happen at the end of June and December, 1937, and June, 1938, as the dealers and brokers took advantage of the fact that, with the aid of the margin of eight days allowed between allotments of Treasury bills and payments therefor, the calendar made it possible for them to avoid having to borrow from the Bank on those occasions. On the one hand, they received payment for bills maturing during the last few days of the half-year, and, on the other, they did not have to pay for their new allotments until they could borrow the funds from the banks again after the end of the half-year. The result was that the Bank had to make ways and means advances to the Treasury for a few days until the dealers and brokers paid for their allotments.

² The figures were taken from the weekly statements of the Bank of England made out every Wednesday and included the discounts and advances for account of its private customers.

almost entirely for account of discount houses and bill brokers, while the amounts outstanding at other times and ranging from about £5,000,000 to £8,000,000 would primarily represent accommodation to the Bank's commercial and industrial customers, of whom it has retained a limited number. "Those individual accounts", as Sir Josiah Stamp¹ said, "were the echo of the past when the Bank of England was an ordinary banking house."

Conclusion. (There is one lesson in particular which practically every central bank has learnt at one time or another, namely, that central banks should have relatively wide powers of rediscounting and lending for use in times of emergency. In practice they should be in a position to substitute an adequate amount of central bank credit for commercial bank credit whenever the circumstances render it necessary or desirable for them to do so. In normal times, whether central banks have wide powers or not, their rediscounting and lending operations will tend to conform with certain rules which have virtually become central banking tradition.)

For example, it should not be considered necessary to stipulate in a law, as was done in the 1932 and 1934 amendments of the Federal Reserve Act relating to the making of advances to the general public and to industrial concerns, that the advances should be made only in unusual and exigent circumstances and when credit was not obtainable on a reasonable basis from the usual sources; or as was provided in the Reserve Bank of India Act, that the powers of direct discounts and advances should be used only when a special occasion has arisen making it necessary or expedient that such action should be taken for the purpose of regulating credit in the interests of Indian trade, commerce, industry and agriculture. The majority of central banks, old or new, do the bulk of their business with banks and other financial institutions and with the State, and deal directly with the general public only to a small extent, if at all, even though many of them have full power to deal with the public on a large scale. It has become a generally-accepted central banking principle that, for the sake of better credit control and greater liquidity and in order to secure the active co-operation of the com-

¹ *Australasian Insurance and Banking Record*, February, 1938, p. 140.

mercial banks, a central bank should not take part in general banking business.

(Central banks should, however, not be unduly hampered by legal restrictions. Frequently the mere fact that a central bank has the power and the will to accommodate the general public, in the event of the commercial banks not fulfilling their duties properly, will be conducive to the maintenance of satisfactory banking conditions and satisfactory relations between the banks and the customers. Moreover, the commercial banks themselves must feel that, in the event of an acute emergency, the central bank's powers of rediscounting and lending would be wide enough to give them adequate accommodation so that they could in turn give the requisite accommodation to their customers in order to tide them over the emergency. As Burgess¹ said concerning the legal provision of 1933 which authorised the Federal Reserve Banks to make advances to member banks against other than eligible paper,

the assurance to all member banks that they could, if necessary, obtain the credit they required at the Reserve Banks against any of their sound assets helped to give them reassurance and courage at a time when it was greatly needed and placed them in a position to lend more freely on ineligible paper.

With regard to the question of legal restrictions, there is something to be said for the imposition of some restrictions on the operations of central banks in those countries where central banking is relatively new and not yet well understood by the public. Provided the restrictions are not too severe and conform with the practice of bona-fide central banks under abnormal conditions they may serve a valuable purpose in educating the public of such countries up to what a central bank should do and should not do. If, on the other hand, the other policy is adopted and the central bank given a free hand, it may in the absence of local central banking traditions and owing to the general ignorance regarding the essential nature and functions of a central bank, result in undue pressure being brought to bear upon the central bank by the public for the introduction of certain dangerous

¹ *Reserve Banks and the Money Market*, Revised Edition (Harper) pp. 51-2.

reforms or the undertaking of extraneous operations. From this point of view, restrictions on the powers and operations of central banks may be regarded as a necessary protection to them.

CHAPTER VII

THE CENTRAL BANK AS A BANK OF CENTRAL CLEARANCE, SETTLEMENT AND TRANSFER

THE function of central clearance and settlement has been adopted by all central banks either as a matter of tradition and convenience or as a duty laid down by law.

It was first developed by the Bank of England about the middle of the nineteenth century, after the other banks had for years adopted the practice of keeping balances with the Bank of England as a result of its being the principal bank of issue and the Government's banker. According to Sprague,¹ it was in 1854 that the plan was adopted of settling the differences between the various banks at the end of each daily clearing by transfers between their respective accounts at the Bank of England. A

Thereafter it was almost automatically adopted by many of the other banks that came to assume the duties of a central bank. In the case of some central banks, however, specific provision was made in their laws that they should perform the function of facilitating clearings between banks. For example, the Central Bank of Chile was ordered "to act as a Clearing House for member banks in Santiago and other cities of the Republic in which it has branches"; and the Bank of the Republic of Colombia was enjoined in similar terms. The purpose of the Reichsbank of Germany and the National Bank of Austria was stated in their laws to be, *inter alia*, "to facilitate the clearance of payments", and that of the National Bank of Hungary "to facilitate the compensation of payments". In Australia, apart from the Commonwealth Bank being required to act as the bank of central clearance and settlement, statutory provision was even made that the settlement of balances between banks had to be effected by cheques drawn on and paid into the Commonwealth Bank. In various other cases the charters

¹ As Editor of *Dunbar's Theory and History of Banking* (Third Edition), p. 87.

or laws make a specific reference to clearing-house operations or clearing facilities, but only as a permissive authority and not as a statutory injunction.

A distinction must, however, be made between central banks operating in countries where the commercial banks themselves have established elaborate clearing-house institutions with constitutions and premises of their own, and those in areas where no such elaborate institutions have been set up by the commercial banks. In the former cases the central bank, apart from its being a member of the local clearing house, ordinarily has to perform only the function of settling the differences between banks at the end of each clearing or at the end of the day, whereas in the latter it usually provides for clearing-house accommodation and supervision as well as for the settlement of balances.

Although not usually regarded as a particularly important function, central clearance and settlement is looked upon as a necessary or a natural function of a central bank. Shaw¹ refers to it as a matter "of course" and maintains that "a central bank will operate as the clearing house for all its member banks as a mere matter of mechanism or of bookkeeping." In short, as the central bank became the custodian of the cash reserves of the commercial banks, it was an easy and a logical step for it to assume the duty of acting as a settlement bank or a clearing house for the other banks. Kisch and Elkin² say that it is for the central bank "to set up an expeditious and economical machinery for the clearance of drafts and settlement of internal accounts", and that "as holder of the balances of the commercial banks a central bank is specially qualified for this duty."

As examples of those who consider that it is a very important function of a central bank, the views of Jauncey³ and Willis⁴ may be quoted. Jauncey holds that "clearing is the main operation of central banking" and says in another instance, with reference to the statutory provision which compels all commercial banks in Australia to clear through the Commonwealth Bank, that "internally, then,

¹ *Theory and Principles of Central Banking*, p. 155.

² *Central Banks* (Fourth Edition), p. 144.

³ *Australia's Government Bank*, pp. 166 and 168.

⁴ *Theory and Practice of Central Banking* (Harper), p. 359.

the bank has the most important feature of central banking." Willis expresses the view that

the clearing function, with its ancillary elements, . . . is among the most significant of central banking functions and is one for which only a very incomplete substitute may be found through resort to other expedients.

One may, however, fully endorse the view that a perfect system of clearance and settlement can only be obtained by centralising such operations in the central bank without subscribing to the view that it is one of the most important functions of a central bank, as compared, for example, with those of the control of credit and the lender of last resort.

Meaning and Significance of Central Clearance and Settlement. As the commercial banks keep a large part of their cash reserves on deposit with the central bank, whether by tradition or law, and thus always have an account with a substantial balance in that institution, it follows that settlements between the banks can most easily and conveniently be effected on the books of the central bank by means of debits and credits. Over any period the cheques and drafts drawn on any bank and presented by other banks on behalf of their customers for payment tend to approximate closely the cheques and drafts on these banks received by its own depositors, but the daily balances between such banks may vary considerably, and such balances can best be adjusted by means of debit and credit entries in their respective accounts in the central bank. Should the clearing go heavily against some banks at any time, to such an extent that their balances with the central bank fall below the minimum prescribed by law or maintained by tradition, they can rediscount with the central bank for a few days if they expect the clearing to swing in their favour again soon. In fact, apart from withdrawals of notes, this is one of the more general reasons for rediscounting.

While the practice of facilitating settlements between banks on the books of the central bank is a comparatively simple operation, it is one which is of great convenience to the banking community and of some significance in economising the use of money in banking operations, especially where the central bank has branches in various

parts of the country. It also tends to strengthen the banking system of a country and, as Sprague¹ says, "to reduce the withdrawals of cash during a crisis".

Moreover, Willis² emphasises that a system of clearing, organised and solidified by the central bank,

is not only a means of economising cash and capital, but is also a means of testing at any time the degree of liquidity which the community is maintaining,—a matter which it is essential for the central bank to know from day to day.

He even goes as far as saying that "the attitude adopted [throughout his book] has been that of treating clearances as a test of liquidity", and that

the bank performs its characteristic function by determining what classes of goods are to be admitted to the field of exchange, and the process of clearing indicates the extent to which the judgments which have thus been registered by the bank have been sound, or at least in accordance with the judgments of other elements in the productive processes of the community.

This may indeed be overstating the case for the clearing process as a test of general liquidity in the community, but it is nevertheless true that the function of central clearance and settlement affords the central bank a valuable means of ascertaining the relative trends of the operations of individual banks from the point of view of the liquidity of their assets.

BANK OF ENGLAND AS SETTLEMENT BANK

In England there are independent clearing houses in London and in eleven provincial towns, in seven of which the Bank of England has branches. In London the Bank of England is a member of the London Clearing House, and the Clearing House as well as the commercial banks have accounts at the Bank of England. At the end of each day the debit or credit clearing balances of the banks are settled by means of payments to or from the Clearing House through the medium of their accounts at the Bank of England. In the seven provincial towns where the Bank of England has branches, the branch of the Bank is a member of the Provincial Clearing House, while the Clearing House and the branches of the commercial banks

¹ *Op. cit.*, p. 101.

² *Op. cit.*, pp. 343 and 359.

have accounts at the branch of the Bank of England, and the daily differences are settled by payments to or from the Clearing House through the medium of accounts at the branch of the Bank. As regards the four towns where there are Provincial Clearing Houses but no branches of the Bank, differences are settled between the head offices of the banks in London in the same way as differences in the London clearings.

A more or less similar procedure, with modifications depending upon local circumstances, is followed in the United States, France, Holland, Sweden, Denmark, Japan, etc., where independent clearing houses are operated in the principal cities.

SPECIAL CONDITIONS IN SOME COUNTRIES OF EUROPE

In those countries of Europe where the system of payments by cheque or transfer and of clearings between banks developed very slowly, the central bank was obliged, as Lemoine¹ said of the Bank of France, "to follow, in agreement with the Government, a systematic campaign in favour of the operations of clearing and transfer". According to statistics cited by him, the efforts of the Bank of France between 1919 and 1926 achieved the quadrupling of the number of clearing houses and the trebling of the turnover of the clearing houses and of the transfer of funds by the Bank of France. In fact, the lack of adequate transfer facilities in France has been submitted as one of the main reasons for the establishment by the Bank of France of a network of branches and agencies all over France.

This is also true of Germany, where the Reichsbank has since its inception used its vast network of branches and offices (now 455 in number) for the purpose of promoting payments by transfer throughout Germany either free of cost, not only for banks and other financial institutions but also for members of the general public who have current deposit ("giro") accounts with the Reichsbank, and at a nominal charge for those who do not have "giro" accounts.

For example, in 1937 the total turnover of the transfer business (Giroverkehr) of the Reichsbank was as follows: ²

¹ *Foreign Banking Systems*, edited by Willis and Beckhart, p. 550.

² *Annual Report of the Reichsbank for 1937*, pp. 15 and 28.

Item.	Incomings.		Outgoings.	
	Number.	Amount.	Number.	Amount.
		R.M.		R.M.
Cash Payments	1,846,000	22,121,711,000	1,953,000	23,457,916,000
Customer Ac- counts . . .	4,062,000	144,322,119,000	4,278,000	146,406,108,000
Local Transfers	10,682,000	169,399,873,000	6,375,000	169,399,872,000
Transfers from or to Branch Offices . . .	16,658,000	90,982,674,000	14,211,000	87,526,915,000
Total . . .	33,248,000	426,826,377,000	26,817,000	426,790,811,000

It will be observed that the transfer business of the Reichsbank has grown to enormous dimensions, and that almost 95 per cent. of the total turnover in 1937 was effected without cash changing hands. Economy of cash was, in fact, one of the main reasons for the intense activity of the Reichsbank in the " giro " business.

Moreover, owing to the slow development of clearing facilities between banks, the Reichsbank has established clearing houses at its head office in Berlin and at its branches in the principal towns.

In such countries as Holland, Belgium and Hungary, where the " giro " system of transfer through the State postal and telegraph services was well developed and largely performed the function of the bank cheque, the central banks were not originally called upon to the same extent as in France and Germany to facilitate transfers for the general public. In due course, however, they also decided upon a more active policy in promoting payments by transfer either free of cost or at a nominal charge.

SPECIAL FUNCTIONS OF FEDERAL RESERVE BANKS

Before the establishment of a central banking system in the United States, where there are thousands of independent unit banks instead of a small number of large banks with branches all over the country as is now the case in most countries, a great deal of expense and delay was suffered in connection with the collection of cheques drawn on banks in other towns of the United States. It

was customary for the paying bank to charge an exchange commission on cheques drawn on it and presented for payment by a bank in another town. Sometimes, owing to lack of the necessary arrangements, for example, as between banks in the smaller towns, various banks had to be employed before payment was finally effected. This was known as "routing of cheques". The exchange commission charged by banks was justified by them on the ground that, in order to pay their "out-of-town cheques", they had either to ship currency to distant points or maintain balances there.

Soon after the Federal Reserve Banks commenced operations, they sought to bring about radical reforms in the handling and collection of cheques, and also of bills and drafts. Within two years they organised a nation-wide system of cheque collection, based on payment of cheques at par. Through the twelve Reserve Banks and their branches, and through the reserve balances and accounts which each member bank had to keep with its Reserve Bank, the Federal Reserve System provided the requisite network for the speedy and efficient handling and collection of cheques all over the United States.

Under this nation-wide plan a Reserve Bank or any of its branches accepts from the commercial banks cheques for collection at par in any of the towns within its area of operation or within that of any other Reserve Bank or branches thereof. The account of the collecting bank with its Reserve Bank or branch thereof is credited, while the account of the paying bank with its Reserve Bank or branch thereof is debited, without any charge whatever, although they may be situated 3,000 miles apart, as between the Federal Reserve Bank of New York and that of San Francisco or between the Buffalo branch of the former and the Los Angeles branch of the latter. As between one Reserve Bank and another settlement is effected through the medium of debits and credits in the inter-district settlement fund maintained by the Reserve Banks with the Board of Governors of the Federal Reserve System in Washington. Should there be any need for currency shipments owing to a strong tendency for funds to move in a certain direction, the Reserve Banks concerned arrange for such shipments and pay the cost thereof.

Under the Federal Reserve Act the Reserve Banks

were not permitted to collect cheques on which the paying bank charged a commission. Some banks¹ have continued to charge such a commission and have, therefore, remained outside the system of cheque collection by the Reserve Banks at par, but the great majority have fallen into line therewith. According to Burgess,² it is estimated that 98 per cent. of the cheques drawn in the United States are payable at par through the Federal Reserve System. In this connection, however, it must be said that it is not the practice to give immediate credit in respect of cheques accepted for collection, but that a system of deferred credit has been adopted, depending upon the time ordinarily taken for the collection and transfer of the proceeds.

Moreover, provision has been made for telegraphic transfers of funds through the Federal Reserve System to all parts of the United States, at par for member banks when the transfers are made for their own purposes, and subject to a small charge to cover the cost of the telegram when the transfers are made for them for the accounts of other banks or companies and individuals. The procedure followed in the case of telegraphic transfers, as to debit and credit entries on the books of the Reserve Banks and the inter-district settlement fund, is the same as for the collection of cheques. Facilities are also provided by the Reserve Banks to member banks for the collection of bills of exchange, promissory notes and drafts, and even interest coupons of municipalities and companies.

Burgess³ emphasises that

what the clearing house did for city checks the Federal Reserve System has done for out-of-town checks in providing a means of systematic handling and thus reducing expense, delay, and risk in collections,

and that,

since the Reserve System has cut in half the time required to collect checks, it has greatly reduced the "interest charge" which some banks make for the use of funds represented by uncollected checks.

¹ At the end of 1937 all the 6,341 member banks and 5,784 non-member banks were on the par list, while 2,743 non-member banks had not yet joined the par collection system, but these were almost entirely small country banks (see *Annual Report of Board of Governors of the Federal Reserve System for 1937*, p. 29).

² *Reserve Banks and the Money Market*, Revised Edition (Harper), p. 99.

³ *Ibid.*, p. 105.

POSITION AT OTHER CENTRAL BANKS

Although the peculiar conditions prevailing in the United States and arising principally out of the existence of 15,000 independent banks are not repeated elsewhere, the clearance, settlement and transfer operations of the Federal Reserve Banks have had some influence on other central banks, particularly the newer ones which are based to some extent on the American model and most of which also have extensive areas of operation. They do not, however, have the problem of large numbers of unit banks, since they have predominantly the branch-bank system; and under the latter, of course, the collection of cheques is greatly facilitated by means of debit and credit entries between branches of the same bank, while the adoption of central clearance and settlement through the central bank has further facilitated and expedited the process.

Under the branch-bank system, provided the banks have a large and well-spread number of branches, the central banks are usually not called upon to accept from other banks cheques and bills for collection, but they can with great benefit provide facilities to the commercial banks, and through them to their customers, for transfers of funds at par between all important centres. This function is performed by many of the new central banks. As in the United States, they found exchange commission being charged by banks for the collection or payment of cheques and for transfers of funds. In both cases the banks justified their action on the ground that they frequently had to incur the cost of actual currency shipments; and in the case of cheques the banks of several countries submitted a further justification for the exchange commission on the ground not only that they incurred a risk of loss on dishonoured cheques, but also that, since most of their advances were made in the form of overdraft on current account, their practice of crediting their customers' accounts immediately with the proceeds of cheques caused them a loss of interest.

These banks differed, therefore, from the banks of the United States in three respects, namely, that they had a network of branches instead of operating only in one town, that they gave immediate credit instead of deferred credit, and that they made most of their advances in the

form of overdrafts rather than discounts of promissory notes and acceptances. Wherever one or both of the two last-named phases prevailed, central banks could not inaugurate a nation-wide system of cheque collection at par. They could, however, by having branches in all the important towns of their countries, establish a system of transfers of funds at par for the general public between such towns by arranging to make transfers at par for the commercial banks and also for the public, should the commercial banks fail to provide them with this facility.

The South African Reserve Bank, for example, first arranged to supply notes and other currency (including gold currency until the Union of South Africa suspended gold specie payments at the end of 1932) free of charge to the commercial banks or their branches at all points where it was represented, and also to make telegraphic transfers at par for the commercial banks which enabled them to mobilise and utilise their available funds efficiently and economically. The next step was to arrange with the commercial banks to accord the facility of transfers at par to the public, subject to a nominal maximum charge of 5s., between all towns where the Reserve Bank was represented. Owing to the prevalence of overdrafts and the practice of giving immediate credit to customers, however, the banks consider that they cannot be expected to relinquish the exchange commission on "out-of-town" cheques, unless, of course, a more suitable kind of charge can be devised.

CONCLUSION

In conclusion it may be observed that all over the world central banks have in various ways tried to improve the processes of clearance, settlement and transfer in their respective countries, and that further improvements in such processes as a result of central bank action and guidance are not at all unlikely.

CHAPTER VIII

THE CENTRAL BANK AS THE CONTROLLER OF CREDIT

ANY discussion of the control of credit can best be conducted by dealing first with the following questions :

- (1) Is there any real necessity for the control of credit under present-day economic conditions ?
- (2) If it is necessary, should the duty of controlling credit in any country be imposed on a Department of State or on one banking institution or on all banks individually and collectively ?
- (3) What is the main purpose for which credit should be controlled, whether to keep exchange rates stable even at the cost of fluctuations in internal prices and trade, or to keep the internal price level stable even at the cost of fluctuations in exchange rates and trade, or to eliminate fluctuations in production, trade and employment, after allowing for the normal increase, even at the cost of fluctuations in exchange rates and internal prices ?
- (4) What are the methods or instruments by which credit may be controlled ?
- (5) To what extent, if any, can credit be controlled effectively enough to achieve any of the purposes to be aimed at ?

Need for Control. With regard to the question whether the control of credit is necessary or not, there is almost universal agreement on the point that the creation and distribution of credit under the intricate economic organisation now existing in most countries should be subjected to some form of control. The main reason for this is that credit has come to play a predominant part in the settlement of monetary and business transactions of all kinds and has, therefore, become a powerful force for good or evil. In fact, practically all countries of any economic importance are, to a greater or smaller extent, based on a credit economy rather than a money economy. For example, in Great Britain and the United States it is estimated that almost

90 per cent. of all payments are made by cheque instead of coin and paper money; and in both countries the commercial banks are accustomed, except under abnormal circumstances, to holding cash reserves equivalent to only 10 or 11 per cent. of their deposit liabilities.

While there may be differences of opinion on the degree in which changes in the volume of credit may bring about changes in the purchasing power of money, all are agreed that there is some connection between the two and that changes in the latter cause disturbances and maladjustments in various parts of the economic structure; for example, disturbances in the relationship between debtors and creditors, between producers and consumers, between employers and employees, between holders of fixed-interest securities and equity shares, etc. In short, the social and economic consequences of severe fluctuations in the purchasing power of money during the last quarter of a century have emphasised the need for the control of credit in one form or another.

Controlling Authority. As regards the question on whom the duty of controlling credit should be imposed, it is fairly generally agreed to-day that this duty should be entrusted to only one authority in any country in order to have centralised responsibility and control, and that the authority should be a bank and not a Department of State. As the issue or withdrawal of credit is essentially a banking function, it follows that the control of credit is more germane to a banking institution than to a Department of State. Owing to the social and economic importance of credit operations, however, the bank which acts as the controller of credit is usually subject to some form of State supervision and participation, whether direct or indirect. Besides finding the function of credit control more amenable than would a Department of State, a bank would ordinarily, in spite of some State control, be also less subject to political influence.

The extent to which agreement has been reached on this question is demonstrated by the fact that almost every civilised country in the world has either set up a special central bank or converted an existing bank into one for the purpose, *inter alia*, of controlling credit in the national economic interest.

Purpose of Control. While there is almost general

agreement regarding the need for credit control and the entrusting of such control to a central bank with special privileges and powers, there is great difference of opinion concerning the main purpose for which credit should be controlled.

The traditional purpose of control, and the one which till recent years was the predominant practice in almost all countries, was that of keeping exchange rates stable whatever repercussions might result from the use of the methods with which the purpose was usually achieved.

The maintenance of stable exchange rates was accompanied at times by severe fluctuations in internal and world price levels and by an almost regular series of alternations of expansion and contraction of economic activities. There were frequent discussions, particularly in academic circles, regarding the desirability of aiming deliberately at the stabilisation of the price level¹ and the smoothing out of the business cycle, and some attempts were made to achieve this, notably the one by the Federal Reserve System of the United States during the five years 1923-8; but in general these attempts were qualified by the accepted principle that the banking and financial conditions of a country should conform primarily to the requirements of fixed rates of exchange with the principal countries. In other words, the price level of commodities and the level of production and trade in a country were regarded as subservient to the necessity for maintaining stable exchange rates. If something had to give way under difficult conditions, it should be prices or business activity first and exchange rates last.

The main reason for the general policy of fixed exchange rates in the past appeared to be the belief of the world, after many experiences of serious unsettlement in international trade resulting from fluctuating exchange rates, that stable exchange rates were of paramount importance for the conduct of international trade on the largest scale possible, which in turn was considered to be one of the prime requisites for the economic welfare of nations.

In recent years, particularly since the world-wide suspension of the gold standard, greater prominence has been given, not only in academic but also in banking and business

¹ i.e. the level of commodity prices.

circles, to the question of controlling credit with a view to stabilising the price level. There are many economists who hold that the stabilisation of internal prices is to be preferred to the stabilisation of exchange rates or any other factor if the one is at any time found to be incompatible with the other, on the ground that the stabilisation of domestic, if not international, prices would be most conducive to national economic welfare.

Their point of view is based, in the first instance, on the fact that changes in the price level cause a host of changes and disturbances in various parts of the economic structure, which might in turn bring about serious and prolonged maladjustments, with dire economic and social consequences to all the countries concerned. Stabilisation of the price level, on the other hand, would, in their opinion, eliminate these disturbances and maladjustments. Moreover, they argue that, while the maintenance of stable exchange rates might place any country at the mercy of the monetary policy of other countries inasmuch as inflationary or deflationary movements in one or more of the principal countries would ordinarily be transmitted to all countries which maintained fixed rates of exchange with them, the stabilisation of internal prices at the cost of fluctuating exchange rates would render a country independent of the monetary policy of other countries.

In contradistinction to those who prefer either fixed exchange rates or a stable price level as the goal of monetary and banking policy, there are those who would rather see the authorities aim in particular at the elimination or smoothing out of the business cycle, which they do not regard as purely the resultant of price movements. In their opinion the attainment of the other two objectives is highly desirable but subsidiary to the maintenance of a normal and steady rate of growth in business activity and the prevention of booms and slumps. In short, from the point of view of national economic welfare they consider that the maximum benefit is to be obtained by means of the third objective, even at the risk of fluctuations in commodity prices and exchange rates.

Methods of Control. The methods or instruments which may ordinarily be used by central banks for the control or adjustment of credit are :

- (1) The lowering or raising of their discount and re-discount rates with a view to lowering or raising money rates generally and encouraging the expansion or contraction of credit ;
- (2) the buying or selling of Government securities or other public securities in the open market with a view to putting additional funds into the market or withdrawing funds therefrom ;
- (3) the rationing of credit as an alternative or an addition to raising discount rates ;
- (4) the taking of " direct action " against those banks which borrow from the central bank for too long periods and in too large amounts or which have been found to make undue use of central bank credit for financing speculation or non-essential industries or consumers' credit, etc. ;
- (5) the use of moral suasion ; and
- (6) the use of publicity.

In the United States the central banking authorities have recently been empowered by law to use two new methods, namely, changes in the minimum reserve to be kept with the central bank by the commercial banks, and changes in margin requirements in connection with purchases of Stock Exchange securities. The first of these is intended as an additional means of enabling the central bank to contract or expand the credit-creating capacity of the commercial banks, while the second aims at giving the central bank some control over the volume of credit used in the security markets.

Can Credit be Controlled Effectively? With regard to the question whether credit can be controlled effectively enough to attain any of the purposes mentioned above, various matters came up for consideration.

In the first place, in order to secure prompt and effective control of credit, the controlling authority, i.e. the central bank, would require to have direct or indirect means of access to all forms of credit, not only bank credit but also other forms of productive and commercial credit, such as book credits, bills of exchange and promissory notes.¹ The reason for this is that all forms of credit which are

¹ This refers, of course, to bills and promissory notes which have not been discounted by banks.

used for purchasing commodities, securities or real estate have the same effect as money.

Most of the modern economists who advocate control of credit for the purpose of price stabilisation or business cycle control give prominence only to bank credit and practically ignore other forms of credit. A century ago, however, economists devoted a fair amount of attention to the influence of non-banking credit. For example, Tooke¹ pointed out that "the power of purchase by persons having capital and credit is much beyond anything that those who are unacquainted practically with speculative markets have any idea of", and that "applications to the Bank for extended discounts occur rarely, if ever, in the origin or progress of extensive speculations in commodities", since "these are entered into for the most part, if not entirely, in the first instance, on credit for the length of term usual in the several trades." Moreover, John Stuart Mill² stressed the point that "people make purchases with money not in their possession" and that "the amount of purchasing power which a person can exercise is composed of all the money in his possession or due to him, and of all his credit", while "speculative purchases are not, in the great majority of cases, made either with bank-notes or with bills, but are made almost exclusively on book credits."

In modern times such writers as Lewinski, Leaf, Anderson and Dunkman have given due weight to non-banking credit in their discussion of monetary policy. Walter Leaf,³ the English banker, said that the banks

have little or nothing to do . . . with the constant volume of credit which is kept afloat by the aggregate capital of the trading concerns of the country—the standing amount which all industrial and commercial businesses, from the producer to the retailer, carry on their books as an asset in the form of debts due to them.

Professor Lewinski,⁴ the Polish economist, points out that "a rise of prices is always in its first phase accomplished without a resort to bank credit, the increased demand for

¹ *Inquiry into the Currency Principle*, p. 79, and *History of Prices*, Vol. IV, p. 125.

² *Principles of Political Economy* (George Routledge & Sons, Ltd.), pp. 356 and 362.

³ *Banking* (Revised Edition), pp. 92-3.

⁴ *Money, Credit and Prices*, pp. 66 and 15.

goods being effected with the aid of book credits, bills of exchange, etc.”, and maintains that “the great boom after the Armistice in the United States was not created with the assistance of banks but was financed with the help of book credits.” Anderson,¹ an American bank economist, in criticising Fisher’s omission of book credits from his equation of exchange, says that

if buying and selling are what count, if prices are forced up by the offer of money or credit for goods, and forced down as the amount of money and credit offered for goods is reduced, then one exchange must count for as much as any other of like magnitude in fixing prices ;

and Professor Dunkman,² another American economist, points out that “too much attention has been devoted to instruments of bank credit—deposits and notes—to the exclusion of commercial and private credit instruments”, and that

in both fields, too great importance has been attached to the material embodiments of credit transactions—notes, drafts, and checks—and too little to the potential power of persons and corporations to acquire goods and services without paying for them immediately.

In practice book credits, bills and notes have been found to play a very important part in the financing of commerce, industry, agriculture, commodity and security markets, etc., and all bankers are aware of their influence on prices and on the volume of production and trade. It may be submitted that these credits are not entirely unconnected with bank credit, since some of them are based on bank credit to a larger or smaller extent depending upon the financial position of business men and the state of business. For example, the credits extended by wholesale dealers to retailers consist partly of their own trading capital and partly of credits granted by manufacturers or jobbers, the remainder, if any, consisting of discounts and advances by their bankers ; and the amount of credit required from their bankers by these wholesale dealers would depend largely upon the particular phase of the business cycle at any given time. During a trade depression they may not require any assistance from their bankers ; during a period of revival of business activity they may

¹ *The Value of Money*, pp. 108–9.

² *Qualitative Credit Control*, p. 37.

apply for small advances ; and during a boom period they may be indebted to their bankers for considerable amounts.

While book credits are not entirely divorced from the effects and repercussions of the operations of central banks, they may, for purposes of effective and prompt control of credit, be regarded as being beyond the radius of action of central banks. During a large part of the business cycle the banks may be called upon to take only a relatively small share of the financing of production and trade and would, therefore, not be able to exercise a direct influence on business and price movements at all times ; and what the commercial banks cannot accomplish through their normal operations, central banks cannot do through theirs. It is true that the moral influence of a central bank may have a bearing on business enterprise and psychology even at times when many business men do not require assistance from the commercial banks, but this must be regarded as an uncertain quantity varying not only at different times in the same country but also as between one country and another, depending upon the prestige of the central bank and the make-up of the financial structure.

Thus, it may be said that the power of central banks to control credit is impaired at least to the extent that book and other trade credits which are not based directly on bank credit are used in business and speculation.

[With regard to bank credit, it may be said that all forms of bank credit fall within the possible range of influence of central banks, but even here difficulties and resistances may be encountered by central banks.] Sometimes not all the banks operating in a country have direct relations with the central bank, such as keeping deposits with the central bank voluntarily or in the form of minimum reserves prescribed by law and rediscounting with the central bank whenever their available funds are insufficient for their business. For example, in the United States more than one-half of the commercial banks in number and almost one-fifth in resources are outside the Federal Reserve System. This difficulty, however, can be removed by law if not by custom, and need, therefore, not be inherent in central banking control.

Even if all the banks in a country were to be members of the central banking system, there are still limits to the

efficacy of central banking action. The commercial banks may co-operate with the central bank or they may not, depending upon whether they accept the leadership of the central bank in financial matters generally or not or whether they agree with the central bank in a particular line of action or not. It follows that, if they did not co-operate with the central bank, the control of credit by the latter would immediately be rendered very difficult ; but even if they did co-operate whole-heartedly, while control would then certainly be less difficult, there would still be serious difficulties to be faced in controlling the non-banking elements in the financial structure and the ultimate distribution and use of bank credit. The Federal Reserve Board¹ of the United States have referred to "the multifarious conditions and circumstances that affect the temper of the business community" as being beyond the radius of action of the central bank, and to "the movement of credit at any given time having a momentum which cannot be immediately changed".

) [The ultimate use of credit is one of the most elusive factors in central banking control. In the first place, central banks cannot always control the use of central banking credit by the commercial banks. The latter may submit genuine trade bills for rediscount, the proceeds of which may be used indirectly for loans to stock or produce brokers. The borrowing bank may, for example, apply the funds strictly to commercial loans, but the funds may flow to non-borrowing banks which employ them as a basis for speculative loans. Neither can the commercial banks always control the purpose for which their credit is used. Merchants may discount bills with their bankers or borrow from them on their general security ostensibly for their normal business transactions, but may use the funds ultimately for speculation in the stock market or in real estate ; or the funds in question may find their way into speculative activity through third and fourth parties. Moreover, brokers or the general public may borrow from their bankers on sound dividend-paying stocks in order to buy highly speculative mining stocks.]

[Thus, even in the unlikely event of a central bank succeeding in its endeavour to prevent its credit being used by commercial banks for other than commercial

¹ *Annual Report for 1923*, pp. 4 and 31.

purposes, there would still be the difficulty of preventing the indirect use of commercial banking credit by merchants, manufacturers and others either for speculative loans or for speculative dealings for their own account.

The importance of the personal element in matters pertaining to credit control appears to have been grossly underrated by most advocates of monetary reform schemes. The controller of credit is constantly confronted with the action, reaction and interaction of human factors which cannot always be accurately determined. As McLaughlin,¹ the American banker, said, "the principal factor in credit is a state of mind", and "you cannot control credit . . . until you can control public opinion."

It should be clear, therefore, that under the modern complex economic organisation central banking control could not be effective at all times and in all circumstances. It is not intended, however, to convey the impression that because of this a central bank should never deliberately attempt to control credit. The intention is merely to show the limitations of credit control with a view to establishing the point that in general a central bank would be well advised not to aim at any more than what it knows from its own experience and that of other central banks to be capable of attainment under favourable circumstances. By attempting to achieve too much a central bank would probably find that failure has tended to make matters worse than they would have been without any such attempt. Failure in monetary affairs breeds distrust on the part of the public, and public distrust is fatal to central banking control.

Yet in any ambitious scheme for the stabilisation of prices or of the business situation by means of credit control, not only effective but also continuous control would be essential.

Control of Price Level. With regard to the quantitative aspect of credit control, various assumptions have to be made before one can endorse the view of many economists that central banks have it within their power to control the level of commodity prices by bringing about the requisite decrease or increase in the quantity of money²

¹ *American Bankers Association Journal*, August, 1936.

² i.e. the media of exchange (paper and metallic currency in circulation, and bank deposits, also frequently referred to as deposit currency or bank-money).

according as price indices show or are estimated to show an upward or downward trend, with a view to promptly offsetting such trends. One must first assume that it is possible to construct indices of prices so accurately and promptly that they can be used as an effective guide for the purpose in view ; secondly, that there is a close and consistent relationship between the quantity of money and the price level ; and thirdly, that central banks are always able to bring about the contraction or expansion of the quantity of money immediately and to the exact extent desired. In practice, however, not one of these assumptions is found to be fully valid. ¶

[The making of index numbers can, of course, be greatly improved upon from time to time, but, as they must cover a completely representative range of commodities correctly weighted at any given time and be promptly available for the purpose of control, they will always be subject to some degree of error, however small it may ultimately come to be. A further defect arises from the fact that a price index may tend to rise for no other reason than a rise in the prices of a few commodities owing to a crop failure or some other cause of temporary scarcity, or that it may tend to fall for no other reason than a reduction in working costs per unit of output resulting from technical inventions and improved efficiency. ¶

[Moreover, there is no close or consistent relationship between the quantity of money and the level of commodity prices, and there are various reasons for this lack of correlation. To begin with, bank credit is, as stated previously, not the only kind of credit that is used for the purchase of commodities, nor is bank credit used only for the purchase of commodities. It is also employed in connection with the purchase of other objects, such as real estate, securities and services. ¶ For example, an increase in the volume of bank credit may be accompanied by a decline in the level of commodity prices, owing to a rise in the prices of securities and real estate ; or a decrease in the volume of bank credit may be accompanied by a rise in commodity prices, on account of a decline in the prices of securities and real estate. Lewinski¹ gives an example from Poland, where the quantity of money in circulation was halved between 1913 and 1925 while the index of wholesale prices rose by 36 per

¹ *Op. cit.*, pp. 21-3.

cent. The Stock Exchange index and the prices of immovable property, however, showed a considerable decrease. In the United States, during the years 1923-9, when an enormous expansion in the volume of bank credit took place, the level of commodity prices registered only minor fluctuations, but the prices of Stock Exchange securities and real estate showed a sensational rise.

Another factor is the velocity of the circulation of money, which is a variable and not a constant, as some exponents of the quantity theory of money have assumed for the purpose of their equations. These equations may be helpful as a means of explaining the existence of some relationship between the quantity and velocity of money, on the one hand, and the volume of trade and the price level, on the other; but they do not provide any real clue to the solution of the problem of controlling the price level by controlling the quantity of money, since the other two factors of the equation, namely, the volume of trade and the velocity of the monetary circulation, are variable phenomena and do not lend themselves to control.]

[The velocity of circulation of note or metallic currency or bank deposits is largely the resultant of human reactions. Ordinarily it tends to increase during periods of expanding business activity and rising prices, and to decrease during periods of declining business activity and falling prices.] Sometimes these tendencies may be capable of being reversed by sharp changes in money rates, and not at other times. Sometimes also an increased velocity of circulation may be capable of being offset to a large extent by a contraction of bank credit, and a reduced velocity by an expansion of bank credit, but it has happened on various occasions in different countries that a contraction of bank credit was largely nullified by a further increase in velocity, and an expansion of bank credit by a further reduction in velocity. In general, while the central bank can make allowances for the recognised tendencies of the velocity of circulation in determining its monetary policy, it cannot effectively counteract them as a general rule, not only because the rate of increase or decrease in the velocity cannot be accurately predetermined, but also because there are other factors besides the quantity, cost and velocity of money which determine prices.

At various times non-monetary factors have been

known to exert a great influence on commodity prices. For example, climatic and crop conditions, wars, political or industrial upheavals, changes in production methods or in fashions, and waves of distrust and pessimism or confidence and optimism, are always liable to affect prices, sometimes even in a direction contrary to the movement of bank credit. There are some economists who, although they acknowledge the influence of non-monetary factors on prices, nevertheless hold that they can be neutralised by monetary action. In practice, however, there are so many non-monetary factors constantly at work, whose influence and bearing on the price situation cannot be precisely determined, that their effects cannot be wholly countered by monetary action. In other words, non-monetary factors are, in general, outside the radius of action of central banks, and in attempting to do the impossible they may set in motion other forces which may do more harm than good.

Furthermore, although many central banks have sufficient influence over money-market conditions in their countries to obtain the contraction or expansion of the quantity of money by employing the various weapons at their command, they cannot always bring about the contraction or expansion immediately or to the extent desired, owing to the various difficulties which may be encountered in credit control. It has happened on some critical occasions that the working of disturbing forces has seriously frustrated the efforts of central banks in this regard.

If a central bank considers that there is a tendency towards over-expansion of credit in its country, as reflected in a tendency towards rising prices of commodities, securities or real estate and towards maladjustment between supply and demand, it may decide to counteract this tendency at an early stage by raising its discount rate and selling part of its holdings of Government securities in the open market, and following this up with a further increase in the rate and with further sales of securities if the initial steps had no effect, and even with an increase in the minimum reserve requirements of the commercial banks, as was recently done in the United States. At certain times, however, all these operations together may not suffice to counteract promptly the tendency towards overexpansion of credit. The commercial banks may have had such large cash reserves and the money market

such an abundance of funds that no real credit stringency arises out of the central bank's operations. Or if some stringency with higher money rates does result, the prospects of business and speculation may appear sufficiently attractive for entrepreneurs, investors and speculators to induce them to make still greater use of credit notwithstanding the higher rates.

Similarly, if a central bank desires to counteract falling prices and shrinking business activity, it may lower its discount rate and buy securities and bills, and even lower the minimum reserves to be kept with it by the commercial banks; but while these operations will increase the potential credit-creating capacity of the commercial banks and may lower money rates generally, it does not follow that actual expansion of credit and of business will result therefrom. In fact, credit and business may undergo further contraction and prices a further decline in the face of the expansionist operations of the central bank, for the reason perhaps that confidence has been badly shaken by a series of events and that a pessimistic outlook prevails regarding business prospects and price movements. The period from 1930 to 1934 witnessed in most countries the utter failure of central banks by means of their credit policy and operations to offset the effects of distrust, pessimism, contraction and liquidation.

While quantitative control of credit has been shown to be beset with many difficulties when it is invoked for the purpose of continuous stabilisation of prices, it cannot be said that qualitative control is any better adapted for this purpose. In theory there is much to be said in favour of the qualitative approach being more scientific and logical than the quantitative, and in the perfect planned economy which does not exist anywhere and is not likely to arise it would not be difficult to imagine the former approach being productive of more positive results than the latter; but in an unplanned or imperfectly planned economy the practical application of qualitative control as the principal medium of control offers greater scope for errors of judgment with cumulative and exaggerative effects on the price level and has greater limitations generally than the quantitative approach.¹ The central bank can at least achieve a

¹ Dunkman, who has submitted a carefully prepared case for qualitative control, considers that "the quantitative approach offers no less difficulty than the qualitative" and that "in fact, it presents more", but he admits

large measure of quantitative control directly through its own efforts and operations, whereas with qualitative control¹ it can attain only very little by itself and has to rely mainly on the co-operation of the commercial banks,² which, as stated previously, also have difficulty in controlling the ultimate distribution and use of their credit.

It is true, of course, that the efficiency of the existing methods of control may be improved upon and new methods evolved in the future, and it could, moreover, be expected of both central and commercial banks that individually and collectively they should explore all ways and means of improving their technique of quantitative and qualitative credit control. As matters stand at present, however, there is no prospect of effective credit control being achieved, except under special circumstances and for short periods.

This is corroborated, *inter alia*, by Szymczak,³ a member of the Board of Governors of the Federal Reserve System, who recently said that, although

the means by which credit control may be exercised in the United States appear to be very comprehensive and powerful, it would be a mistake to convey the impression that a perfect control of credit will be effected through them. In the first place, their application cannot be mechanical nor governed by simple unvarying rules. Credit and economic relationships are extremely intricate, and the circumstances under which the need for action arises are always to some extent different and special.

The Federal Reserve Board⁴ have also had occasion to refer to the impossibility of "combining into any single formula the elements of judgment applicable to varying credit situations as they arise", and to express their conviction that "no statistical analysis can ever be a substitute for judgment in matters of credit administration."

Central bankers throughout the world have found by that "in view of the difficulties of controlling credit qualitatively, it is an interesting question whether credit can be controlled in an 'unplanned' economy." In this connection he quotes Sir Basil Blackett's opinion that "a stable price level is impossible without planning in other economic and political fields." *Qualitative Credit Control*, pp. 318-24.

¹ See sections dealing with "direct action and moral suasion" on pages 228-34 and "changes in margin requirements on security loans" on pages 238-40.

² See references to "co-operation between the central bank and the commercial banks" on pages 255-57.

³ *American Bankers' Association Journal*, April, 1937.

⁴ *Annual Report for 1923*, p. 36.

experience that there is no automatic mechanism which can, in the long run, replace human judgment, since they have to deal with human factors which are not always rational or consistent elements in the credit situation. Statistical analysis however can at times be of great assistance to human judgment. Nevertheless the operation of unstable and undeterminable factors in the credit situation and the need for human judgment in connection with their control introduce opportunities for human error which would render it highly improbable that any comprehensive scheme of price stabilisation could be carried out with success for more than a few years.]

[With regard to the question whether, assuming that credit could be controlled effectively enough to stabilise prices, it would be economically advantageous to do so, the answer is not so simple as might appear at first sight. It is self-evident that the maintenance of a stable purchasing power of money must be a great advantage to mankind, but at various times there might be other considerations of policy which might be more conducive to the general economic interests of the country or countries concerned.]

[It must be borne in mind that price plays a very important part in economic life as a mechanism for facilitating adjustments. The classical economists used to emphasise the significance of the price mechanism, and while many modern economists, in their zeal for a stabilised price level, are prone to underestimate the function of prices, there are others in various countries who fully appreciate the importance of price movements to the economic structure as a whole.]

[For example, Lewinski¹ rightly says that "the price mechanism plays an important rôle in the adaptation of production to the wants of the community" and that "an economic organism based on free competition of individuals could not accomplish its task if the pendulum of price changes were stopped." Anderson,² in expounding his view that the disturbance of economic equilibrium is responsible for depressions, also emphasises that "it is through price changes that a broken equilibrium is restored", and that "competition has its drawbacks, but

¹ *Money, Credit and Prices*, p. 70.

² *Chase Economic Bulletin*, June, 1931.

free competitive markets do not carry mistaken policies as far as governments or great combines carry them", since "the early price changes which take place in competitive markets give early warning of maladjustments and permit early steps to be taken to correct them." According to Professor Ohlin,¹ the Swedish economist,

a long term policy aiming at an adjustment of economic conditions will probably have to reckon with fluctuations in certain kinds of prices and certain kinds of production as being natural and in the long run useful changes in a progressive community;

and according to M. Jenny,² the French economist, "variations in prices are not without utility", since "they permit the tempering of abuses, the checking of rash impulses", etc.

Moreover, as Gregory,³ the English economist, and Hayek,⁴ the Austrian economist, have pointed out, experience has proved that recurrent dislocations and grave disharmonies can emerge in the economic structure even when prices are stable. For example, the relatively stable level of commodity prices in the United States from 1923 till the beginning of 1929 was accompanied by a sensational boom in the stock and real-estate markets, an inflation of bank credit and a tendency towards over-production, and was followed by a severe slump not only in security and real-estate prices but also in commodity prices. With regard to commodity prices themselves a stable level does not prevent the occurrence of changes in individual price-relationships which tend to bring about disturbances of their own.

Another factor of importance which is usually ignored in discussions on price stabilisation is the point, stressed by Greidanus,⁵ the Dutch economist, namely, that under a stabilised price level the settlement of claims and debts with a constant quantity of goods does not involve a constant sacrifice, since such factors as plentiful harvests and an increased industrial output resulting from technical inventions and improvements would enable the producer

¹ *Svenska Handelsbanken Index*, December, 1933.

² *Lloyds Bank Monthly Review*, June 1933.

³ *The Gold Standard and Its Future* (Third Edition), p. 163.

⁴ See *Prices and Production and Monetary Theory and the Trade Cycle*.

⁵ *The Value of Money*, pp. 207-8.

to supply the same quantity of goods at a smaller sacrifice than in times of scarcity and adversity; and *vice versa*.

Business-Cycle Control. [With regard to the question of business-cycle control, the same difficulties confront us as in the case of price stabilisation, namely, that indices of the volume of production and trade cannot be constructed so accurately and promptly that they can be used as an effective guide for the purpose in view; that there is no close and consistent relationship between the quantity of money and the volume of production and trade; that central banks are not always able to bring about the contraction or expansion of the quantity of money immediately and to the extent desired; and that qualitative control of credit cannot be applied successfully on an extensive or intensive scale.]

[With the complicated processes of production, distribution and consumption obtaining under the present-day economic organisation, and the long time that lapses between the production of the raw materials and the sale of the finished goods over the counter, as well as the large number and variety of channels through which transactions go, there is a host of opportunities for human error. It would be practically impossible for a central bank or any other institution to eliminate over-production or other phases of cyclical fluctuations in business activity.]

Stabilisation of Exchange Rates and Gold Standard. [In connection with the stabilisation of exchange rates, on the other hand, the world has had a great deal of experience and the difficulties encountered therewith have not proved to be insuperable, except during great wars and periods of aftermath consequent upon such wars. Moreover, it is the only method which has been internationally applied.]

[Although there are examples of the stabilisation of exchange rates having been pursued as the official policy during periods of suspension of gold payments, the statement can be made that in modern times it has been associated more particularly with the maintenance of the gold standard, under which exchange rates could fluctuate only within very narrow limits, the so-called "gold points"; and since during the 60 years ending in 1931 the gold standard was maintained by the great majority of countries except for an interval caused by war and post-war consequences and ranging from five to 15 years, it can be said

that the pursuit of stable exchange rates was the principal aim of practical monetary policy during that period, and that it was carried out with a large measure of success, failing only under the stress of highly abnormal circumstances under which any other monetary system hitherto known to man would have broken down.

The fact that the gold-standard system and the policy of stable exchange rates have in the past failed only under war conditions and the abnormal post-war conditions resulting from the emergency expedients employed during a war appears to have been overlooked by many modern writers and legislators. As the President of the Netherlands Bank said, "it seems most unreasonable to lay the blame on the gold standard . . . instead of on the economic and financial policies which prevented the gold standard from functioning"; and

the gold standard is not an independent force, unaffected by the factors which govern the world situation, and able to prevent or to correct the effects of an unbroken series of economic and financial errors.¹

One has to appreciate the fact that, when a great and prolonged war is being waged, a country is compelled to resort to financial expedients which in peace-time would have been regarded by the same authorities as hopelessly unsound and possibly disastrous. Huge debts are usually incurred and serious dislocations are brought about not only within a country but as between one country and another. Moreover, every big war is followed by increased demands for social reform which are conceded to a larger or smaller extent depending upon political conditions and which increase public expenditure and the burden of taxation. Most of these measures of social reform tend to make the economic structure less elastic and more rigid, and consequently less able to adjust itself automatically.

If, however, after every war or revolution or other big upheaval a country faces the issue squarely and seeks to bring about a downward economic adjustment as far as is politically and socially possible, and then restores the gold standard either at the old rate or at a lower rate in the event of devaluation being considered necessary, much less would be heard of the need for managed money and

¹ *Annual Report of Netherlands Bank for 1931-32.*

the evils of the gold standard. Frequent devaluation would, of course, be very unsettling for business and banking and subversive of thrift, and would defeat its own ends. Devaluation must be regarded as a last resort and as the lesser of two evils. It can be justified only as a necessary adjustment after a major disturbance or disequilibrium in the economic structure, and the adjustment may be considered necessary primarily because of the modern standards of social welfare and the increased rigidity of the economic structure.

Managed Money. Managed money has come into favour largely as a result of the alleged defects of the gold standard. While the gold standard, as it functioned in the past, was not a perfect mechanism, it cannot be held responsible for the severe dislocations in the economic life of the world. In fact, it is surprising that the gold standard could function at all for a number of years in the atmosphere of the post-War period, with the huge burden of war debt, the increased economic nationalism with its numerous trade restrictions and prohibitions, the various schemes for the artificial limitation of output, the increased intervention and participation of Governments in business and finance, the large-scale movements of short-term funds, etc.

It has been said that the results of managed currency in recent years in such countries as Great Britain and Sweden prove that it can be successfully applied under modern conditions and should be extended in scope and application, but it must be borne in mind that the success has only been relative in time, place and degree and does not prove anything tangible. Managed money requires continuous and effective control of credit. The inherent difficulties in the way of credit control, which have already been referred to, may be overcome for short periods, but in the long run they will foil any big attempt at monetary management as such and will then tend to exaggerate the evils which it sought to cure. ¶

¶ Managed money, while it has its place in monetary and banking policy and should be applied during intervening periods when conditions are against the proper functioning of the gold standard, has its limitations in practice. As Burgess¹ said, "there is no magic in monetary

¹ *American Bankers' Association Journal*, August, 1936.

management which can absolve mankind from its political and economic sins.”

✓ *Gold Standard.* From the practical standpoint, which is, after all, the thing that matters, the great advantage of the gold standard, to use the words of A. H. Gibson,¹ is its being “an impersonal controller or ruler, courting no special favours or rates from electorates and preventing Governments and banking systems from violating sound principles of finance”; or, as the Bank of France² called it, “an impartial barometer of industrial and commercial activity, which alone can unmask economic illusions in time and signalise errors of direction, perhaps with brutality, but with efficacy”. In other words, the gold standard almost automatically imposes a large measure of discipline on the economic life of a nation and not only places less reliance on human judgment and discretion but also is less subject to political influence than a managed currency. It also has, as Gregory³ said, “certain psychological supports behind it, the value of which must not be underestimated”.

While the gold standard was not so automatic a mechanism in pre-War days as is commonly believed to-day, it was more automatic in its functioning in those days than would probably be feasible under the prevailing economic and political conditions in the world. It may be regarded as a deplorable state of affairs, but in the circumstances of a relatively closed and controlled economy such as we find in many important countries to-day, the gold standard, to be acceptable generally, would have to be more flexible and subject to a greater degree of management and personal discretion than was the case with the orthodox gold standard. In short, during the period of transition, it would probably have to be more of a “managed” than an “automatic” gold standard until such time as the international political and economic conditions permitted of the restoration of a more or less free gold standard.

Managing the gold standard would be like driving an automobile. Although literally automobile means self-moving, it requires a great deal of skill and discretion on

¹ *London Bankers' Magazine*, July, 1932.

² *Annual Report for 1931*.

³ *The Gold Standard and Its Future* (Third Edition), p. 162.

the part of the driver to be manipulated successfully under modern urban traffic conditions. But it provides a mechanism which will definitely react in a consistent and regular manner known beforehand to the skilled operator. Now and then it may require adjustment, which can be promptly effected by the skilled operator, and it is capable of being improved in efficiency and reliability as time goes on. Managing a paper currency, however, is like a teacher handling his pupils. They have whims of their own and may at times react quite differently from what the teacher considers correct and proper, and may even nullify entirely the good intentions of the teacher.

From the point of view of theory as well as practice the gold standard requires for its proper functioning over long periods a smaller amount of credit control than does a managed currency, and this is important since the control of credit by central banks has been shown to be limited in scope and degree. It is clear, however, that even under the gold standard, particularly in prevailing circumstances, central banks should seek to control credit to the extent that they can do so, whenever the economic interests of their respective countries can be bettered by means of such control.

Moreover, central banks should aim at being able to determine approximately the extent to which credit is responsible for a given situation at any time as compared with the operation of non-monetary factors, since the relation between the two is very important for the purpose of formulating the correct credit policy. Another factor of importance to central banks in connection with credit policy is to be able to determine the particular stage of the business cycle at any time, with a view to deciding not only when to act but what to do and how far to go.

Extent of Credit Control. The extent to which a central bank can control credit in any country is determined by, firstly, the stage of development of the local money market and the degree of interdependence and contact between the central bank and the money market; secondly, the proportion of commercial banks which are active members of the central banking system and their relative dependence upon the central bank for rediscounts or collateral loans; thirdly, the degree of co-operation between the central bank and the commercial banks; and fourthly, the moral

influence of the central bank not only over the banks but also over the other financial institutions, the money market, and the stock and commodity markets. The central bank, however, can do a great deal towards rendering the environment in its own country more favourable for its operations. For example, the central bank can assist in making the money market more elastic and efficient, and thus more responsive to its operations, or where there is no organised and active money market, as is the case in most of the younger countries and some of the older ones, the central bank can assist in the establishment and development of a money market. Moreover, the central bank should, by means of wise leadership, helpful attitude and high-principled action, endeavour to secure the active co-operation of the commercial banks and increase its moral influence over the financial and business community generally.

With its leadership of the banking system well established and willingly accepted and its actions and warnings heeded by financial and business institutions because by experience they have found it to be in their interest to do so, the central bank has more than half its battle won and may ordinarily perform its function of controlling credit in the national economic interest without resort to any coercive measures.

With regard to the control of credit under a gold standard system, it should not be directed merely towards maintaining stable exchange rates but also, as far as it is compatible therewith, towards reducing the fluctuations of the price level and business activity to a minimum, i.e. avoiding the extremes of inflation and deflation and of booms and slumps.

With this object in view a central bank should endeavour, as far as possible, to insulate the internal credit structure from the large inward and outward movements of short-term capital which have become a feature of post-War international finance, and also from temporary movements in the balance of payments on current account or on long-term capital account. The central bank should not follow an automatic policy, but only allow changes in the balance of payments to have their effect on the credit situation and the level of money rates and prices if it observes a definite trend resulting from some disequilibrium in the domestic economic structure or from some external

influence. Contrary to the views of several economists, changes in interest rates and commodity prices must be recognised as necessary instruments for restoring equilibrium, since they operate in various ways to correct wrong trends. In other words, the suggestion sometimes made that the internal credit structure should be permanently insulated from movements in the balance of payments would tend to exaggerate the wrong trends and aggravate the disequilibrium.

In recent years the operations of State exchange control organisations in Great Britain, the United States and France, and to a smaller extent in several other countries, have established further developments in the technique of control designed to insulate the internal credit structure from capital and gold movements. In Great Britain, for example, the effects of such movements on the credit situation are now offset, as a general rule, by the sale of an equivalent amount of Treasury bills when gold or exchange is purchased by the Exchange Equalisation Account, and by the purchase or redemption of Treasury bills in the case of an outflow of gold or a sale of exchange. In the United States a somewhat similar procedure was adopted for a short period through the medium of the Stabilisation and Inactive Gold Accounts operated by the Federal Treasury, which bought gold with the proceeds of Treasury bills and sterilised it for all practical purposes. The only important difference between the British and American procedures appeared to be that the latter,¹ during the initial period at any rate, was more automatic and rigid than the former. In April, 1938, however, it was decided, for reasons of monetary policy associated with the trade recession, to abolish the Inactive Gold Account and de-sterilise all the gold held by that account and amounting to \$1,182,975,000 at the time.

In connection with the establishment of these equalisation and stabilisation funds, it must be emphasised that they have contributed in no small measure towards modifying the significance of the operations of central banks and placing upon the Governmental authorities a considerable

¹ The automatic operation of the Inactive Gold Account was first disturbed in September, 1937, when an amount of \$300,000,000 in gold was transferred from the Account to the Federal Reserve System in the form of an issue of gold certificates to the Federal Reserve Banks, the latter crediting the Treasury accounts with the proceeds thereof.

and perhaps major responsibility for the determination and execution of monetary policies.

It has been suggested in certain quarters that, for the purpose of credit and exchange control, the stabilisation funds might well be retained even in the event of the restoration of the international gold standard. In their present form, however, their continuation would be inadvisable inasmuch as it would involve division of responsibility between the central bank and the exchange organisation controlled by the Treasury.

Under the gold standard the central bank is charged with the duty and responsibility of maintaining the currency of its country at a certain exchange parity with other countries, and the stabilisation fund might offset a gold or capital movement which in the opinion of the central bank should have been allowed to have its effect on the internal credit situation. There might be some justification for retaining the stabilisation funds in the form of separate accounts, since under such conditions as now prevail in Great Britain and the United States the operations for offsetting gold and capital movements might involve expenses which could or should not always be borne by the central banks, particularly those that are not State banks. To centralise responsibility, however, such accounts should be under the sole management and control of the central bank, as is the case with the Exchange Stabilisation Account operated and controlled by the South African Reserve Bank for the benefit or loss of the Union Government.

Another instrument of control which may be more widely adopted and further developed to strengthen the technique of central banking control is that of giving the central bank the power to increase or decrease the minimum reserves to be kept with the central bank by the commercial banks. This power was recently granted to the Federal Reserve System of the United States and the Reserve Bank of New Zealand. The former has already had occasion to make the maximum use of its power, namely, that of doubling the old-established minimum reserves and thereby removing the bulk of the enormous potential credit-creating capacity of the commercial banks in the United States based on their previous balances with the Federal Reserve Banks.

It was stated previously that under the prevailing political and economic conditions a greater degree of flexibility in the working of the gold standard would have to be assured before certain countries would apparently consider the restoration of the gold standard. The substantial increase in the current and prospective production of gold, however, should serve as an important factor in facilitating the attainment of the increased flexibility likely to be demanded from the new gold standard.

Co-operation between Great Britain and the United States. The duty of combining a policy of trying to minimise fluctuations in the price level and business activity with that of maintaining stable exchange rates should, of course, devolve mainly on Great Britain and the United States, whose central banks and money markets dominate world finance and the results of whose actions would be transmitted through the gold standard to other parts of the world. Prior to the Great War Great Britain alone held this dominating position.

It has been suggested that the Bank for International Settlements should be enabled to become a real central bank of central banks and control the working of an international gold standard, but if this were to be in any way effective it would involve the subordination of the monetary sovereignty of individual nations to that of the Bank for International Settlements, which it would be idle to expect in the present state of intense national consciousness. Nor can one visualise any development which would enable the Bank for International Settlements to even approximate the attainment of that position, although there is scope for the expansion of its present useful functions.

Close co-operation between Great Britain and the United States in matters of monetary policy and credit control would, therefore, be essential in future to the successful working of an international gold standard, and the success of the gold standard would depend largely on the degree in which they can harmonise monetary management with fixed exchange rates.

CHAPTER IX
DISCOUNT-RATE POLICY OF
CENTRAL BANKS

PRIOR to the Great War the discount rate was employed by central banks as their principal instrument of credit control. Other methods were used at various times, but usually in conjunction with the discount rate and as subsidiary or complementary weapons. Since that time, however, the importance of the discount rate as an element of credit policy has declined relatively to other methods of credit control.

Evolution of Discount-Rate Policy. The discount rate of the Bank of England (called Bank rate) was first used as an instrument of credit policy in 1839.

Prior to that date Bank rate was either 4 or 5 per cent. When the market rate of discount tended downwards, the practice of the Bank was not to follow it below 4 per cent., although the result was that it did not get any bills for discount until the market rate returned to 4 per cent. The absence of the Bank's competition for discounts under these conditions had the effect of checking the downward trend of the market rate and reducing the fluctuations of discount rates. On the other hand, Bank rate could not exceed 5 per cent. owing to the operation of the usury law, which was, however, relaxed in 1833 to the extent of exempting bills of exchange of up to three months from the legal restriction, followed a few years later by extending the exemption to bills of any currency.

When the Bank was still prohibited by the usury law from raising its rate beyond the maximum of 5 per cent., it had to adopt other methods of restricting the demands for accommodation made upon it in order to protect its gold reserve and maintain the exchange value of the currency. These other methods were the rationing of credit by limiting the amount available to each applicant and the shortening of the currency of bills eligible for discount. Both these methods invariably elicited severe protests.

In 1839 Bank rate was raised first to $5\frac{1}{2}$ per cent. and soon after to 6 per cent. This method of control was,

however, not solely relied upon on this occasion, as it was accompanied by a reduction in the eligible currency for bills from 95 to 30 days for a brief period. In the following year the policy of shortening the eligible currency was again employed, but as an alternative and not an addition to an increase in Bank rate.¹

It was not until after the Bank Act of 1844 was brought into operation that the Bank came to rely upon changes in the Bank rate rather than upon changes in the eligibility of bills accepted for discount or any other means as its primary instrument of credit control. Moreover, it was decided to abandon rationing of credit as a possible method of credit restriction in times of monetary stringency. The Bank was gradually developing in the direction of accepting the position of being the "lender of last resort", and such methods as credit rationing and shortening the currency of eligible bills in a crisis were clearly difficult to reconcile with the duty and responsibility of the "lender of last resort".

The crisis of 1847 furnished the first real test for the employment of Bank-rate policy as a weapon of defence. Bank rate was raised to 8 per cent. in that year. "The high Bank rate was", as Hawtrey² said, "intended to substitute a natural deterrent for the arbitrary limitation of discounts upon which the Bank had been relying", and "was indispensable for reconciling the function of the Bank as lender of last resort with its responsibility for maintaining the gold standard."

Two lessons were learnt by the Bank from the crisis of 1847. The one was that it should not wait too long before applying a restrictive credit policy, since the trend of credit expansion and speculation could not easily be reversed after it had gained sufficient momentum, particularly if it had been stimulated by a period of cheap money. Towards the end of 1844 the Bank had departed from its former practice of refusing to follow the market rate below 4 per cent. and had reduced its rate from 4 to 2½ per cent. After fluctuating between 2½ and 3½ per cent. up to January, 1847, and contributing towards the maintenance of easy-money conditions and the abuse of credit, it was raised in order to contract credit, but it "did not

¹ King: *History of London Discount Market*, pp. 68 and 80-2.

² *Art of Central Banking*, p. 139.

reach 5 per cent. till April, 1847, when symptoms of crisis were already apparent, and was no more than $5\frac{1}{2}$ per cent.¹ when the storm broke in October.”² The higher rates were introduced too late to be immediately effective. A panic was developing and brought about such a heavy demand for accommodation from the Bank and such a severe drain on its reserves that the Government intervened and undertook to introduce legislation indemnifying the Bank for breaking that part of the Bank Act which required all notes issued by the Bank above the fixed fiduciary limit to be covered by gold. This was done by the Government in order to enable and encourage the Bank to meet the requirements of the public by its discounts and advances upon approved security, subject to the Bank rate not being less than 8 per cent.

The second lesson was that a financial panic could easily be brought about by a fear of inability to obtain the required accommodation and that it could be promptly allayed by the assurance that all requirements would be met at a rate. In 1847 the Bank did not actually find it necessary to avail itself of the authority to increase its fiduciary note issue beyond the limit imposed by the Bank Act. With the announcement of the suspension of the Bank Act the panic subsided.

The crises of 1857 and 1866 showed, however, that full advantage had not yet been taken of the lessons of the crisis of 1847. The Bank was quick to raise its rate when there was an outflow of gold, but it still proved to be tardy in using the Bank rate for checking any tendency towards undue credit expansion and speculation. In other words, it responded promptly to external drains but not to internal drains. It was inclined to wait until the reserve in its banking department was too small to meet a critical situation.

In 1857 and 1866 it was again found necessary to resort to the suspension of the Bank Act. In the former year the Bank actually had to use the authority to increase its fiduciary issue beyond the limit laid down by the Bank Act. In 1866, as in 1847, the mere fact that money would

¹ The rate of $5\frac{1}{2}$ per cent. was, however, a minimum rate applying only to very short-dated bills of exchange, and higher rates were charged on bills of longer currency, while the Bank refused to make any advances on stocks or Exchequer bills. (King, *op. cit.*, p. 144.)

² Hawtrey, *op. cit.*, p. 139.

be available if required appeared to be sufficient to relieve the tension. Whereas in 1847 and 1857 the Government had taken the initiative in suspending the Bank Act, in the crisis of 1866 the Bank took the initiative and assumed the responsibility of lending freely. In 1857 and 1866 the Government insisted on Bank rate being maintained at 10 per cent. until the need for the suspension of the Bank Act had disappeared.

These crises demonstrated clearly the extent to which the position of the Bank could be affected by speculation and undue expansion of credit, and, accordingly, the need for taking steps in good time to protect its reserve. The use of Bank rate as the principal instrument of credit control was now firmly established. Moreover, the Bank accepted the principle that, while it should do everything in its power to restrain the expansion of credit in times of intense business activity and speculation, it should not attempt to call in loans or restrict credit directly in times of stringency, as it had done on various occasions up to 1847. On the contrary, it should be prepared to lend freely in order to relieve the temporary strain, but at higher rates with a view to confining the demands for accommodation as far as possible to those which were most urgent and necessary and reducing the ultimate demand for credit.

In the meantime important changes had taken place in the nature of the Bank rate. Prior to 1844 it had been not only relatively stable, varying only from 4 to 5 per cent., but also uniform in the sense that all bills which were deemed acceptable had been discounted at the same rate, irrespective of their currency and quality. Since 1844 an elastic credit policy was adopted, the rate varying from $2\frac{1}{2}$ per cent. in 1844-5 to 10 per cent. in 1857 and 1866, and in 1845 the practice of the minimum rate was introduced. In that year it was announced by the Bank that the published rate would be applicable only to first-class bills¹ of a given maximum currency (95 days at that time), while in the case of other bills the rate would vary with their currency and their quality. This variation of the rate would not, as a rule, be in accordance with any fixed scale, but would be subject to the discretion of the

¹ Bearing at least two good names, one of which had to be a London acceptor.

Bank and would depend upon circumstances. For example, in one week in 1847 the range of rates at which bills were taken was actually from $5\frac{1}{4}$ per cent. (for very short bills) to $9\frac{1}{2}$ per cent.¹ The principles of an elastic or fluctuating Bank rate and a variable or differential rate, with a published minimum, were maintained throughout and are still accepted as part and parcel of Bank-rate policy.

Other features of the Bank rate which came to be firmly established during the nineteenth century were that it should normally be above the market rate, since the Bank was the ultimate source of credit to be exploited only when all outside sources had been tapped and since the Bank rate, therefore, served the purpose of a penalising rate; and that while the Bank rate might lead the market rate upwards either as a general warning or for the specific purpose of credit contraction, it should ordinarily be content with following the market rate downwards.

The Bank's policy of normally fixing Bank rate above the market rate meant in practice that the Bank did not get much discount business except in emergencies, and also that its own customers had a legitimate grievance. Accordingly, in 1878 the Bank announced that it would no longer consider itself bound to adhere to its published rate when discounting for its own exclusive customers, but would discount for them at or near market rate. This was not, however, tantamount to a revival of competition, as the Bank's customers were limited in number.

In a sense, it was even designed to avoid competition [as King¹ said], for unless the Bank were to relinquish discount business entirely, it could not continue to charge rates often far removed from the market charge; and the alternative to quoting different rates for customers would have been to make Bank rate—the public rate—a competitive quotation.

At the same time it was understood by the discount market that it could rely upon the Bank for accommodation not only in times of crisis, but also on any occasion of temporary stringency or strain.

The Bank's position as the central institution of the British financial structure was now firmly established and its functions of leadership and regulation of the money market were more generally understood and recognised.

¹ King, *op. cit.*, p. 110.

² *Ibid.* p. 295.

The crises of 1847, 1857 and 1866 had afforded the Bank valuable opportunities for acquiring the rudiments of a technique of credit control. After the crisis of 1866 there was no occasion on which it was found necessary to resort to the suspension of the Bank Act until the outbreak of the Great War in 1914.

In 1873 the Bank had to face a difficult position, which it handled promptly and successfully, with Bank rate maintained at 8 and 9 per cent. for several weeks. The following occasion was in 1890, when, as the result of widespread and excessive speculation in foreign securities which led to the failure of Baring Brothers, a serious emergency was created. The Bank had already raised its rate to 6 per cent., but realising the potential repercussions of such a failure in the light of its previous experiences with failures and panics, it undertook, in co-operation with other English banks and financial houses, to guarantee the payment at maturity of all obligations of the failing house. By these means the Bank succeeded in allaying public alarm and averting a general panic. In the crisis of 1907, which was brought about by the financial panic in the United States and showed the vulnerability of London as an international financial centre with a free gold market, Bank rate was raised from $4\frac{1}{2}$ to 7 per cent. within ten days and proved to be effective in meeting the emergency situation and restoring equilibrium within a relatively short period.

During the pre-War period the Bank resorted to various other methods in the performance of its regulatory functions, such as borrowing from the London market, raising its buying and selling prices for gold within certain limits, and arranging for or accepting credits from France and Russia. In general, however, Bank rate was relied upon as the main instrument of regulation.

Influence on Other Pre-War Central Banks. The experience of the Bank of England with its discount-rate policy, and the theory underlying it, were widely discussed in the other countries of Europe about the middle of the nineteenth century.

In 1857 the Bank of France was enabled and encouraged, through its exemption from the usury laws, to adopt the Bank of England practice of raising the rate of discount for the purpose of stopping a drain on its specie reserve,

but provision was made that its earnings from discounts above 6 per cent. were to be allocated to a special fund.¹ Others followed suit, and in due course the use of the discount rate as an instrument of control became general, but nowhere was it employed to such an extent and with such frequency as by the Bank of England.

The Bank of France, for example, followed a policy of making a minimum of changes in the discount rate and keeping such changes within a relatively narrow range. According to Palgrave² the Bank of England changed its rate 400 times between 1844 and 1900, as compared with only 111 times in the case of the Bank of France. Moreover, in times of emergency the latter did not raise its rate as high as the former usually did. In the crisis of 1907 the Bank of France raised its rate from 3 to 4 per cent., while the Bank of England advanced its rate from $4\frac{1}{2}$ to 7 per cent. within a week. In 1866 the range of fluctuation was between $3\frac{1}{2}$ and 10 per cent., and in 1873 between 3 and 9 per cent.

In general, the Bank of England stood at the one end, with the greatest frequency and the widest range of changes in rates of discount, and the Bank of France stood at the other end, with the smallest frequency and the narrowest range.³ In between these two came the Reichsbank, Netherlands Bank, Riksbank of Sweden, National Bank of Belgium, etc., with varying degrees of frequency and range.

In Great Britain the relative uniformity of the discount rate of the Bank of France was frequently held up as an example to be followed by the Bank of England, whose frequent rate changes and high rates in crises and emergencies were represented as being highly detrimental and prejudicial to British trade and industry. This controversy raged as far back as 1839, when Hume brought the matter up in the House of Commons. Tooke⁴ defended the Bank of England in 1840 by saying that, while "the currency of France consists, in a very large proportion, of the metals, and its foreign commerce forms a very small

¹ Since 1897 one-quarter of the profits arising from raising the discount rate above 5 per cent. is to be credited to the reserve fund of the Bank, while the remainder is to be paid to the Government.

² *Bank Rate and the Money Market*, p. 151.

³ This relative position remained approximately the same till recent years.

⁴ *History of Prices*, Vol. III, pp. 135-9.

proportion of the transactions in which that currency is employed", the position was very different in England "where the metallic part of the currency is so much smaller, and the commerce so much larger"; and that, therefore, it was probably a "comparatively easy matter for the Bank of France to collect and retain a larger amount of bullion in proportion to its securities". He held that, as something had to give way in order to correct a situation or reverse a trend, the only alternatives to a high Bank rate under certain conditions were to ration credit or to shorten the currency of eligible bills, as was done by the Bank of France at the time and by the Bank of England prior to that date; and that these alternatives were more prejudicial to trade and industry than a high rate accompanied by the assurance that at that rate almost unlimited accommodation could be obtained.

In 1877 the Bank of France adopted the policy, which was subsequently adhered to, of charging a premium on gold when it was called upon to deliver gold in redemption of its notes or deposits. As Conant¹ said,

this means of protecting its gold reserve has been treated by the bank in some measure as a substitute for raising the rate of discount in a monetary pressure, and while it protects the gold of the bank it has none of the advantages upon the money market which follow the different policy of the Bank of England.

Dunbar² pointed out that the consequence of the gold premium policy, in depriving Paris of the place which it would otherwise have occupied among the international money markets, was recognised in France, but it was regarded as

not too high a price to pay when account is taken of the benefit of the low stable rates to the large number of small-scale producers and dealers which is still a characteristic feature of French economic organisation.

He also held that in such countries as Great Britain and Germany "the French policy of a low stable discount rate could hardly have been adopted with safety owing to the spirit of active enterprise which pervades the business community", in contrast to France "with its stationary,

¹ *History of Modern Banks of Issue* (Fifth Edition), p. 65.

² *Theory and History of Banking*, p. 192.

thrifty and, generally speaking, financially conservative population”.

The Reichsbank followed the fluctuating rate policy of the Bank of England, with high rates at times, rather than the relatively uniform rate policy of the Bank of France. According to Loubet,¹ the Reichsbank changed its discount rate 84 times between 1875 and 1900 compared with 167 in the case of the Bank of England and 25 in that of the Bank of France. Moreover, its rate was as high as 9 per cent. in 1866, 8 per cent. in 1870, and 7½ per cent. in 1907.

Reasons for Frequency of Changes in Bank of England Rate. The main reasons for the record frequency of changes in the rate of the Bank of England may be briefly summarised as follows.

In the first place, London had developed into the world's financial centre, with a free gold market and a well-developed discount market, discounting and accepting bills drawn in any part of the world on any other part of the world and affording opportunities for the investment of short-term foreign capital. Under these conditions the Bank of England as the central institution was rendered highly vulnerable and sensitive to complications and disturbances anywhere in the world. It was subject to large and sudden demands for accommodation and gold for export owing to the withdrawal of foreign balances or for other reasons. The general opinion in England, however, was that the advantages derived from London's position as the world's financial centre and a free gold market far outweighed the disadvantages connected therewith.

Secondly, the gold reserve of the Bank of England was, till recent years, relatively small in comparison with the size of the British credit structure and the huge volume of business and financial transactions conducted through London. Throughout the nineteenth century references were frequently made to the inadequacy of the Bank's gold reserve as one of the principal reasons why the Bank had to change its rate so frequently and to maintain such high rates at certain times. The magnitude of the gold reserve of the Bank of France was held up by many as the

¹ *La Banque de France et l'Escompte*, Appendix E (quoted by Andréadès, p. 315).

main factor responsible for the relative uniformity of its rate and its lack of sensitivity to external factors. At the end of the nineteenth and the beginning of the twentieth century the Bank of England did make serious efforts to increase its gold reserve substantially and succeeded in doing so, but at the same time the volume of business and financial transactions and the size of the British credit structure had grown to such an extent that the gold reserve remained proportionally small.

Thirdly, foreign trade played a relatively important part in the economy of Great Britain, and the investment of British capital in other countries became a factor of great significance in world economy. The spread of British rule and influence over a large portion of the globe, the active spirit of British business enterprise, and the profitable opportunities for such enterprise in large undeveloped and semi-developed areas in various parts of the world exercised a constant drain on the capital and banking resources of Great Britain, resulting in a periodical tendency towards over-investment, over-expansion of production and trade, and over-speculation which could only be checked effectively by drastic advances in the Bank rate.

Theory Underlying Discount-Rate Policy. The theory underlying the use of the discount-rate policy as the principal instrument of credit control in pre-War years was, briefly, that changes in the discount rate of the central bank would tend to bring about more or less corresponding changes in local money rates generally, and that these changes in money rates would, through their operation on the supply of and demand for money and on the flow of foreign short-term capital, tend to have the effect of readjusting the domestic levels of prices, costs, production and trade, and correcting any disequilibrium in the balance of payments whether on current or on capital account.

The theory was adapted in particular to the gold-standard system, under which the movement of exchange rates to the gold-export point and the outflow of gold were the first tangible signs of an adverse balance of payments, whether caused by excessive outflow of capital or excessive importation of merchandise; and conversely the movement of exchange rates to the gold-import point and the inflow of gold were the first tangible signs of a

favourable balance of payments, whether caused by heavy receipts on current or capital account.

A definite trend in the outflow of gold from any country would indicate lack of equilibrium in its economy, and it would aggravate the ultimate difficulties if allowed to continue unchecked. This disequilibrium would ordinarily be reflected in either (1) maladjustment between imports and exports of merchandise whether caused by relatively high domestic costs of production discouraging exports and encouraging imports, or by a tendency towards heavy buying and stocking of imported goods owing to the increasing domestic demand, or (2) excessive outflow of capital due to over-investment in foreign countries or withdrawal of foreign balances or flight of capital caused by fears regarding the currency and other factors or, in the case of some debtor countries, cessation of the inflow of new capital; and in the case of almost all these phenomena varying degrees of speculation would prevail.

Whatever the nature of such disequilibrium, the most prompt and effective corrective was found by pre-War experience to be a substantial rise in money rates and contraction of credit, with the following results: liquidation of commodities and securities, contraction of domestic demand, decline in investment and speculative activity, lower prices, lower wages, etc. This course of events in the country concerned would normally have the effect of encouraging exports and discouraging imports, while the higher money rates would tend directly to attract foreign capital and to discourage the withdrawal of foreign balances or the remittance of foreign bills to that country for discount. In due course, the period of time depending upon various circumstances, the operation of these factors would restore equilibrium. If the corrective measures were maintained long enough, they would not only stop the outflow of gold but even reverse the flow and bring about recovery of the gold lost, which would in turn relieve the credit stringency, reduce money rates, and revive general business activity.

On the other hand, a continued inflow of gold of large dimensions would tend to sow the seeds of disequilibrium through its operation on the credit structure of the receiving country. It would have the effect of cheapening money and encouraging the further expansion of credit, trade,

production, investment and speculation, which would in turn tend to raise the domestic level of prices¹ and costs and to encourage imports and discourage exports or to encourage investment in foreign countries, until an adverse balance of payments was established and gold began to flow out again.

For its successful application, therefore, the theory underlying the discount-rate policy required, firstly, that the discount rate of the central bank should have a prompt and decisive influence on money rates and credit conditions within its area of operation, particularly when it was desired to raise money rates and contract credit, and secondly, that there should be a substantial measure of elasticity in the economic structure in order that prices, wages, rents, production and trade might respond to changes in money rates and credit conditions.

Relationship between Official Discount Rate and Money Rates. A close relationship between the trend of the official discount rate (i.e. of the central bank) and that of money rates generally could be established as the result of an active and well-organised money market working on narrow margin and depending upon the central bank for accommodation in every stringency, or of traditional conventions and general recognition of the leadership of the central bank.

In Great Britain, particularly in pre-War days, both these factors operated to make Bank rate effective, although in general discussion much more stress was laid on the former than on the latter factor. The Bank of England was generally described as the regulator and controller of the London money market, where operations were conducted on such a scale and organised so finely that dealers and brokers were "forced" into the Bank with every appreciable change in credit conditions, whether originating from the side of supply or demand. The Bank was always ready to grant the necessary accommodation to the market, even in cases of acute stringency. If, however, it considered that the demand for accommodation arose not from a temporary seasonal emergency but from

¹ In particular the prices of goods and services produced by sheltered industries or by protected industries which, owing to internal competition, would not quote prices equal to landed costs of similar imported goods except in times of intense business activity.

some disequilibrium in the economic structure, whether caused by internal or external forces, it would raise its rate much or little, or for a second and third time in quick succession, depending upon its interpretation of the extent of the disequilibrium and upon the reaction of the money market and, perhaps, other markets or other countries. As in the case of other prices, the marginal theory applied to the discount rate under such circumstances, Bank rate for the marginal discounts determining the rate for discounts as a whole.

As previously mentioned, Bank rate was usually higher than the market rate of discount in London and somewhat in the nature of a penalising rate, the Bank of England being the supplier of credit resorted to only after all outside sources had been tapped; but as soon as a credit strain developed and the market had to seek accommodation from the Bank, the market rate of discount was forced up to the level of the Bank rate or above it. Bank rate was a minimum rate of discount, applicable only to first-class bills of a given maximum currency before maturity, while in the case of other bills the rate depended upon their currency and their quality and was subject to the discretion of the bank. Moreover, the rate charged by the Bank for short-term collateral advances to the market was $\frac{1}{2}$ per cent. above Bank rate.

While the relationship between Bank rate and the market rate of discount was determined primarily by money-market conditions and the degree of control and influence which the Bank had over the market under such conditions, that between Bank rate and other money rates was based largely on traditional conventions and recognition of the leadership of the Bank. In accordance with traditional conventions the clearing banks in London followed the practice of providing for an agreed margin between Bank rate and the rate of interest which they paid for deposits subject to seven days' notice. Prior to the War the banks usually fixed their deposit rate at $1\frac{1}{2}$ per cent. below Bank rate.¹ The call rate in turn was usually fixed at $\frac{1}{2}$ per cent. above the deposit rate, as the banks required some margin of profit for themselves between the

¹ In 1921, in order to compensate the banks for the great increase in overhead expenses and salaries, the margin was widened to 2 per cent. See Whitmore's *Money Machine*, p. 45.

rate paid on deposits and that charged by them on their call loans to the market. With regard to the rate charged by the banks on advances to their customers a margin of 1 per cent. above Bank rate was ordinarily maintained, subject to a minimum of 5 per cent.

These conventions were not of the nature of hard-and-fast rules which had to be rigidly adhered to under all circumstances. There were occasions on which deviations from the conventional practice took place, but in general there definitely prevailed a strong tendency to observe the traditional relationships between Bank rate and the rates quoted by the clearing banks for deposits, call loans and advances; and as the call loans from the banks to the discount market usually represented the greater part of the funds employed by the latter, the call rate had some influence on the market rate of discount.

In short, as a result of the constitution of the London money market and the narrow margin on which it had to work in pre-War days, the Bank of England was placed in a position, by means of its use of the discount-rate policy as an instrument of credit control and with the aid of traditional conventions, to fulfil its function as the regulator of the money market and the controller of credit with a substantial measure of success. At various times prior to the War, owing to large foreign balances or for other reasons, the money market was in a highly liquid state, and the Bank had to resort to some form of open-market operations in order to withdraw funds from the market and make its rate effective, but these operations were employed as a subsidiary or complementary weapon and the main reliance was placed on Bank-rate policy.

Moreover, prior to the Great War the economic structure of Great Britain had an appreciable degree of elasticity which permitted of prices, wages, rents, production and trade responding within certain limits to changes in money rates and credit conditions; and, in addition, London was unquestionably the world's clearing house and had the only real international money market, as a result of which the monetary conditions of Great Britain and the results of the operations of the Bank of England were, through the international gold standard, ultimately transmitted to practically all other parts of the world.

The various relationships between the official discount

rate and money rates generally in London did not prevail elsewhere, as the monetary and banking conditions outlined above were peculiar to that centre. In those countries which had central banks before the War the discount rate was used as an instrument of control, and it was, in varying degrees, part of their policy to take an active part in rendering the monetary and banking conditions in their respective countries more responsive to changes in the discount rate. In general, however, their discount-rate policy did not prove as effective a weapon as in the case of the Bank of England.

In the first place, none of the other countries had an active and well-organised money market. There was, for example, no real discount market. The commercial banks discounted bills for their own customers and the central bank rediscounted bills for the commercial banks, besides discounting for its own customers, as was particularly the case with the Bank of France and the Bank of Italy. The export bills of these countries were frequently remitted for acceptance and discount in the London market instead of being taken to the local banks for discount, owing to the cheaper and better facilities obtainable in London, except, of course, in times of credit stringency there. The rates of these central banks could be made effective whenever the commercial banks within their areas of operation were forced by circumstances to rediscount with them. Changes in money rates in their countries, however, did not usually have such prompt effects as in Great Britain, since the international nature and organisation of the London market were effective in attracting foreign capital and discouraging the discounting of foreign bills in London during periods of high rates, and conversely, in discouraging the inflow of foreign capital and encouraging the withdrawal of foreign balances and the discounting of foreign bills in London during periods of low rates. Another factor in this connection was the greater elasticity of the British economic structure.

Secondly, while certain conventions in respect of interest rates were in vogue in some of those countries, they were not so pronounced or semi-automatic as in Great Britain. Nor was the psychological reaction on the part of trade, industry and the public such an important factor as in Great Britain.

Thirdly, in the case of the other central banks there was

less necessity than in that of the Bank of England for the use of the discount rate as a means of protecting their gold reserves, for the reasons that relative to the volume and velocity of the business and financial transactions of their countries and to the degree of vulnerability of their international position they had larger reserves, and that many of them had other means of protecting their gold reserves. The central banks of Germany, Holland, Belgium and Denmark, for example, followed a policy of holding foreign exchange as their first line of defence of exchange rates. Writing about the Netherlands Bank, de Jong¹ said that "the effect of the foreign bill policy in stabilising the Bank rate cannot, of course, be expressed in exact figures", but

by way of illustration it may be mentioned . . . that, whereas the official discount rates of the Bank of England and the German Reichsbank had been altered during the years 1894 to 1913 (inclusive) 90 times and 73 times respectively, the Netherlands Bank's discount rate for bills had been changed only 36 times in the same period.

The Bank of France, on the other hand, adopted the practice of charging a premium on gold when it was called upon to redeem its notes or deposits in gold.

Position of Federal Reserve Banks. When the Federal Reserve Banks commenced operations in 1914, they tended strongly towards the adoption of the Bank of England's technique of credit control, namely: extensive use of discount-rate policy, with the aid of open-market operations when necessary for the purpose of making their rates effective; encouragement of an active money market, including a free and well-organised discount market on the lines of the London market, which would be responsive to changes in credit conditions and in official discount rates; and adoption of the gold-reserve ratio as the principal guide to discount-rate policy.

Realising its importance as a basic factor in the technique of credit control in a major country, the Federal Reserve Banks took an active part in promoting the establishment of a well-developed money market in New York, with four different sections: the market for bankers' acceptances; the market for commercial paper (i.e. promissory

¹ Willis and Beckhart: *Foreign Banking Systems*, p. 744.

notes which constituted the principal medium for the financing of domestic commercial transactions); the market for short-term Government securities; and the call loan market. They were particularly interested in the development of the markets for bankers' acceptances and short-term Government securities and rendered this possible by declaring themselves ready at all times to buy such acceptances and securities from any bank, discount house, bill dealer and broker, and by quoting favourable rates for such paper. The development of an active money market as a field for central bank policy was particularly important for such a country as the United States with its rich natural resources of great variety, its large population, its wide scope for enterprise and speculative activity, and its thousands of independent unit banks. In due course subsidiary money markets were established in some of the other Federal Reserve Bank centres, such as Chicago, Boston and San Francisco, while that of New York developed into an international money market of great importance, representing a good second to the London market and exerting at times a profound influence on the latter.

A different relationship between official discount rate and other money rates was, however, set up in New York as compared with London, due mainly to different conditions. In Great Britain the banks did not directly approach the Bank of England for accommodation, but called up their loans to discount houses and bill brokers, who were then forced to sell bills to the Bank or borrow from it whereas in the United States the member banks dealt directly with their Reserve Banks. Moreover, in Great Britain the discount rate of the Bank of England was a minimum rate and applied only to first-class bills, equivalent in general to bankers' acceptances in the United States, whereas in the latter the discount rate¹ of a Federal Reserve Bank applied to the promissory notes of bank customers

¹ Apart from the discount rate the Federal Reserve Banks quoted a buying rate for bankers' acceptances dealt with in the open market, and this rate was naturally lower than the discount rate and frequently as low as the market rate for the purpose of assisting and maintaining a bill market. In recent years the Federal Reserve Banks have also quoted rates, with various margins above the discount rate, for advances to member banks against security other than eligible paper or Government securities, or for industrial advances or for advances to the public against Government securities.

endorsed by the borrowing member banks or to the short-term collateral notes¹ of the member banks themselves. Thus while the discount rate of a Federal Reserve Bank was, as that of the Bank of England, above the market rate of discount for bankers' acceptances, it was not as a general rule above the market rate for commercial paper (i.e. promissory notes dealt with in the open market).

Burgess,² however, pointed out that the commercial paper which a member bank brought to a Reserve Bank for rediscount was different from open-market commercial paper, since it had a bank endorsement, carrying with it the assumption by the member bank of the risk of non-payment. From his outline one was encouraged to conclude that, if due allowance were made for the value of the bank endorsement on such commercial paper, the discount rates of the Reserve Banks could not be regarded as having been below the market value of the paper discounted, and that, therefore, the American central banking practice was not far removed from the British axiom that Bank rate should ordinarily be above the market rate of discount. Burgess admitted, on the other hand, that "it is a fair question whether a slightly higher discount rate—more in the nature of a penalty rate—might not have been better", since "access to the Reserve Banks may have been a little too easy."

In general, there was a fairly close correlation between the trends of the discount rate of the Federal Reserve Bank of New York and the open-market rates for commercial paper and bankers' bills, the discount rate moving, as Burgess said, "within a ribbon whose borders are the commercial paper rate and the bill rate". As in London, the rate for short Treasury obligations in New York was usually lower than that for bankers' bills.

With regard to the rates charged for call loans or for the accommodation extended by member banks to their ordinary customers or the rates paid for deposits, there was no fixed practice and there were no conventional relationships of the types prevailing in Great Britain. Moreover, the call rate in New York was an entirely different phenomenon from that in London. While in the

¹ Based on eligible paper or Government securities.

² *Reserve Banks and the Money Market*, Revised Edition (Harper), pp. 225-7.

latter it was applied primarily to loans from banks to the discount market and was, for obvious reasons, usually between the bank deposit rate and the market discount rate, in the former it was related principally to loans from banks to the Stock Exchange, whether for their own account or "for account of others", and was for that reason not always closely associated with other money rates, as it depended largely on the volume of speculative activity on the Stock Exchange.

As their principal guide to discount-rate policy the Federal Reserve Banks decided to adopt the gold-reserve ratio, as the Bank of England had regularly done. In due course, however, a continuous inflow of gold of large dimensions arising out of the abnormal conditions in the world during the War and post-War periods rendered the reserve ratio unsuitable as the principal guide to the credit policy of the Federal Reserve System, which then had to rely on a general survey of the economic situation and continuous observation of certain special factors which were found by experience to have a strong bearing on credit conditions and policies.

During the period of American participation in the War and for some time after the War the discount-rate policy of the Federal Reserve System was made to conform to the needs of the State, as was the case with the central banks of all countries involved directly or indirectly in the War. The Federal Reserve System was called upon to make large advances to member banks against their promissory notes covered by Government securities, and the expansion of Federal Reserve credit was even facilitated by making such advances against Government securities at interest rates equal to or lower than those carried by the securities themselves. In 1920 a policy of deflation was adopted, and the Federal Reserve Banks were soon restored to a more or less normal position and practically free from the domination of Government finance.

After 1920 the Federal Reserve Banks had a good deal of experience with discount-rate policy, but the general consensus of opinion both in and outside the United States was that their discount rates proved as a general rule to be a far less effective weapon than the rate of the Bank of England. This deficiency could be attributed to various factors, such as the absence of conventional

relationships between the official discount rate and certain money rates, the existence of surplus gold reserves during the greater part of their career, the wide scope and strong inclination for speculative activity in the United States, and the lack of independence on the part of Federal Reserve Banks in the matter of fixing discount rates.

Changes in discount rates of the Federal Reserve Banks were always subject to the sanction of the Federal Reserve Board, which was recently reconstituted as the Board of Governors of the Federal Reserve System. On various occasions the Board declined to sanction increases in discount rates proposed by Federal Reserve Banks. Between 14 February and 23 May, 1929, according to the testimony of the Governor of the Federal Reserve Bank of New York before the Glass Subcommittee of the United States Senate in 1932, that Bank had unsuccessfully approached the Board no less than ten times for approval of proposed increases in discount rates.¹ It is difficult, however, to estimate to what extent the discount-rate policy of the Federal Reserve Bank of New York would have achieved greater success if it had been entirely free to fix its rates as it thought fit.

Another factor which has been enumerated as having militated against the effectiveness of discount-rate policy in the United States is the absence of the Bank of England practice of a penal rate of discount. According to Beckhart² "the consensus of opinion among students of the subject here [United States] or abroad is that the Bank rate should rule higher than the market on each of the several types of paper discounted by the system"; and according to Gregory³

an important section of American opinion holds that the rate charged by the Reserve Banks should be a penal rate: that, in other words,

¹ Burgess also referred to this matter, saying that "just as in 1919 there had been a difference of opinion between the Reserve Banks and the Treasury as to discount-rate policy, so early in 1929 there was a difference of opinion between the Reserve Banks and the Washington Board", and that "with this difference of view, fully effective action was not taken promptly enough"; *op. cit.*, p. 283. The Board had favoured the taking of "direct action" by the Reserve Banks against those banks which had made or were making heavy loans against Stock Exchange securities, rather than the raising of the discount rate which would have tended to make money dear for trade and industry as well as the Stock Exchange.

² *Discount Policy of the Federal Reserve System*, p. 510.

³ *Gold, Unemployment and Capitalism*, pp. 135 and 137.

the rate should be kept above the rates ruling, not only in the open market, but also above the rates ruling at the commercial banks for "over-the-counter" discounts.

Gregory's own conclusion is, however, that "it is the tendency of reserve rates to follow, rather than to precede, market rates, which should be criticised, rather than the tendency of reserve rates to be below market rates."

In conclusion it may be mentioned that, in the opinion of various writers, control by the Federal Reserve Banks has depended on the existence of a strong tradition against continuous and large borrowing by member banks even when the rates were moderate, and on the psychological effect on the public mind of changes in official discount rates. Burgess,¹ for example, holds that "tradition is probably more important than the rate in preventing continuous borrowing."

¹ *Op. cit.*, p. 221.

CHAPTER X

DISCOUNT-RATE POLICY (*continued*)

DISCOUNT-RATE Policy of Central Banks since the War. During the War and for varying periods after the War the discount-rate policy of most central banks was rendered subservient to the financial requirements of the State. With the restoration of the international gold standard and the liberation of central banks from the domination of State finance, the discount rate was again adopted as an important element of credit policy, but its importance as such tended to decline relatively to other methods of credit control, such as open-market operations, moral suasion, etc.

In fact, in recent years the discount rate has, in the case of many central banks, not been a factor of any importance at all. For example, the rate of the Bank of England has been maintained without interruption at 2 per cent. since the middle of 1932; the Federal Reserve Bank of New York kept its discount rate at $1\frac{1}{2}$ per cent. between February, 1934, and August, 1937, when it was reduced to 1 per cent., the lowest figure in history for any central bank; the Riksbank of Sweden reduced its rate at the end of 1933 from 3 to $2\frac{1}{2}$ per cent., where it still stands; the Reichsbank has maintained its rate at 4 per cent. since September, 1932; the Netherlands Bank has not changed its rate since December, 1936, when it was reduced from $2\frac{1}{2}$ to 2 per cent.; the National Swiss Bank has kept its rate at $1\frac{1}{2}$ per cent. since November, 1936, and the National Bank of Czechoslovakia at 3 per cent. since January, 1936; and the Bank of Finland, the National Bank of Hungary and the National Bank of Denmark have maintained their rate unchanged at 4 per cent. since December, 1934, August, 1935, and November, 1936, respectively.

This decline in the relative significance of the discount rate is to be attributed primarily to radical changes in money-market conditions and in the economic structure and to considerations of public policy.

In the first place, banking methods and the stock-in-trade of money markets have undergone an important change. In Great Britain, for example, the use of the

bill of exchange as a basis for financing domestic trade has shown a considerable decline as against the system of bank overdrafts. The amalgamation of English banks and the establishment of a small number of big banks with branches all over the country, utilising surplus funds within the banking system in some parts to meet a shortage in other parts, have further reduced the volume of domestic trade bills coming into the market. Whereas in earlier days the domestic bill was a bigger factor in the London-discount market than the foreign bill, the position has been reversed. The foreign bill, however, has also tended to decline both as a means of financing foreign trade and as an instrument offered for discount in the London market.

Not only do banks, in conjunction with their branches and agencies abroad, arrange directly for the financing of a larger part of foreign trade than formerly, but other money markets have also come into prominence. As Einzig¹ said,

while before the War London's lead as a market for short-term loans was incontestable, since the War several rival centres have developed and have been making rapid progress at the expense of London.

New York has developed an international money market of great importance, including a discount market with a large turnover in bankers' acceptances which represent trade between foreign countries as well as the imports and exports of the United States. Paris, Amsterdam and Zurich have also succeeded in organising discount markets, although restricted in their scope and turnover by various factors; and Berlin, Stockholm, Brussels and Rome have likewise tried to improve their money-market organisation.² In addition, the decline in international trade has been another factor responsible for the smaller volume of foreign bills offered for discount in the London market.

Moreover, under the abnormal conditions prevailing in recent years the London and New York markets have become the repositories of huge amounts of fugitive capital,

¹ *Investors' Chronicle*, 23 May, 1931.

² While the development of other money markets has undoubtedly taken place at its expense, "the London money market remains the best as regards turnover; technical equipment, tradition and experience." (Einzig, *ibid.*)

mainly from the Continent, and of the balances of the many countries whose central banks have been authorised to include foreign exchange in their reserves and have adopted the practice of holding a large part of their reserves in foreign exchange rather than gold. As a result of this as well as the higher gold price and the increased supply of gold, London and New York have experienced an enormous increase in their stocks of gold, whether held by their central banks or by the State Equalisation or Stabilisation Accounts, and have witnessed abnormally liquid conditions in their money markets.

A further change of importance in money-market conditions since the War has been the predominance of short-term Treasury paper as compared with bills of exchange. In London, for example, Treasury bills outstanding usually amounted to about £20,000,000 before the War, whereas in recent years they have fluctuated between £700,000,000 and £900,000,000. This has brought about a radical change in the structure of the discount market and has increased the Treasury's influence over the market as compared with that of the Bank of England. It has rendered close co-operation between the Treasury and the Bank more necessary than ever before. With the requisite co-ordination they have succeeded, to a large extent, in neutralising the disadvantages emanating from the pre-eminence of Treasury paper in the market.

Some of these changes in money-market conditions, particularly the increase in liquidity of many money markets resulting from inflow of capital and gold or revaluation of gold stocks or favourable balances of payments on current account, are by no means conducive to the smooth and efficient working of a discount-rate policy. Moreover, as a matter of public policy, liquid conditions have been maintained and even accentuated in some cases by open-market operations. This easy-money policy has been closely associated with the attempts by the authorities to create favourable monetary conditions for production and trade, so as at least to prevent projects and transactions being cancelled or held up because of dear money or unwillingness on the part of banks to supply the requisite credit facilities. In those countries which have suffered from an outflow of capital or an adverse balance of pay-

ments on current account, official policy has been directed towards counteracting credit stringency through the creation of central bank credit either directly in the form of advances to the State, as in France, or indirectly in the form of rediscounts of paper representing Government spending, as in Germany and Italy.

The field for discount-rate policy has been further narrowed as a result of increased rigidity in the economic structure. It was previously stated that the efficient working of a discount-rate policy required, *inter alia*, a substantial measure of elasticity in the economic structure in order that prices, wages, production and trade might respond to changes in money rates and credit conditions. Wagemann¹ also stresses the point that the discount-rate policy

presupposes an economic system in which the price, wage and interest levels—at least in greater part—are readily movable, and in which entrepreneurs work on a narrow margin and consequently react very sensitively to the slightest changes in costs and the profits basis.

Since the War, however, the trend has, for various reasons, been definitely in the direction of economic rigidity, and in this respect the principal differences between many countries in recent years have been only in the degrees of controlled or closed economy practised by them. With the world-wide suspension of the gold standard managed currency has been adopted by most countries, and in some cases planned economy has been added to it. In this respect Wagemann² rightly points out that “the more an economy is regulated in prices, wages, transportation charges, and the more the government extends its influence over business, the more the influence of interest declines”; and that “the influence of interest also declines as the tax burden increases”, or, generally, according as the ratio of fixed costs to total costs increases.

Under all these circumstances the tendency has been to control the quantity of money available to the community through open-market operations and to aim at the maintenance of relatively low and uniform rates.

Necessary Function of Discount Rate. The prevalence

¹ *Wirtschaftspolitische Strategie*, p. 75.

² *Ibid.*, pp. 313-15.

of managed currency and the maintenance of cheap money as a matter of public policy have encouraged many to agree with Keynes that the discount rate could now be regarded as an out-of-date instrument of credit control.

Keynes had, through his analysis of the *modus operandi* of Bank rate in his *Treatise on Money*¹ (first published in 1930), performed a great service by drawing attention forcibly to the fact that the traditional theories of Bank rate had concentrated largely on the influence of Bank rate "as a means of regulating the quantity of bank-money" and "as a means of protecting a country's gold-reserves by regulating the rate of foreign lending", and had not clearly or adequately taken into account the direct influence of Bank rate on "the rate of investment relatively to saving" and the influence of changes in the relation between investment and saving on prices, production, employment and wages. He considered that Hawtrey had approached the idea of Bank rate as affecting the rate of investment, but had placed the whole emphasis "on one particular kind of investment, namely, investment by dealers and middlemen in liquid goods—to which a degree of sensitiveness to changes in Bank rate is attributed which certainly does not exist in fact."

Whereas others before him had clearly underemphasised the importance of the direct influence of Bank rate on the rate of investment in capital goods, Keynes in turn appears to have overemphasised its importance to the detriment of such factors as the rate of investment in liquid goods, the rate of speculation in commodities, securities and real estate, the quantity of money, and the psychological reactions of individuals and groups. In practice all these factors are found to operate to a greater or lesser extent, depending upon the prevailing circumstances, and are in any case closely connected, acting and reacting on one another.

In his recent writings Keynes further emphasised the importance of equilibrium between investment and saving as a condition of general economic equilibrium, but now considers that, apart from regulation of the quantity of money through open-market operations, the equilibrium

¹ Vol. I, pp. 185-220.

between investment and saving should perhaps be attained by means of State organisation of investment¹ or, failing this, compensatory planning of public works,² rather than by means of Bank-rate policy.

While it is admitted, for the reasons previously stated, that there has been a considerable decline in the importance of the discount rate, and that other measures of control have become not only more prominent but even absolutely essential, the discount rate has nevertheless a necessary function to perform. In other words, although limited in their effects under present-day conditions, changes in discount and interest rates still have to be recognised as necessary instruments contributing towards the restoration of equilibrium, as they operate in various ways to correct wrong trends, to wit, through their influence on the supply of and demand for money in general, or on the rate of investment and speculation in particular, or on human psychology; and frequently the difference between success and failure in the application of discount-rate policy, especially in respect of speculation, will be found to be the difference between timely and belated adjustment of interest rates.

Within limits both as to time and degree, cheap money may be artificially maintained with the aid of central bank credit, as a matter of public policy, with beneficial results to business activity as well as to State finance. As part of a policy designed to promote recovery and reflation it may be made to serve a valuable purpose in times of deflation and depression; but a cheap-money policy has its limitations, either because at one time it may fail to encourage enterprise owing to distrust, fear and uncertainty regarding the future course of prices, costs and exchange rates, or because at another time, when it does serve to promote

¹ "I expect to see the State, which is in a position to calculate the marginal efficiency of capital-goods on long views and on the basis of the general social advantage, taking an ever greater responsibility for directly organising investment; since it seems likely that the fluctuations in the market estimation of the marginal efficiency of different types of capital, calculated on the principles I have described above, will be too great to be offset by any practicable changes in the rate of interest." *General Theory of Employment Interest and Money*, p. 164. In my opinion State organisation of investment as a successful means of attaining equilibrium between investment and saving could be contemplated only in the perfect planned economy which does not exist anywhere and is not likely to arise.

² See his articles in *London Times*, January, 1937. Refer also to my comments on public-works planning on pages 258-64.

enterprise, it may lead to abuse of credit, unsound investment, over-speculation, depreciation of currency, etc.

In theory the artificial cheapening of money should always tend to encourage enterprise; in practice, on the other hand, it frequently tends to discourage enterprise and to strengthen the desire for liquidity on the part of entrepreneurs, investors and speculators owing to the surrounding circumstances in the initial stages, particularly the circumstance of human psychology. Sooner or later it will have its expansionist or inflationist effects and bring about a new disequilibrium which cannot in practice be corrected without higher interest rates and contraction of credit. At times it might, of course, be possible to bring about the contraction of credit by means of open-market operations alone, but the higher interest rates would usually still be found necessary to reinforce such credit contraction and to reverse the trend of expansion when it has gone too far or to slow it down when it shows signs of acquiring undue momentum. In short, cheap money tends to set in motion forces which can be controlled only by dear money.

With regard to the relation between capital and bank credit, while the latter may be called upon to perform the function of fixed capital under certain conditions and for limited periods and may render a useful service in that capacity to the community, in the long run the function of capital can be performed only by savings from internal or external sources. Similarly, in the long run the rate of interest on capital must be determined by supply and demand, whether it is referred to as the "natural" or "normal" rate of interest or the "equilibrium rate of interest".

In a recent analysis of the equilibrium rate, Cassel¹ stresses the existence of an independent capital market and shows that, while it must be conceded that the difference in liquidity is of considerable importance in determining the ratio between the different rates of interest paid on different capital markets, the interest on capital does not merely correspond to the difference between the liquidity of different investments, but depends also on the scarcity of savings relatively to the demand for them. He points out that those who "call in question the reality of the capital

¹ *Quarterly Reports of Skandinaviska Kreditaktiebolaget*, April and July, 1937.

market are, of course, also blind to the necessity of a bank policy which will adjust the rates of interest to the equilibrium rate of that market." In other words, interest on capital should not be treated as a monetary phenomenon determined by the supply of media of exchange, although it could bear being influenced temporarily by changes in such supply in order to offset disturbing factors.

Contrary to the attitude of Keynes, Robbins¹ holds the view that the discount rate "is an indispensable instrument, an instrument which we must at all times be prepared to use with speed and vigour if the circumstances appear to call for such action", since "cheap money conditions which are prolonged beyond the period when investment is naturally stagnant are likely to breed bad investments", and since "increased investment demand from whatever quarter must be met out of increased saving", failing which "rates must rise".

Hawtrey,² also, still believes in the discount rate as an instrument of control and considers that Keynes and the majority of other economists have "rejected the instrument of regulation evolved by practical experience" because of their wrongly "assuming that credit regulation must work mainly or even exclusively through long-term investment". He rightly points out that many economists underestimate the part played by short-term borrowing from banks for the buying and holding of commodities and for purposes of working capital generally, and consequently, that they fail to take into due consideration "the ultimate reactions of the short-term rate of interest on the dealers in commodities". In his opinion "economists have no adequate substitute to offer for it", but "resort to a variety of devious and not very plausible suggestions."

Wagemann³ also points out that, while "the discount rate can influence production . . . through its influence on long-term interest", it can do so "more quickly through the short-term credits which play an important part in the financing of production." He emphasises that the influence, which discount policy may exert over the capital market through the money market, is usually felt only after a lag of four to six months.

From the practical point of view the important thing

¹ *Lloyds Bank Monthly Review*, May, 1937.

² *Capital and Employment*, pp. 2-4.

³ *Op. cit.*, pp. 316-17.

about discount-rate policy is that it should be applied in good time if it is to be effective, since the trends of business and speculative movements cannot easily be reversed after they have acquired a certain momentum. In order to be able to judge when is the proper time to take action, various factors have to be kept under constant observation. The central bank can no longer rely on its gold-reserve ratio or on the actual outflow or inflow of gold as its principal guide to credit policy. Under present-day conditions there is no automatic device or mechanical formula which can be used as a successful basis for discount-rate policy. The central bank must maintain continuous observation of all the factors bearing on the business situation and speculative activity and exercise its personal discretion in the light of past experience and with the aid of historical and statistical studies.

Proposed Differentiation between Internal and External Rates. It has frequently been suggested that a central bank should differentiate between internal and external rates of discount, in order to prevent domestic trade and industry being detrimentally affected by the imposition of high rates which had been brought about through the operation of purely external factors, when the internal credit situation was sound. Shaw,¹ for example, considers that the commercial banks in Great Britain should organise or federate with a view to setting up a Central Board or Directorate of their own, with power to fix the domestic Bank Rate which "would have regard solely and entirely to the internal domestic conditions of trade and industry" and in connection with which "the Central Board would not concern itself with the question of the exchanges or of the flow of gold", while "the foreign or international Bank rate which the Bank of England might fix would be a matter of no concern to the Central Directorate of the domestic banking system." According to his analysis "there might easily be a domestic Bank Rate of 3 per cent. concurrently with a Bank of England foreign rate of 6 per cent.", and "in 1929 England should have had a protective 6½ per cent. ring drawn round the London money market, and at the same time domestic industry would have enjoyed a 3 per cent. domestic interest rate."

This view presupposes that the credit situation of a

¹ *Theory and Principles of Central Banking*, pp. 178-9 and 199.

country could be divided into two watertight compartments and that, for example, pressure on the exchanges and an outflow of gold could be corrected by operating through high interest rates on one compartment without affecting conditions in the other. Within limits this method might be effective where the outflow of gold was caused by the repatriation of capital owing to a return of confidence in the country of origin or by some other purely external factor or by a temporary unfavourable balance of payments owing to seasonal or other factors. Where, however, the outflow of gold was caused, as it frequently is, by disequilibrium in the domestic economic structure, it could not be checked except by operating through high domestic rates on domestic production and trade and the level of domestic costs and prices.

Spalding¹ relates that, in deference to public opinion (which had urged during the War that relatively low rates should be offered for home money and charged on domestic loans, while at the same time gold should be prevented from leaving England by the offer of high rates for foreign money), the policy of having a differential rate for home and foreign money was adopted by the Bank of England in November, 1917, when a start was made by its allowing $4\frac{1}{2}$ per cent. on deposits of foreign money made through the clearing banks against 4 per cent. for home money. Between February, 1918, and January, 1919, the rates were maintained at $4\frac{1}{2}$ and 3 per cent. respectively, but after some further adjustments the scheme was finally abandoned in October, 1919.

In this connection it is interesting to note that in their interim report the Currency and Foreign Exchange Committee² had recommended the discontinuance of this practice, on the ground that any attempt to maintain such a differentiation must inevitably break down, because it would be impracticable to prevent people from borrowing at the low home rate and trying in one way or another to re-lend at the high foreign rate. They were of opinion that it could only be prevented, if at all, by the maintenance of such stringent restrictions upon the freedom of investment as would be most detrimental to the financial and industrial recovery of Great Britain. The low home rate, by fostering

¹ *London Money Market* (Fourth Edition), pp. 103-5.

² Quoted by Spalding, *op. cit.*, p. 104.

large loans and keeping up prices, would continue to encourage imports and discourage exports; and, even if the high rate offered for foreign money prevented gold from being drawn abroad, it would only do this at the cost of piling up an ever-growing debt from Englishmen to foreigners.

The only feasible manner in which domestic trade and industry could be prevented from being unnecessarily prejudiced by a discount-rate policy would be for the central bank to maintain substantial reserves of gold and foreign exchange and to refrain from following an automatic rate policy. It could endeavour, as far as possible, to insulate the internal credit structure from large inward and outward movements of foreign short-term capital, and also from temporary movements in the balance of payments on current account or on long-term capital account. It should, however, allow changes in the balance of payments to have their effect on the credit situation and on the level of money rates and prices if it observed a definite trend resulting from some disequilibrium in the domestic economic structure or from some external influence.

This policy has been followed, in one form or another, in Great Britain and the United States on various occasions since the War, and during the past five or six years they had a great deal of experience in the development of a new technique with that object in view. Even before the War, according to Sayers,¹ while the primary aim of the Bank of England "was to protect the gold reserve, it showed an occasional tendency to avoid action which would be detrimental to the activity of home trade"; and

within narrower limits it was imitating the methods² of the Bank of France and other authorities in order to lessen the sensitiveness of the gold reserve to differences in interest rates in the different centres.

The Bank was also "able to protect the home situation to some extent by forcing market rate up beyond its usual relationship with Bank Rate", which meant in practice, of

¹ *Bank of England Operations, 1890-1914*, pp. 125-7.

² Prior to 1910 the Bank resorted at various times to the employment of devices which had as their object the acquisition of new gold and the discouragement of withdrawals of gold, such devices being the raising of its buying and selling prices for gold within certain limits and the granting of free advances or other facilities to gold importers. Sayers, pp. 71-101.

course, that the rate which primarily applied to foreign finance and exchange was raised without an increase, or at least a proportionate increase, in the rate of interest on bank advances to domestic trade and industry, since the advance rate had a conventional relationship with Bank rate and not with the market rate of discount. This, however, could only be achieved within narrow limits, "for, except in extreme cases, forcing up Market Rate necessitated, as a preliminary at least, a reduction of the Bank's assets, i.e. open-market operations", and "this reduction in the cash basis would naturally induce the commercial banks to reduce their liabilities", which might in turn "result in some reduction in the willingness of commercial banks to allow ordinary overdraft facilities."

Proposed Differentiation between Rates for Business and for Speculation. It has also been suggested that, as it is the duty of central banks to accommodate business, they should endeavour to avoid legitimate trade and industry being detrimentally affected by high rates of discount and interest during periods of excessive speculation. This suggestion, however, as in the case of the proposed differentiation between internal and external rates, fails to recognise that credit cannot, in the long run, be divided into watertight compartments.

In 1928-9 the Federal Reserve System attempted to restrict credit for speculative uses and make money dear for that purpose while maintaining an open door and lower rates for business purposes. The events of that time, however, showed conclusively that there are too many forces beyond the control of central banks in dealing with a speculative situation, and that a policy designed to make money artificially dearer for speculation than for other purposes may defeat itself by attracting money for speculative uses from other sources.

Increased speculation is only one of the phases encountered in a period of growing prosperity, and the tendency towards undue speculation in securities is frequently found to be more or less contemporaneous with a tendency towards over-production and over-trading in commodities, although in varying degrees of course, and with the former usually commencing and terminating somewhat in advance of the latter two phases. All of them appear to require the same treatment simultaneously at the hands of

the central bank, namely, restriction of credit and higher money rates, and perhaps still higher rates according as the situation demands. Beyond the use of direct action and moral suasion wherever possible, it must, however, be left as far as possible to banks and money-market operators to arrange the shifting of the available funds and to adjust the rates for the various uses to which the funds are put.

What the Federal Reserve System could have done in 1928 was to have used the discount-rate weapon more promptly and drastically than it did, and to have raised the New York discount rate by two decisive strokes of at least 1 per cent. each, instead of three successive increases of $\frac{1}{2}$ per cent. each and then a gap of 13 months before the final increase of 1 per cent. Under the peculiar conditions it may not have achieved much more than a slight curtailment of speculation and a somewhat quicker liquidation of securities, but the economic situation generally would have been improved to the extent that speculation could have been curtailed and liquidation hastened.

Discount-Rate Policy in Countries without Organised Money Markets. The majority of countries do not have organised money markets. There is a money market everywhere in the sense that at any given time there are always some institutions and individuals wishing to borrow money for one purpose or another and for short periods and others seeking to lend money for those purposes and periods, but in many countries there are no market operators specialising in mobilising all surplus funds available for short-term financing of their particular lines. In such cases the banks and similar financial institutions act as the primary intermediaries between short-term lenders and borrowers, and, along with the Treasury, which might be borrowing direct from the public on Treasury bills, they virtually constitute the money market. Such a money market, however, while it does establish approximate relations between supply and demand in respect of various types of short-term surplus funds, is seldom active and mobile and does not effectively cover all sources of loanable funds, particularly those available only for very short periods. In other words, it is not finely balanced and does not ordinarily work on a narrow margin, as a result of which it is generally not capable of being automatically responsive to changes in credit conditions and in the official discount rate.

It has already been shown that even organised money markets are not always automatically responsive, owing to abnormally liquid conditions and sometimes other factors, but it can at least be said that, except under highly abnormal circumstances, they tend to be either automatically responsive or capable of being made responsive, with the aid of open-market operations, to central bank action. Without organised money markets, however, central banks cannot usually rely either on the one or the other.

In spite of these handicaps the central banks of practically all such countries have adopted the discount rate as a weapon in varying forms and degrees. In fact, the statutes of many of the newer central banks actually contain a provision to the effect that they must fix and publish a discount rate; and they have regularly quoted a discount rate for first-class trade bills (with a currency up to three or four months and bearing two good names) and the same or a slightly higher rate for agricultural bills¹ (with a currency up to six or nine months and sometimes consisting of one-name promissory notes secured by warehouse receipts) or for collateral advances against bills, notes, and Government or Municipal securities.

The significance of the discount rates of these central banks has been of a threefold nature.

In the first place, in conjunction with the other rates based on it, the discount rate indicates the rates at which the public can obtain accommodation from the central bank on the specified types of paper. Under their statutes most of these central banks have relatively wide powers of dealing with the public, but in practice they do not encourage the public to deal with them, in conformity with the general principle that a true central bank should refrain from conducting ordinary commercial banking business to any great extent, if at all, provided the commercial banks give satisfactory services and quote reasonable rates to their customers based on the rates of the central bank.

Being situated in debtor countries, many of these central

¹ In some countries, however, lower rates are quoted by the central bank on agricultural than on commercial bills and loans, as a means of assisting and encouraging the producer. In Colombia, for example, the prevailing rates of the central bank are "4 per cent. for ordinary loan and discount operations and 3 per cent. for loans secured by agricultural warrants or guaranteed by bonds of the Bonded Warehouses issued against national products of ready sale". (*Annual Report of the Bank of the Republic of Colombia, 1936-7.*)

banks have been inclined in ordinary times to regard it as part of their duty to ensure satisfactory banking services and reasonable rates to the community; and they have, therefore, come to judge the effectiveness of their policy by the small instead of the large amount of business which they were called upon to perform directly for the public. Little or no business with the public conveyed to the central bank that the commercial banks were quoting approximately the same rates as it did for the same kinds of paper.¹ The discount and other rates of the central bank have, therefore, tended to become, except under abnormal conditions, the standard rates for discounts and collateral loans of the types which are clearly eligible for the central bank under its statutes and rules; and the only opportunity for substantial deviations from the central bank's rates, after allowing for differences in the currency and quality of paper and in the security for advances, would thus be found in the types of accommodation which the central bank was prohibited from granting under its statutes.

Secondly, the discount rate represents the basis of the rates at which commercial banks can obtain central bank credit. In the case of some of these central banks, the commercial banks have to pay the full rates for discounts and loans as quoted by the central bank, while in other cases they are allowed a margin of $\frac{1}{2}$ or 1 per cent. or more below the published rates² of the central bank. This practice of allowing a margin in favour of the commercial banks has come to be adopted partly on the ground that the assumption by the borrowing bank of the risk of non-payment would ordinarily give the paper which it has presented to the central bank for rediscounts or collateral loans a higher value as compared with the paper presented directly by the public, and partly also on the ground that in the

¹ The *Annual Report of the Reserve Bank of New Zealand for 1935* contains the statement that "the discount rate is not of great significance pending the development of a bill market, but it serves to indicate the Bank's views as to the level at which the general public should be able to obtain financial accommodation against first-class bills."

² In the case of such central banks as those of Chile, Colombia and Peru, it was actually implied in their statutes that they should quote rediscount rates for the commercial banks separately from their discount rates for the public; and in the statutes of the central banks of Chile and Colombia it was laid down that they should not rediscount any paper for banks which were charging their customers rates of discount for the same kinds of paper exceeding the special rediscount rates of the central bank by more than $2\frac{1}{2}$ and 3 per cent. respectively.

countries concerned the commercial banks usually operate as wholesale distributors of bank credit. With few exceptions, the central bank has come to assume the relationship which exists between a manufacturer and a wholesaler, and to rely primarily on the commercial banks for the distribution of credit as and when required, in consideration of which the banks have claimed a margin in their favour.

The foregoing applies to ordinary conditions where central bank credit is automatically brought into play as the elastic element in the credit structure. When, however, the central bank's observation of the credit situation leads it to consider that credit contraction and higher money rates are desirable, it raises its official rates and may reduce or even remove the margin it formerly allowed the commercial banks, in order to emphasise more strongly to them the necessity for contraction of credit.

It is not surprising, therefore, that the idea of making the discount rate of the central bank a penalty rate has not taken root in the countries under review. In the absence of organised money markets, and sometimes even in the absence of adequate and well-spread banking facilities, it follows that the rôle to be played by the rediscount rate in such countries is quite different from that of Bank rate in England. It may advantageously be below the rate charged by the commercial banks or other financial institutions for similar paper, but, as has been well said by Gregory¹ in connection with the position in the Federal Reserve System, "if this is to be reconciled with any attempt to control credit conditions, a rise in official rates must precede the rise in market rates, and a fall in official rates must anticipate reductions in market rates."

Thirdly, the psychological value of the discount rate is of great importance to the central bank as an instrument of credit control. It is at least a reflection of its opinion of the credit situation, and sometimes of the economic position generally. As Gibson² said, a rise in the discount rate may be regarded as "the amber-coloured light of warning of a robot system of finance and economics", or, in the words of Addis,³ "the danger signal, the red light warning the business community of rocks ahead on the course in which they

¹ *Op. cit.*, p. 137.

² *London Bankers' Magazine*, April, 1937.

³ Quoted by Spalding, *op. cit.*, p. 100.

are engaged", while a fall in the discount rate may be looked upon as "the green light indicating that the coast is clear and that the ship of commerce may proceed on her way with caution". Burgess,¹ in referring to the effects of Federal Reserve rate action, emphasised that "the most powerful influence of a rate change is that which is most difficult to measure—the psychological", and that, both in 1920 and in 1929,

the psychological influence was much more important than the direct . . . because the rate change was a pronouncement by well-informed men concerning the credit situation made at a time when a change in direction of movement was ready to occur or was in process due to other causes.

The psychological value of the discount rate depends, *inter alia*, on the prestige of the central bank and the degree of co-operation which it can obtain from the commercial banks. Automatically the central bank can more readily create easy-money conditions by declaring its willingness to deal directly with the public at low rates than it can bring about dear money simply by raising its rate and curtailing credit facilities to its own customers.² When a credit strain has developed and the commercial banks have approached the central bank for rediscounts and loans, the higher rates of the central bank may be immediately effective, but if the commercial banks are well supplied with funds, owing to heavy exports at favourable prices or a large inflow of capital, the central bank must rely on the voluntary co-operation of the commercial banks³ and its moral influence over the business community.

In the light of experience this co-operation can best be secured by means of conventional relationships between the

¹ *Reserve Banks and the Money Market*, Revised Edition (Harper), p. 230.

² It must be borne in mind that in the countries under review open-market operations cannot be used as an instrument of control to any great extent. Moreover, the central bank cannot, in the long run, apply drastic contraction of credit to its private customers as a means of reducing the credit base and bringing about credit contraction generally, since its direct and personal contact with the borrower involves a certain amount of responsibility for meeting his legitimate requirements at all times. If the central bank fails to observe this moral obligation, it cannot expect to retain its private customers.

³ Much will depend also on the extent to which the banks can agree amongst themselves on the question of co-operating with the central bank.

discount rate of the central bank and the various rates quoted by the commercial banks, somewhat on the lines of the traditional conventions observed by the English banks. It has already been shown that, partly because of the powers given to these central banks to grant direct accommodation to the public on certain classes of bills and securities, the commercial banks have shown a strong tendency to quote approximately the same rates for the same types of accommodation. As regards other types of accommodation, however, conventional relationships appear to be the easiest means of obtaining the desired results. This view is also held by Copland,¹ who, in referring to the situation in Australia, said that

clearly the most satisfactory arrangement is a system under which the leadership of the central bank is recognised in a set of conventions through which the banks implement the banking policy desired from time to time by the central bank,

but that "it will take a long time for this voluntary co-operation to reach the required standard of efficiency"; and that the Royal Monetary and Banking Commission "seems to think that this co-operation could be hastened if the central bank had latent powers of compulsion."

Several of the newer central banks have already succeeded in establishing some form of relationship between their discount rates and the advance rates of the commercial banks. In the case of the South African Reserve Bank, for example, the commercial banks have been found to change their overdraft rates whenever the South African Reserve Bank changes its discount rate, and invariably in the same direction, although not always in the same degree. When it raised its rate from 5 to 6 per cent. on the 13th November, 1931, the banks raised their minimum overdraft rate from $6\frac{3}{4}$ to $7\frac{1}{2}$ per cent. on the 19th November, 1931, and when it reduced its rate from 6 to 5 per cent. on the 7th October, 1932, they reduced their rate to $6\frac{3}{4}$ per cent. on the 10th October, 1932. Again, when the Reserve Bank further reduced its rate to 4 per cent. on the 20th February, 1933, they reduced their rate to 6 per cent.² on the 20th March,

¹ *Economic Journal*, December, 1937.

² It must be added, however, that on the 13th February, 1933, they had partly anticipated the lowering of the Reserve Bank's discount rate by reducing their overdraft rate to $6\frac{1}{4}$ per cent.

1933, but when the former reduced its rate from 4 to $3\frac{1}{2}$ per cent. on the 15th May, 1933, they did not make their further reduction of $\frac{1}{2}$ per cent. till April, 1934. Thus, as in London, the commercial banks in South Africa follow the Bank rate promptly upwards and also downwards, except when it falls below 4 per cent.

With regard to discounts, the commercial banks in South Africa usually adopt the local Bank rate in the discount of bills which are considered to be eligible for discount by the Reserve Bank, while for other bills they charge higher rates varying according to the currency of the bill and the quality of the name or names thereon; and in respect of loans against gilt-edged securities for periods not exceeding three months, for which the Reserve Bank quotes a rate $\frac{1}{2}$ per cent. above its discount rate, they also adopt that rate as a general rule.

As regards the relationship between the discount rate of the central bank and the deposit rates of the commercial banks, conventions have also gradually been built up in various countries. Moreover, in a few countries statutory provision has been made for such a relationship, as in Argentina, where the rate for sight deposits must be not less than 3 per cent. below the discount rate of the central bank and that for savings deposits not less than 1 per cent. below it, or in Salvador, where the rate for time and savings deposits must be not less than 1 per cent. below the discount rate of the central bank and that for sight deposits is subject to a maximum of 2 per cent.¹

In general, where under the leadership of the central bank or some other influence conventional relationships between the discount rate of the central bank and the discount, advance and deposit rates of the commercial banks have been set up, the need for an active money market is not so great or urgent for the purpose of central banking control through the discount rate. It is, however, of great importance to the central bank operating in a country without an organised money market to assist in the development of a money market not only as a means of improving or confirming its control, but also as a means of mobilising

¹ In some countries maximum rates for deposits have been laid down by law, as in Denmark, Yugoslavia, Hungary and Estonia, or the central banking authorities have been given the power to fix maximum rates for time and savings deposits, as in the United States.

short-term loanable funds with a view to affording possessors of such funds an outlet for investment, on the one hand, and ensuring ordinarily more favourable terms for short-term borrowers, on the other.

CHAPTER XI

OPEN-MARKET OPERATIONS OF CENTRAL BANKS

EVOLUTION of Open-Market Operations. Prior to the War the Bank of England had, as stated in the previous chapter, relied upon Bank rate as the primary instrument of credit control. At various times, however, when, owing to large foreign balances or for other reasons, the London money market was in a highly liquid state, the Bank experienced great difficulty in making its rate effective and felt the need for some method which would enable it to reduce the liquidity of the market whenever it desired to raise money rates generally.

The method which was evolved in pre-War days was that of withdrawing funds from the market principally by means of what were known as "selling Consols spot and buying for the account"¹ and "borrowing in the market". By the former was meant that the Bank sold Consols for cash and simultaneously repurchased them for the "account", i.e. the date for the monthly settlement on the Stock Exchange; and, thus, to the extent that Consols were sold spot and repurchased, funds were withdrawn from the market for the unexpired period of the monthly Stock Exchange account. Borrowing in the market, on the other hand, meant that the Bank borrowed from discount houses and bill-brokers against the pledge of Government securities. Whichever method was adopted the net result was the same, namely, that the total volume of funds in the market was reduced and the market rate tended to rise much or little depending upon the extent of the Bank's operations.

According to Sayers² the Bank used the method of selling Consols spot and buying them back for time more extensively than that of borrowing in the market up to the end of the nineteenth century, but after that and up to the time of the War the position was reversed. While these

¹ According to King this method was first adopted during the 'thirties of the nineteenth century. It was also frequently referred to as "borrowing on Consols".

² *Bank of England Operations, 1890-1914*, pp. 27-36.

two methods were the principal devices employed by the Bank for the purpose of withdrawing funds from the market, other methods were also used on various occasions, such as the outright sale of Government securities, borrowing from the commercial banks, and borrowing from special depositors (Governments of Japan, India and Argentina).

After discussing the employment of all these methods during the period from 1899 to 1914, Sayers¹ came to the conclusion that "the Bank had, in an extremely hesitating and not very consistent manner, solved its problem of controlling Market Rate by adopting a number of devices for reducing the supply of money in the market", but that "the solution of this problem was piecemeal rather than systematic, and in many ways it was unsatisfactory", and that "the diversity of methods employed by the Bank alone suggests that it was not very happy about any of them."

He also referred to the following factors as having restrained the Bank's open-market operations²: the conventions that "it did not ever buy bills in the open market" and that "a bill once acquired by the Bank of England was held until maturity"; "the question of cost which some governors seemed loath to incur", since in the case of outright purchases and sales of Government securities the Bank might "expose itself to the risks inherent in the purchase and sale of securities which, being long-term,³ could fluctuate much in price"; "the hampering tradition, from which the Bank hardly ever broke, that while it was permissible for it to take measures to make Bank Rate effective when gold was going out, such measures should be avoided at other times", as a result of which the Bank did not usually consider itself free to offset an internal drain resulting from the operation of seasonal or other forces; and the tendency of the market to "work on a narrower margin" at times when the Bank borrowed in the market, since "the market was inclined to treat the money borrowed by the Bank as if it were still in the hands of the market."

The only other central bank which undertook some form of open-market operations prior to the War was the Reichsbank, which, in addition to buying and selling foreign

¹ *Bank of England Operations, 1890-1914*, pp. 128-9.

² *Ibid.*, pp. 19, 20, 27, 46, 47 and 129.

³ Prior to the War there were relatively small amounts of Treasury bill available.

bills, used to offer Treasury bills for sale in the open market at times with a view to absorbing surplus cash and preventing a too rapid fall in the market rate.¹

When the Federal Reserve System was enacted in 1913, the Federal Reserve Banks were authorised to buy and sell bonds and notes of the United States Government, and also bills, notes, revenue bonds and warrants with an unexpired currency of not more than six months, issued in anticipation of the collection of taxes or of the receipt of assured revenues by any State, county, district, political sub-division, or municipality in the United States.

During the period of the War and for some time thereafter the open-market operations of the Bank of England, the Reichsbank and the Federal Reserve System were governed mainly by the requirements of War finance or post-War readjustment; i.e. apart from the creation of central bank credit through collateral loans against Government securities, they increased their own holdings of Government stocks or Treasury bills for the convenience of the State.²

After the termination of hostilities State finance gradually became a less dominating factor in Great Britain and the United States, and the Bank of England and the Federal Reserve Banks came to view open-market operations in a different light than was customary prior to the War. Instead of being employed merely as a subsidiary and complementary instrument with the object of making Bank rate effective, open-market operations have been adopted at various times as the principal method of credit control, and sometimes independently of changes in official discount rates. On many occasions since the War they have still been undertaken as a supplement to discount-rate policy as in pre-War days, but in recent years there has been a growing tendency to employ them as an independent instrument.

The main reasons for the greater importance of open-market operations may be sought in, firstly, the experience gained during the War and post-War periods; secondly, the decline of the discount rate as an instrument of credit control owing to the changes and complications discussed in the previous chapter; thirdly, the scope for large-scale

¹ Conant's *History of Modern Banks of Issue* (Fifth Edition), p. 217.

² In the other belligerent countries the central bank assisted the State in the form of special advances rather than purchases of Government securities.

open-market operations arising out of the considerably increased volume and variety of Government securities outstanding, particularly short-term securities such as Treasury bills; and fourthly, the increased needs of the State and its increased influence over the money market, resulting in a larger measure of subservience on the part of the central bank, whether forced or voluntary, to the requirements of State finance, as compared with the pre-War period.

Meaning of Open-Market Operations. In the wider sense open-market operations may be held to cover the purchase or sale by the central bank in the market of any kind of paper in which it deals, whether Government securities or other public securities or bankers' acceptances or trade bills. In practice, however, it has come to be generally accepted in recent years that the term "open-market operations" should be applied only to the purchase or sale of Government securities,¹ both long-term and short-term, and also only to the outright purchase or sale thereof. That is, it is not to include the purchase of Government securities from bill dealers and brokers under repurchase agreement, in accordance with which the latter have to repurchase the securities within a period of 15 days. Furthermore, it would exclude such pre-War British methods as "selling Consols spot and buying them back for the Account" and "borrowing in the market", which have in any case been superseded since the War by outright purchases and sales.

The principal reason for using the term "open-market operations" in the narrower sense is that in outright purchases or sales of Government securities the initiative is taken by the central bank rather than the market, and such operations, therefore, reflect the deliberate credit policy of the central bank.

On the other hand, in the case of purchases of Government securities under "sales contracts" or "repurchase agreements", or purchases of bankers' acceptances, as in the

¹ Other public securities will, for obvious reasons, be disregarded by the central bank if there is a sufficiently wide market in Government securities. Where, however, the central bank does decide to deal in Government-guaranteed securities and municipal or other public securities, because of an inadequate supply of Government securities or for other reasons, such transactions could properly be included under "open-market operations"

United States, the initiative is taken by the market ; and the readiness of the Federal Reserve Banks to buy such securities and acceptances at all times under certain conditions as to currency and rate has been based on their desire to develop and maintain an active money market. It is true that within certain limits the Federal Reserve Banks could, for example, increase or decrease their purchases of bankers' acceptances by adjusting their buying rates accordingly, but in practice they do not ordinarily use their buying rates for such purposes. They generally follow the market rates and keep their buying rates close to the former, primarily for the purpose of ensuring the continued existence of an active discount market.

Significance of Open-Market Operations. Briefly stated, the significance of open-market operations lies in the fact that they tend to increase or decrease the supply of bank cash, and that changes in such supply tend under given circumstances to bring about changes in money rates and economic conditions.

The initial impact of open-market operations is on the deposits of the commercial banks with the central bank. By selling securities, for example, the central bank reduces, other things being equal,¹ the bankers' deposits by an equivalent amount, as the buyers of these securities will usually² be either commercial banks or customers of commercial banks,³ and payment for such purchases will be effected through debits to the bankers' accounts with the central bank. Conversely, when the central bank buys securities, the result will be reflected in credits to the bankers' accounts and an increase in the commercial banks' cash reserves, which represent the credit base of the community.

¹ Other things are not always equal, however, since such items as " notes in circulation ", " Government deposits ", " other deposits ", and " gold coin and bullion " may sometimes also be subject to changes, either in the same direction as " bankers' deposits " or in the opposite direction, or first in the one and then in the other.

² Exceptions arise when customers of the central bank other than the commercial banks buy some of these securities and pay for them out of their deposits with the central bank. This would tend to reduce the " other deposits " of the central bank and to make the reduction in " bankers' deposits " less than what it would have been otherwise.

³ To the extent that the customers of commercial banks buy or sell the securities sold or bought by the central bank, the deposit liabilities of the commercial banks will be reduced or increased in the same manner as their cash reserves.

The theory underlying open-market operations¹ is that the central bank, by increasing or decreasing the cash reserves of the commercial banks, will, proportionately, increase or decrease the quantity of money and so bring about relative changes in money rates and credit conditions, which will in turn bring about corresponding adjustments in the price level and general business activity. According to this theory, therefore, such operations, if applied promptly, can be directed towards stabilisation of prices and/or business activity, or at least towards preventing substantial deviations from the desired level of prices and business activity. The theory, however, depends for its complete functioning on four main assumptions, namely, that the cash reserves of the commercial banks will be increased or decreased in accordance with the nature and extent of the central bank's open-market operations; that commercial banks will seek to increase or decrease their loans and investments in accordance with the increase or decrease in their cash reserves; that the scope or demand for bank credit will increase or decrease in accordance with the increase or decrease in the credit base and the lowering or raising of money rates; and that the circulation of bank deposits has a constant velocity. In practice, however, none of these assumptions is found to be fully valid.

In the first place, the cash reserves of the commercial banks do not always increase or decrease in proportion to the purchase or sale of securities by the central bank, as one or other disturbing factor may be operating simultaneously. The inflow of gold and the return of notes from circulation or from hoards, for example, may offset partly or wholly a sale of securities by the central bank or may accentuate the effects of a purchase of securities; and the outflow of gold and the withdrawal of notes for increased currency requirements or for hoarding purposes may offset partly or wholly a purchase of securities by the central bank or may accentuate the effects of a sale of securities.

Secondly, commercial banks do not always increase or decrease their loans and investments in accordance with the increase or decrease of their cash reserves. In other words, changes in the credit base and, therefore, in the volume of

¹ Except, of course, when they are aimed merely at offsetting an inflow or outflow of gold or foreign exchange, the movements of Government funds or seasonal movements generally.

credit that could be created do not always bring about corresponding or proportionate changes in the volume of credit that is actually created. There are many circumstances of a monetary, economic or political nature which may deter a commercial bank from employing increased cash reserves fully if at all, or from contracting credit when its reserves are reduced.

It is true that in England a traditional convention operates under which the commercial banks maintain a cash ratio of between 10 and 11 per cent. of their deposit liabilities, increasing their loans and investments within the relative limits when their cash reserves increase, and vice versa. England, however, is the only country so far where such a convention has been more or less rigidly adhered to ; and even there the cash ratio of the banks has been allowed to go beyond 11 per cent. ¹ on several occasions. On the 30th June, 1938, for example, the ratio of the Big Five of England stood at 11·7 per cent. ; and for the year 1934 the average monthly ratio of the London clearing banks was 11·3 per cent.

In the United States, on the other hand, another tradition has been established, namely, that when the cash reserves of member banks increase, they tend first to reduce or repay their indebtedness to their Federal Reserve Banks ; and when a bank has discharged its debts in full, it may seek to employ any further increase in its reserves or it may not, depending upon Government policies and activities, the international political outlook, the prospects of business, the trend of prices and exchange rates, etc. At times the member banks have carried huge excess reserves with their Reserve Banks, amounting to no less than \$3,100,000,000 in August, 1936. At the end of 1937 the ratio of member banks' cash reserves (including cash in vault) to their deposit liabilities stood at 22 per cent., compared with 9·4 per cent. in 1926 and 9·3 per cent. in 1929. The same position has arisen in several of the newer countries. In South Africa, for example, the ratio of the cash reserves of the commercial banks has varied from 11·6 per cent. in the middle of 1931 to 38 per cent. in January, 1934.

With regard to the relation between an increase in the

¹ In this connection, however, it must be borne in mind that a rise in the cash ratio is sometimes brought about merely as a result of a shortage in other quick assets, such as call loans and bills.

credit base and the creation of commercial bank credit, there are certain technical factors which must be taken into consideration by all banks. The one is that, while under some conditions and with a traditional cash ratio of, say, 10 per cent., £1 of cash reserve may serve as a basis for £10 of domestic credit, under other conditions such as an exceptional demand for exchange and an external drain of gold, £1 of cash reserve can command only £1 of gold or foreign exchange; and consequently banks have to consider the domestic and the international situation and the repercussions of credit expansion on their country's balance of payments. Similarly, if the expansion of credit creates conditions which lead to larger withdrawals of note or metallic currency for hoarding or other purposes, £1 of cash reserve can command only £1 of currency. The other factor is that, unless the banking system as a whole adopts a policy of credit expansion, the expanding banks would tend to lose part of their cash reserves to the non-expanding banks and might thus be compelled to contract again. The net result is that, unless the conditions are favourable for credit expansion or unless there is an unsatisfied demand for bank credit, an increase in the credit base is limited in its ultimate effects on bank credit.

Thirdly, it is frequently not just a case of commercial banks refraining from systematic attempts to employ increased cash reserves, but also one of a lack of good borrowers. While an increase in the credit base will tend to lower money rates, the scope or demand for bank credit will not always increase in accordance with the reduction in money rates. In times of economic or political uncertainty, entrepreneurs may not be prepared to undertake great risks¹ even if their bankers offer them increased accommodation at moderate rates. Sometimes it is a case of unwillingness to borrow on the part of entrepreneurs, on the one hand, and unwillingness to lend on the part of banks and lenders generally, on the other. Thus, owing to the risks involved, there may be not only a lack of borrowers as

¹ As Leonard Ayres said, "that willingness to take risks (i.e. present risks in the hope of making future gains) can be legislated out of being, but it cannot be legislated into being", and "it can be induced and encouraged, and facilitated, but it cannot be ordered or coerced into existence", for the reason that "it must be the product of conditions and circumstances that are both favourable to business enterprise, and reliably stabilized." (*American Bankers' Association Journal*, May, 1938.)

such, but also a lack of borrowers who are acceptable to banks. Conversely, when money rates rise owing to a decrease in the credit base, the increase will not always result in a reduced demand for bank accommodation or in reduced opportunities for the employment of bank credit ; or if such a reduction does take place, it will not always be in accordance with the rise in money rates. The prospects of business and speculation may appear sufficiently attractive for entrepreneurs, investors and speculators to induce them to make still greater use of credit notwithstanding the higher rates.

Fourthly, the circulation of bank deposits does not have a constant velocity, nor is this velocity controllable, as it is the resultant of human reactions. Ordinarily it tends to increase during periods of rising business activity, sometimes in spite of a substantial hardening of money rates, and it tends to decrease during periods of declining business activity, sometimes in spite of a substantial easing of money rates ; but the rate of increase or decrease cannot be accurately predetermined and effectively counteracted. It has happened, for example, that a considerable lowering of money rates, owing largely to the elements of uncertainty, distrust and pessimism which may be associated with it, has contributed towards a further reduction in the velocity of circulation.

However, while in practice none of the assumptions previously mentioned is found to be fully valid, the least that can be said is that normally there is, other things being equal, a strong tendency in the direction of the assumed relationships. The complications arise, of course, from the fact that frequently other things are not equal because of the operation of the disturbing factors outlined above. The personal element, in particular, is responsible for most of the complications which tend to lessen the efficacy of open-market operations as an instrument of credit control.

The question as to how far the open-market operations of a central bank can be adjusted for the purpose of counteracting the effects of disturbing factors has been a subject of acute controversy in recent years. Hawtrey,¹ for example, admits emphatically, in connection with an increase in the credit base resulting from open-market operations, that " an addition to the outstanding quantity of money, the ' unspent

¹ *Art of Central Banking*, pp. 145-8.

margin', in itself accomplishes nothing", since "the supply of money, in the only sense in which markets feel it, is the flow of money spent in exchange for commodities", and since "the release of cash by traders is an indispensable condition of an increase in the consumers' income" and "an absorption of cash is inseparable from an equivalent reduction of the consumers' income." He also admits that "the release or absorption of cash is not rigidly dependent upon the increase or decrease of lending" by the banks, and that "there may be other causes affecting the amount of balances that people are willing to hold", but he maintains that "these other causes must be taken into account by the authorities regulating credit" and that "they must endeavour so to adjust their measures that the resultant enlargement or compression of the consumers' income and outlay will be just what is required."

Within certain limits and under certain circumstances central banks may advantageously undertake to endeavour "so to adjust their measures", although it must be borne in mind that, in the light of past experience, non-monetary factors are, in general, outside the radius of action of central banks, and that, in attempting to do the impossible, they may set in motion other forces which may do more harm than good. There are occasions on which central banks may be able to neutralise the effects of non-monetary factors by means of a suitable adjustment of the supply of credit, but more often than not they will find themselves at a great disadvantage when trying to combat the influence of non-monetary forces. What is very important in this connection is, as Hawtrey¹ has said, that, when a central bank adopts a policy of credit adjustment, it should beware of the danger not only of taking action too late or depending upon an index (such as the gold-reserve ratio) which reacts too slowly to disequilibrium, but also of taking action half-heartedly instead of decisively.

Once the vicious circle (of inflation or deflation) has been broken, the measures taken must be promptly and completely reversed, for otherwise the new and contrary credit movement will in turn gain a perilous impetus.

While Hawtrey believes that central banks can neutralise the effects of non-monetary forces or overcome the "in-

¹ *Art of Central Banking*, pp. 168-9.

stability of credit ” and the “ instability of velocity ”, he does not pin his faith on open-market operations alone. On the contrary, he considers that the use of the discount rate in conjunction therewith is essential. Keynes and several other economists, on the other hand, maintain that open-market operations, undertaken extensively and skilfully, could achieve the purpose without a discount-rate policy if they were supplemented by State organisation of investment or, failing this, by compensatory planning of public works.

Another factor which has to be taken into consideration is that broad and active markets in short-term and long-term Government securities are essential for the carrying out of open-market operations on a large scale, and that so far London and New York are the only centres with markets which satisfactorily comply with this requirement. In fact, the theory underlying open-market operations may be said to be based on conditions existing in London and New York, and more particularly in the former. In the matter of short-term securities the question of possible loss is not usually a deterrent, but unless the market in long-term securities is wide and active, the central bank may be hampered by the loss which it may incur as between the prices at which it bought the securities and those at which it has to sell ; and for this reason many central banks use short-term securities as far as possible.

A further limitation in connection with open-market operations is the fact that, before a central bank has succeeded in acquiring an adequate volume of Government securities in order to be able to withdraw funds from the market when it desires to contract credit, it has created an equivalent amount of central bank credit in the course of purchasing those securities. In other words, when it sells securities it is merely cancelling credit which it had itself created previously. In the interest of a generally sound monetary situation, therefore, the central bank is limited to acquiring securities during a period of credit stringency. The net result of the creation of central bank credit under such conditions might be either that banks and money-market operators could avoid having to rediscount with the central bank or could repay or reduce their previous indebtedness to the central bank ; and the central bank would then have more Government securities in its portfolio and fewer bills of exchange and collateral notes. If, however,

the central bank buys the securities in the absence of a credit stringency, its action would be tantamount to creating conditions of artificially cheap money.¹

Till about twelve years ago central banks had not had much experience in matters relating to credit adjustment for neutralising purposes, and consequently such matters were regarded as falling principally within the realm of theory. The extensive experience, however, which the central banks of such countries as Great Britain and the United States have had with such credit adjustment in recent years has brought it within the practical sphere, but has also revealed its limitations and its practicability only under certain circumstances. The limits within which, and the circumstances under which, credit can be effectively adjusted for specific purposes cannot be reduced to a rigid formula and must be left to the discretion of central banks under the guidance of past experience and current observation. (In any particular country the extent of its possible application at any particular time will depend upon such factors as the prevailing economic, political and social conditions ; the temperament of the people ; the make-up of the banking structure ; the experience, skill and prestige of the central bank ; the state of public finance ; the degree of co-operation between the central bank, on the one hand, and the commercial banks and the Government, on the other ; and the extent and activity of the security markets.)

Open-Market Operations in Great Britain. As previously stated, open-market operations have been adopted at various times since the War as the principal method of credit control in Great Britain, and even as an independent instrument. This situation appears to be generally acknowledged and accepted in British banking circles. For example, Crick,² a London bank economist, says that " the Bank of England can and does act forcibly and deliberately to bring about, by direct action on cash reserves, either an expansion or contraction of bank deposits ", and that " there is no doubt, therefore, that power to control the quantity of money has become a regular instrument of central bank policy."

The main objectives of open-market operations by the

¹ The limitations of cheap money, on the one hand, and its dangers, on the other, have already been referred to on pages 174-5.

² *London Bankers' Magazine*, June, 1933.

Bank of England since the War may be summarised as follows :

- (1) to make Bank rate effective or to prepare the ground for a change in Bank rate ;
- (2) to avoid disturbances in the money market as a result of movements of Government funds or seasonal movements generally ;
- (3) to offset the inflow and outflow of gold ;
- (4) to support Government credit in connection with the issue of new loans or the conversion of existing loans; and
- (5) to create and maintain conditions of cheap money as an aid to business recovery.

As in pre-War days the Bank of England continued after the War to use open-market operations as a supplement to Bank-rate policy at times when it desired to bring the market rate closer to Bank rate or to adjust market conditions to a change which it was about to make in Bank rate. For example, in the last week of January, 1931, after sterling had been weak in terms of various currencies for months in succession and the Bank's gold reserve had dropped to almost £140,000,000 and after market rates had been below the Bank rate of 3 per cent. by at least 1 per cent. for many months, the Bank suddenly intervened in the market with a policy designed to bring market rates more into touch with the existing Bank rate. It not only sold securities with a view to withdrawing loanable funds from the market, but it also sold Treasury bills in the market at rates considerably in advance of market rates for fine commercial bills. These operations resulted in the immediate adjustment of market rates to the higher level dictated by the Bank's intervention. The rise in money rates proved effective so far as the foreign exchanges were concerned, and the rates on New York and Paris moved away from their respective gold-export points.¹ Since 1932, however, open-market operations have for various reasons not been adopted for the purpose of making Bank rate effective.

With regard to the neutralising of seasonal movements, a more systematic and consistent technique has been evolved as compared with the hesitating and half-hearted manner in which such operations were undertaken prior to the War. The Bank has, for example, almost regularly bought securi-

¹ *Economist*, 31 January, 1931.

ties (stocks or Treasury bills, mostly the latter) during December in order to offset the heavy withdrawals of currency for the Christmas holiday and shopping disbursements, and sold ¹ them in January with the return of notes from circulation. It has also conducted such "stabilising" operations in connection with the movement of Government funds, buying securities during periods of heavy tax payments when funds flow into the Government accounts ² at the Bank and selling them when heavy disbursements are made by the Government for dividends or for other purposes. The object of these purchases and sales is, of course, to prevent, as far as possible, the market and its rates being disturbed by temporary withdrawals and accruals of funds on account of the financial operations of the Government. Moreover, the Bank has adopted a similar practice in respect of the "ironing out" of the seasonal autumnal drain, which was such a feature of pre-War days. On some occasions, however, it has refrained from neutralising a particular seasonal movement apparently because of its desire to see a corresponding change in market rates.

The policy of neutralising disturbing movements has also been applied to offsetting the inflow and outflow of gold resulting from what appear to be temporary or artificial trends in the balance of payments, particularly in connection with the large-scale movements of fugitive capital. Prior to 1932 the Bank did this on its own account as part of its policy of insulating the internal credit structure from external forces as far as possible and avoiding changes in market rates and in Bank rate which were not essential for purposes of control and regulation. It bought securities when gold flowed out of the country and sold them when gold flowed in again. When, however, in its opinion the prevailing conditions demanded that the outflow or inflow of gold should have its peculiar effect on the credit base either wholly or partly, it did not offset the particular movement of gold, or did so only partly, according to circumstances. Since the Exchange Equalisation Account was

¹ These transactions do not necessarily represent actual sales in the market, but frequently consist of Treasury bills maturing which are not renewed by the Bank. This is generally acknowledged as one of the great advantages of Treasury bills in connection with open-market operations.

² In recent years Government accounts have derived added importance from the operations of the Unemployment Insurance Fund, Exchange Equalisation Account, etc.

brought into being in 1932, the Bank has performed these operations mainly on behalf of the Account, which is managed by the Bank for account, and subject to the control, of the Treasury, which in turn works in close co-operation with the Bank.

Through the Exchange Equalisation Account the effects of gold and capital movements on the credit situation are offset, as a general rule, by the sale of an equivalent amount of Treasury bills when gold or exchange is purchased by the Account, and by the purchase or redemption of bills in the case of an outflow of gold or a sale of exchange. On the 31st March, 1938, the Account held 42,546,000 fine ounces of gold, of a value of about £300,000,000 at the current market price. Its gold holdings would have been considerably higher if the Bank had not bought a large amount of gold from the Account from time to time,¹ mainly in connection with the big rise in the note circulation, but partly also as a means of maintaining the credit base at a level demanded by a cheap-money policy and relieving the Account at the same time.

In this connection a new open-market technique was adopted in May, 1938, when a substantial repatriation of French funds from London took place. Instead of seeking to offset the temporary contraction of bank cash by buying Treasury bills, the Bank allowed it to be known in the market that any dealer or broker finding himself short of funds, and unable to balance his position by borrowing in the market, would be able to sell bills at $\frac{1}{2}$ per cent. to the Bank's broker instead of having to get direct accommodation from the Bank at its official discount or advance rates, and it was reported that these terms were availed of to an appreciable extent. As the *Economist*² pointed out at the time,

the shifting of the initiative for open market operations from the authorities to the market itself secured obvious advantages, for the

¹ While this book was in the press, gold of a statutory value of £200,000,000 (about 47,000,000 fine ounces) was transferred from the Bank to the Exchange Account in January, 1939, and this amount represented practically the entire acquisition of gold by the Bank since the end of 1932. The transfer of gold to the Exchange Account must be associated with the substantial outflow of gold from London during 1938, mainly to New York and Paris, and with the decline in the gold holdings of the Account from 42,546,000 ounces on 31 March, 1938, to 21,684,000 ounces on 30 September, 1938, and a further reduced quantity (not yet disclosed) at the end of 1938.

² 28 May, 1938.

size of those operations was automatically adjusted, with the greatest possible precision, to the amount of help required by the market.

Another phase of open-market policy has been that of supporting Government credit in connection with the issue of new loans or the conversion of old loans. During the War and post-War periods the Bank had in various ways to assist the Government in raising the enormous amounts required; and since that time the Bank has on several occasions been called upon to support Government credit¹ for one purpose or another. The principal occasion was in respect of the conversion of the £2,000,000,000 5 per cent. War loan on a 3½ per cent. basis in July, 1932. Without the active assistance and co-operation of the Bank in the form of a substantial increase in the credit base and the lowering of money rates generally, the Treasury could not have carried out such a gigantic and essential conversion operation at such a low rate successfully.

As an indication of the extent and trend of the Bank's open-market operations over a period of years it may be pointed out that, from £311,761,000 at the end of 1929, the Bank's total holdings of Government securities increased to £368,600,000 at the end of 1932. During this period the Bank's gold reserve fell from £150,549,000 to £124,309,000, while the Bank's note circulation and deposits together rose from £495,241,000 to £516,228,000, showing that the purchases of securities were aimed at neutralising the outflow of gold as well as increasing the credit base. Between the end of 1932 and that of 1937, however, the Bank's holdings of Government securities declined from £368,600,000 to £334,300,000 respectively, whereas its gold holdings valued at the statutory price of about 85s. per fine ounce increased from £124,309,000 to £327,244,000, and its notes and deposits from £516,228,000 to £673,909,000. This indicates that the Bank found it possible to reduce its holdings of securities²

¹ Wagemann points out that, if open-market policy is used to support Government securities "when, in times of strained bank credits, drops in quotations have occurred . . . Government loans can become first-class liquid investments in so far as they are not already so", and that "by means of this, the savers as well as banks and savings banks will perhaps invest in Government securities to a greater extent than they did before." *Wirtschaftspolitische Strategie*, p. 318.

² In this connection it must be added that £60,000,000 of Government securities were transferred from the Issue Department of the Bank to the Exchange Equalisation Account in December, 1936, in connection with the

during the years 1933-7 while still pursuing its policy of maintaining or increasing the credit base, since its large purchases of gold, primarily from the Exchange Equalisation Account, were more than sufficient to provide not only for the increase of £134,000,000 in its note circulation but also for a further increase of £23,000,000 in its deposits.

The increase in the credit base as a result of open-market operations by the Bank was also undertaken as part of a monetary policy designed to aid business recovery in the sense of creating favourable monetary conditions for production and trade, so as at least to prevent projects and transactions being cancelled or held up because of dear money or unwillingness on the part of banks to supply the requisite credit facilities. This phase of the Bank's open-market policy has, however, never attained large dimensions and great prominence as compared, for example, with the operations of the Federal Reserve System.¹

In general, it may be said that the Bank, acting in close co-operation with the Treasury and the National Debt Commissioners² and operating as the agent of the Exchange Equalisation Account and numerous central banks, has acquired a position of great power and control over the money, exchange, gold, gilt-edged security and capital markets of Great Britain. It must, however, be emphasised

reduction of £60,000,000 in the fiduciary note issue, which in turn was connected with the transfer of £65,000,000 of gold from the Exchange Equalisation Account to the Bank.

On 6 January, 1939, however, a reverse operation of great magnitude took place when £200,000,000 gold was transferred from the Bank to the Exchange Account and an approximately equivalent amount of Government securities (Treasury bills) from the Exchange Account to the Issue Department of the Bank, while the fiduciary note issue was increased from £230,000,000 to £400,000,000. The result was that the net position from the point of view of the credit base remained practically unchanged. This was also the case in February, when the Bank's gold holdings were written up by £95,000,000 to market prices and its holdings of securities were reduced by about the same amount coincident with a reduction in the fiduciary issue from £400,000,000 to £300,000,000.

¹ One of the reasons for the smaller dimensions of open-market operations in Great Britain is the existence of the traditional convention, previously referred to, under which the commercial banks maintain a ratio of between 10 and 11 per cent. of their deposit liabilities and react promptly, therefore, to changes in the credit base resulting from open-market operations.

² The National Debt Commissioners manage the investments of the Unemployment Insurance Fund, National Health Insurance Fund, Post Office Savings Bank, Trustee Savings Banks, etc., the combined resources of which have given the Commissioners an appreciable influence over the market for gilt-edged securities.

that the Bank's increased control over these markets, as compared with the pre-War period, rests largely on the Government's increased power and influence, which have been derived from such factors as the preponderance of the Treasury bill in the discount market, the considerably increased volume of extra-budgetary funds managed by Government Departments and invested in Government securities, the suspension of the gold standard, the operations of the Exchange Equalisation Account, etc. These developments have tended to place the Bank in a position of greater subservience to the requirements of State finance, and have rendered close and continuous co-operation between the Bank and the Government more necessary than ever before.

Open-Market Operations in the United States. The open-market policy of the Federal Reserve System has, on the whole, aimed at the same objectives as in the case of the Bank of England, but with important differences in degree or emphasis and in the scale of operations.

Open-market operations have frequently been undertaken for the purpose of making the discount rates of the Federal Reserve Banks effective or preparing the ground for changes in their rates, and also for the purpose of supporting Government credit in connection with new issues or conversions. Moreover, it has become a regular part of open-market policy, as in Great Britain, to avoid disturbances in money-market conditions as a result of movements of Government funds or seasonal movements. As recently as September, 1937, the Federal Open Market Committee¹ issued a statement that

in view of the expected seasonal demands on the banks for currency and credit during the coming weeks the Committee authorised its Executive Committee to purchase in the open market from time to time sufficient amounts of short-term United States Government obligations to provide funds to meet seasonal withdrawals of currency from the banks and other seasonal requirements,

and that "reduction of the additional holdings in the open market portfolio is contemplated when the seasonal

¹ Consisting of the Board of Governors of the Federal Reserve System and five representatives of the Federal Reserve Banks, and formed like its predecessors (the Federal Open Market Investment Committee and the Federal Open Market Policy Conference) to co-ordinate the open-market operations of the 12 Federal Reserve Banks.

influences are reversed or other circumstances make their retention unnecessary."

With regard to gold movements, purchases or sales of securities have been made at times to offset the effects of an outflow or inflow of gold, but these transactions did not represent a regular phase of open-market policy and were usually undertaken only in the case of exceptional movements of gold. Since 1922, when open-market policy as such was first adopted by the Federal Reserve Banks, their gold reserves have always been relatively large and, as compared with the Bank of England, whose gold reserves have till recent years always been small in relation to the size of the credit structure and the volume of the business and financial transactions of Great Britain, have shown a large margin over and above legal requirements. This difference between the two central banking systems in respect of the gold-reserve ratio accounted for the difference in the degree in which open-market operations were undertaken for the purpose of neutralising the effects of gold movements.

In the United States a somewhat similar procedure as in the case of the Exchange Equalisation Account of Great Britain was adopted in December, 1936, for the purpose of insulating the internal credit structure from gold movements through the medium of the Stabilisation and Inactive Gold Accounts operated by the Federal Treasury, which bought all the imported or locally-produced gold with the proceeds of Treasury bills and sterilised it for all practical purposes. In September, 1937, however, \$300,000,000 gold was transferred from the Inactive Gold Account to the Federal Reserve System in the shape of an equivalent amount of gold certificates which were issued to the Federal Reserve Banks, while the latter credited the Treasury accounts with the proceeds thereof; in February, 1938, it was announced that gold acquired by the Treasury would be included in the Inactive Gold Account only to the extent that such acquisitions in any one quarter exceeded \$100,000,000; and in April, 1938, it was decided, for reasons of monetary policy associated with the trade recession, to abolish the Inactive Gold Account and desterilise all the gold still held by that Account.

The principal phase of open-market policy in the United States has been the attempt to counteract extreme

trends in the business situation by buying securities during periods of declining activity and selling securities during periods of expanding activity. As far back as 1923 the following principle was adopted by the Federal Reserve Board, namely,

that the time, manner, character, and volume of open-market investments purchased by Federal reserve banks, be governed with primary regard to the accommodation of commerce and business and to the effect of such purchases or sales on the general credit situation.¹

The Federal Reserve authorities have never assumed that through open-market operations they could eliminate the business cycle, but they have aimed at "ironing out" the business cycle as far as possible or, in other words, reducing the amplitude of cyclical fluctuations in business activity to a minimum.

Burgess² emphasises that

open market operations find their major use as one of the most effective instruments of the Reserve System in its effort towards creating monetary conditions which will favor economic stability,

and that "Federal Reserve policy has been a compensating influence directed towards greater business stability", but that "the effectiveness of operations clearly depends on general economic conditions." With the aid of a chart which shows the general timing of open-market operations since 1922 in their relation to the volume of industrial production in the United States, he proves that "purchases of securities have been made at times of business recession, declining prices, heavy member bank debt, and declining or stagnant credit volume", and

have usually been accompanied and followed by a reduction in member bank debt, reduction in interest rates, increased volume of credit, steady or rising commodity prices, and at times by business recovery,

while

sales of securities have been made at periods of active business, rising prices, and expanding credit and have been followed by

¹ *Federal Reserve Bulletin*, May, 1923.

² *Reserve Banks and the Money Market*, Revised Edition (Harper), pp. 249-54.

increases in member bank borrowing, higher interest rates, a check in credit expansion, and often a moderation in business expansion.

Burgess also shows that "from 1922 through 1927 the response of the economic organism to relatively small changes in Federal Reserve policy was extraordinary", whereas "in 1928 and 1929 and later in the depression even the most vigorous measures taken by the Reserve System had relatively little effect". What happened was that "member bank borrowing, interest rates, and the growth of bank credit did indeed respond in a measure, but these in their turn failed to influence the country's economy", and while "the expansion of bank credit was checked in 1928 and 1929", "other lenders appeared and the increased rate of turnover or 'velocity' of bank credit made up for lack of growth in volume."

With regard to the failure of the Federal Reserve System in dealing with the great speculative boom of 1928-9, the general consensus of opinion both in and outside the United States appears to be that the main causes of the failure were the following. In the first place, the easy-money policy of 1927 (as reflected in purchases of securities and a reduction in official discount rates), which aimed not only at reversing the business recession that had set in locally after the first quarter of that year but also at contributing towards an improvement in the European monetary and economic situation, was maintained too long on account of the wider objective and thus contributed towards the engendering of the conditions that ultimately led to speculative excesses.

Secondly, while the System did sell securities to the amount of \$405,000,000 between the beginning of 1928 and April, 1929, and raised, for example, the discount rate of the Federal Reserve Bank of New York from $3\frac{1}{2}$ to 5 per cent. during 1928, this restrictive policy was pursued half-heartedly and hesitatingly instead of promptly and drastically. It is generally considered that, as soon as it was discovered that the speculative situation was tending to get out of hand, the New York discount rate should have been raised by two decisive strokes of at least 1 per cent. each, instead of by three successive increases of $\frac{1}{2}$ per cent, each followed by a gap of 13 months before the final increase of 1 per cent.

Thirdly, the System attempted to restrict credit for

speculative uses and make money dear for those purposes while maintaining an open door and lower rates for business activities. It relied to a large extent on direct action and moral suasion, both of which failed under the peculiar conditions prevailing in the United States at the time.

The relative success which attended the open-market policy of the System during the period from 1922 to 1927 has induced some to use it as a basis for a theory of business-cycle control which could, in their opinion, be similarly applied at all times and in all places. Its subsequent failure, however, has demonstrated, as previously stated in a general manner, that it can be successfully applied only within certain limits and under certain circumstances. It should be noted, moreover, that during the period of successful application the discount rate was almost always used in conjunction with open-market operations.

(In this connection it must be said that, in the opinion of several American writers, open-market operations have only been successful in their capacity as a supplement or complement to discount-rate policy and should only be used as such. According to Willis¹)

the older use of the open market transaction—that of actually influencing the rate which central banks have determined upon as a desirable one for the community—is, thus far, the only demonstratedly desirable employment of the open market operation,

and “such operations may prove a useful alternative or auxiliary to other modes of applying the central bank’s credit”, but “they do not constitute an independent kind of influence or type of transaction.” Clark² says that

although the New York Reserve Bank, by its open market operations, has been particularly successful in preventing short-time disturbances in the money market, smoothing out extremes in interest rates, and in meeting emergencies, the Bank’s operations have been scarcely, if at all, successful in the field of credit control,

and that “from the standpoint of credit control, open market operations are complementary to discount policy.” Spahr³ also holds that open-market operations

are a helpful instrument to use to meet seasonal demands in business, to offset the effects of government and corporate financing

¹ *Theory and Practice of Central Banking* (Harper), p. 199.

² *Central Banking under the Federal Reserve System* (Macmillan), p. 246.

³ *Federal Reserve System and the Control of Credit* (Macmillan), p. 130.

and gold movements, but it is very doubtful if they can have any appreciable effect upon cyclical or secular trends in business.

Harris¹ considers that "open market operations have proved to be a weapon of second rate effectiveness", and that "the high hopes held out for them are to be explained by a failure to understand their significance and functioning."

With regard to the relationship between open-market operations and the volume of Federal Reserve credit outstanding, emphasis must be laid on the traditional tendency of the member banks, when their cash reserves are increased as a result of the System's purchases of securities, first to reduce or repay their indebtedness to their Federal Reserve Banks. This means that such purchases of securities frequently do not result in a net increase in the volume of Federal Reserve credit, but if pursued in sufficiently large volume they will naturally bring about such an increase in due course. Conversely, the System's sales of securities do not always result in a decrease in the volume of Federal Reserve credit, as member banks frequently borrow from their Federal Reserve Banks to offset the depletion of their reserves. While member banks have shown a tendency to offset the System's open-market operations in these ways, it is generally considered that, in the absence of highly abnormal conditions such as have prevailed in recent years, open-market operations have been accompanied by a psychological reaction on the part of member banks which was favourable to credit expansion when rediscounts declined, and favourable to credit contraction when rediscounts increased.

As regards the relationship between rediscounts and open-market operations, both of which were envisaged by the original Federal Reserve Act, but in the position of the major and the minor activity respectively, a big change has taken place since 1929 as the result of huge purchases of securities by the System, combined with a large net inflow of gold. At first open-market operations merely showed a tendency to overtake rediscounts, and then to replace them as the major activity, but with the purchase of \$1,110,000,000 securities in 1932 and \$570,000,000 in 1933 open-market operations have replaced rediscounts

¹ *Twenty Years of Federal Reserve Policy*, Vol. I, p. 11.

altogether. The System's holdings of securities were increased from \$300,000,000 at the beginning of 1929 to \$2,564,000,000¹ at the end of 1937, while rediscounts declined from \$1,050,000,000 to \$9,866,000² respectively.

The purchases of securities in such large amounts, much more than sufficient to wipe out the indebtedness of member banks to the Federal Reserve Banks, formed part of a monetary policy designed to promote reflation and counteract deflation and depression. As recently as September, 1937, the Board of Governors³ referred to the purpose of open-market operations as being "to maintain at member banks an aggregate volume of excess reserves adequate for the continuation of the System's policy of monetary ease for the furtherance of economic recovery", and to "the System's policy of maintaining a condition of monetary ease" as "a policy that has been actively pursued since the early months of 1932".

This easy-money policy cannot be said to have had much success so far in attaining its objective, but the ultimate dangers of the possible inflationary effects of undue monetary ease appear to be fully realised by many American bankers. Recently Aldrich,⁴ for example, in discussing the System's policy of abundant and easy money and its relation to the Stock Exchange, pointed out that, when "the natural gasoline in the automobile, namely, true savings, is doped by the injection of an immense volume of expanding bank credit, rapidly growing, the machine will run wild", and that, "if money and credit are made excessive, dangerous and perverse phenomena will manifest themselves in unexpected places and at unexpected times."

¹ Consisting of \$1,155,000,000 in Treasury notes, \$657,000,000 in Treasury bills, \$752,000,000 in Government bonds (*Annual Report of Board of Governors for 1937*, p. 78).

² In addition to rediscounts there was an amount of \$18,049,000 outstanding at the end of 1937 in the form of industrial advances.

³ *Federal Reserve Bulletin*, October, 1937.

⁴ Address on *Stock Market from the Viewpoint of a Commercial Banker*, pp. 19-20.

CHAPTER XII

OPEN-MARKET OPERATIONS (*continued*)

OPEN-MARKET Operations in Other Countries. It is only in recent years that the question of open-market operations by central banks has attained some measure of prominence in countries outside of Great Britain and the United States. It was stated previously that, apart from the Bank of England, the only other central bank which undertook some form of open-market operations prior to the War was the Reichsbank, which used to offer Treasury bills for sale in the open market at times with a view to absorbing surplus cash and preventing a too rapid fall in the market rate.

Under the new Bank Law of 1924, however, the Reichsbank was, for all practical purposes, prohibited from conducting open-market operations; and it was not till 1933 that it was specifically given the power to do so. Sarow,¹ for example, bewails the circumstance that "the Reichsbank found it a severe handicap that in the credit crisis of 1931 open-market operations were still forbidden."² Under the amendments of 1933 the Reichsbank obtained the right to buy and sell certain specified securities,³ "with a view to regulating the money market", and to include such securities as cover for the Bank's note issue; and in the annual report of the Reichsbank for that year it was stated that those amendments were intended to give the Bank "an increased freedom of movement with regard to the requirements of modern times, *inter alia* by means of the open-market policy."

Sarow⁴ considers that "in Germany the large con-

¹ *Offenmarktpolitik zur Konjunkturregelung*, preface.

² Mildred Northrop, after referring to the Reichsbank's "readiness to abandon bank rate in periods of emergency" (prior to 1933) as proof that "the Reichsbank itself considered its discount policy an inefficient tool of central bank control", says that "this attitude was conditioned . . . in part by the inability of the German bank rate to lean upon open market operations." *Control Policies of the Reichsbank, 1924-33*, p. 306.

³ Bonds issued by the Reich or by any German State or municipality or by certain Government credit institutions, or bonds guaranteed by the Reich or by any German State, or shares of German railways.

⁴ *Op. cit.*, preface and p. 88.

versions and the financing of the labour creation programmes would have been impossible without direct and indirect open-market policy”, and points out that, while “the direct open-market operations of security purchases attained only a high point of about 450 million marks”, “the employment thereof for the purpose of fostering the capital market and as an initial stimulus for conversions produced a powerful effect.”

With regard to France, Margaret Myers¹ says that in the decade following 1857,

when the Bank of France changed its discount rate frequently in imitation of the Bank of England, the question was raised as to whether or not the Bank of France should also engage in open-market operations in the English fashion,

and that

the question was decided in the negative, not because it was thought that the Bank lacked the necessary authority, but because it would expose the Bank to risk of loss, and also to the suspicion of manipulating the market.

After the War, however, the attitude of the Bank of France generally was that it did not have any real authority to conduct open-market operations, as it was not specifically empowered by its statutes to buy and sell Government securities for its own account.

Under the Convention of 1928 between the Treasury and the Bank, the latter agreed to take non-interest-bearing notes² of the Caisse d'Amortissement, with a maturity of three months but renewable without limit, to the amount of 5,930,000,000 francs, and the Bank was authorised to sell these notes in the market “if it judges this to be useful, in order to affect the volume of credit and maintain the control of its circulation” and to “repurchase the notes sold before maturity”. According to Margaret Myers,³

when in December, 1929, and January, 1930, the inflationary tendency of the Paris market raised the question of possible action by the Bank of France in the open market, it was discovered that the cost would be prohibitive, for the Bank would be obliged to

¹ *Paris as a Financial Centre*, p. 29.

² These notes were to take the place of the Treasury notes which the Bank held at the time and which represented advances made during the War against Russian Government bonds as collateral.

³ *Ibid.*, p. 30.

pay interest on such of the notes as were in the hands of the public, although in the hands of the Bank they were non-interest bearing.

In June, 1938, the position of the Bank of France as outlined above was altered in that it was specifically empowered by decree of the President to undertake open-market operations¹ in respect of Treasury bills, National Defence Bonds with a maturity not exceeding two years, short-term bills of local authorities, and bankers' acceptances. The decree emphasised that this power was granted to the Bank "in order to influence the volume of credit and to regulate the money market"; and the Prime Minister, in his report to the President, justified it on the ground that "capital movements which have affected the Paris market, in the course of recent years, have demonstrated the utility of giving the Bank greater freedom and a more effective power of intervention", and that open-market operations "should render discount policy more effective on the money markets."

In Holland the subject of open-market policy was discussed in 1936 when the renewal of the charter of the Netherlands Bank had to be sanctioned by the Legislature. Under the old charter it was unable to conduct open-market operations² and had to rely almost entirely on the discount rate for purposes of credit adjustment, but under the new charter it was given the power to buy and sell Treasury bills or notes, subject to the provision that they were to be purchased only from third parties, and also bankers' acceptances. It was also provided that one-half of the income derived by the Bank from open-market operations and from transactions in foreign exchange should be allocated to a special reserve fund until the latter amounted to one-half of the authorised capital.

¹ The Bank was prohibited from obtaining securities direct from the Treasury and was only allowed to operate in the open market. This was facilitated by the simultaneous establishment by private banking interests in France of a discount company to perform functions similar to those of the discount houses operating in the London market. On the other hand, unless such State institutions as the Caisse Autonome d'Amortissement, the Caisse des Dépôts et Consignations and the Rentes Stabilisation Fund, whose operations may have important effects on security values and money-market conditions, refrain from acting independently of the Bank of France, the latter's control over the Paris money market would remain liable to be impaired as in the past.

² The Netherlands Bank had for many years followed the practice of carrying foreign bills in its portfolio, but this was adopted primarily as a first line of defence for exchange rates.

In Norway, where under the old law there was some doubt as to whether the Bank of Norway had the power to carry out open-market operations, an amendment was passed in 1936 with a view to making the position quite clear. It was specified that the Bank could buy and sell Government bonds or bonds of the Norwegian Mortgage Bank or other interest-bearing and readily negotiable securities. Provision was also made for a Securities Adjustment Fund and for allocation to this Fund of a portion of the Bank's profits after payment of a 6 per cent. dividend. Moreover, any profit or loss resulting from purchases and sales of securities was to be credited or debited to this Fund. The Governor¹ of the Bank has expressed the opinion that open-market operations constitute "a necessary supplement to the means of the Bank in the carrying out of its credit policy", and that "the intervention may act in conjunction with other means and intensify their effect."

In Sweden, owing to highly liquid money-market conditions and the relatively small amount of Government securities held by the Riksbank, the latter recently made arrangements with the National Debt Office under which Treasury bills or other Government securities could be created,² as and when required, to be sold in the open market for the express purpose of absorbing an excess of liquid funds.³

In Belgium the National Bank was also expressly authorised in 1937 to buy and sell, in addition to trade bills, Treasury bills and long-term Government bonds, but limits were imposed on the Bank's purchases of Government securities as a safeguard against undue demands from the State. The Treasury assisted in the establishment of an open market by issuing three-months' Treasury bills on a public tender basis.

With regard to the newer central banks, the need for some form of open-market operations as a supplement to discount-rate policy and as an instrument of neutralisation has, under modern conditions, similarly been felt as in the case of the older banks mentioned above. The

¹ *Monthly Report of Bank of Norway*, February, 1936.

² As these securities were to be specially created for the purposes of the Bank, it would have to pay the interest on such securities itself.

³ For the same purpose the Riksbank was authorised to pay interest on time as well as demand deposits.

scope for open-market policy on the part of many of the newer banks has, however, been limited by the existence not only of relatively narrow markets for Government securities, but also of statutory restrictions on their powers of dealing in Government securities.

These restrictions were imposed, as explained in an earlier chapter,¹ as a result of the unfortunate experiences which central banks had with Government paper during the War and post-War periods, and were intended to protect the central banks against unsound demands from the State. It is true that, under the pressure of the severe depression, some of these restrictions were relaxed during the period from 1930 to 1933, but those relating to the buying of long-term securities have in many cases remained in such a form as practically to limit such securities to ordinary investments which most of those central banks need as a source of income. Moreover, of five new central banks which have been established since 1934, namely, those of India, Argentina, Salvador, Canada and New Zealand, only the two last-named were free from substantial restrictions on their holdings of long-term securities.

Apart from the restrictions on their holdings of long-term Government securities, the newer central banks have found their scope for operations in these securities further narrowed, as in the case of some of the older ones, by the lack of wide and active markets in such securities. As the Governor² of the Bank of Norway said recently, "we should not close our eyes to certain defects of our securities market, which to a rather large extent limit the possibility of conducting operations of this kind", and

we may at times make purchases, but it is difficult to put through sales of securities in larger proportions, because the market is so limited, and a driving down of the prices may produce harmful subsidiary consequences.

The Commonwealth Bank of Australia³ is also reported to have said, in connection with open-market operations in Australia, that "these operations are difficult because of the sensitive and limited nature of the bond market, and because of the risk of affecting the price and yield of Government securities."

¹ See pages 49-52.

² *Monthly Report of Bank of Norway*, February, 1936.

³ *Report of Royal Monetary and Banking Commission* (1937), p. 68.

Treasury bills and other short-term Government securities, however, afford such central banks a better opportunity for open-market operations. The question is mainly one of establishing an open market for Treasury bills, and judging by experience the active co-operation of the central bank is essential for the establishment and maintenance of such a market. In this respect the central bank can serve a very useful purpose by declaring itself ready at all times to buy Treasury bills from third parties at a moderate rate. With this assurance from the central bank, the Treasury bill represents the best available means of developing a money market in the countries in question, as the trade bill and bankers' acceptance are not used to any great extent and as the trade bills that are available for discount are discounted by the banks directly for their customers and remain ¹ with their local or overseas offices till maturity.

In a number of these countries a great deal has already been done in the direction of developing a money market based on the Treasury bill as the staple medium and on the active co-operation of the central bank. In Canada, for example, the introduction of three-months' Treasury bills and of the tender system and the willingness of the Bank of Canada to buy Treasury bills have assisted considerably in widening the scope of the market for such bills. In referring to the desirability of developing a bill market in Canada, the Governor of the Bank of Canada is reported to have said early in 1936 that this could be attained on three conditions, namely, a sufficient volume of Treasury bills, a good institutional distribution of Treasury bills, and an established practice amongst the commercial banks of regarding their holdings of Treasury bills as a secondary reserve.²

As regards the use of open-market operations as an instrument of credit adjustment, it was stated in the annual report of the Bank of Canada for 1937 that the Bank had kept credit conditions easy by bringing about an increase of \$15,000,000 in the chartered banks' cash reserves, notwithstanding an expansion of \$23,600,000 in the note circulation, and that the principal instrument employed was an addition of \$25,800,000 to its holdings of Treasury

¹ Except, of course, when rediscounted by the Central Bank.

² *Midland Bank Monthly Review*, July-August, 1937.

bills and other Dominion or Provincial Government securities. It was also emphasised that the increase in the Bank's security holdings takes place during the closing months of each year, because it has been the Bank's policy "to provide additional cash to offset the seasonal increase in the amount of notes in the hands of the public", and because it is "the time of the year when the chartered banks desire to build up their cash reserves".

When year-end movements of this character are taking place, the short-term investments of the Bank of Canada tend to rise, since the market for Treasury bills and other short-term securities would not be capable of absorbing the holdings which the chartered banks may desire to part with temporarily, unless support were given by the central bank. In the absence of such support, considerable and quite unnecessary dislocation in the capital market would result.

In India the tender system of the issue of Treasury bills through the central bank has also been adopted in recent years, and the Reserve Bank of India is actively engaged in the widening of the market for Treasury bills. According to its annual report for 1937 it was "also considering whether it would be possible to develop open-market operations in trade bills", but there are "many difficulties in the way, not the least of which is the stamp duty on bills,¹ which, besides being very onerous at present money rates, is a severe handicap to our purpose."

In such countries as Australia, South Africa and New Zealand attempts have also been made to establish an open market in Treasury bills. In South Africa, for example, the Reserve Bank entered into an arrangement with the Union Treasury in 1927, under which the latter was to issue three-months' Treasury bills through the Bank, while the Bank undertook to buy them back in the event of the holders thereof requiring funds after bills had run for not less than 14 days, but at $\frac{1}{8}$ per cent. above the rate at which they had been issued. In 1928, however, the Reserve Bank decided to discontinue this arrangement, partly because the Bank regarded its own position as being prejudiced by the obligation to buy

¹ It is reported that, at the request of the Reserve Bank, the Indian Government has now consented to reduce the stamp duty on inland bills to a uniform level of two annas per 1,000 rupees (*Economist Banking Supplement*, October, 1938, p. 16).

back at any time large amounts of Treasury bills at rates fixed in advance instead of those determined by the prevailing monetary conditions, and partly because the other banks had in the meantime provided competitive facilities for the temporary employment of surplus funds in the Union by raising their interest rates on fixed deposits to the level of the rates on Treasury bills and by paying interest on deposits of £10,000 for periods of less than three months, subject to one month's notice. The Bank then adopted the practice of discounting Treasury bills at rates fixed from time to time, depending upon the prevailing conditions and the current rates paid by the Treasury. In this manner the Bank performed a useful function and widened the market for Treasury bills. During the financial years 1928-9 and 1929-30, for example, the turnover of Treasury bills discounted by the Bank, usually for very short periods, amounted to £7,000,000 and £4,170,000 respectively. In 1933, however, the issue of Treasury bills to the public was discontinued as a result of the Treasury having been, for various reasons, in no need of short-term funds; and it was not resumed till about the middle of 1938.

In Australia, an attempt by the Commonwealth Bank in 1936 to issue Treasury bills¹ to the public as an initial step in the development of a market, instead of only to the banks as had been the practice up to that time, was likewise frustrated by the decision of one of the banks, followed subsequently by the others, to raise the three-months' deposit rate above the rate at which the Treasury bills were offered to the public. In 1937 the Royal Monetary and Banking Commission² reported that in their opinion it would be desirable to have an open market for Treasury bills in the form of regular offers of such bills for public tender at rates to be determined by the tenders received, and that it would be essential for the Commonwealth Bank to be free to tender for any amount. They also expressed the opinion that, if an open market were established and the public as well as the trading banks were accustomed to holding and dealing in Treasury bills, the power of the Commonwealth Bank to regulate credit might be strengthened through the opportunity to buy or sell Treasury bills, and through its rate of rediscount.

¹ Out of its own holding.

² Pages 234 and 235 of Report.

In the Argentine the question of creating an open market and conducting open-market operations as a means of reducing or absorbing an excess of liquid funds has been greatly facilitated by the fact that, at the time of its constitution, the Central Bank acquired 3 per cent. Consolidated Treasury Bonds ¹ to the amount of 400,000,000 pesos. When, therefore, in 1935-6 it desired to reduce the excessive liquidity that had arisen from the revaluation of gold and a favourable balance of payments, it succeeded in devising an ingenious method ² of dealing not only with the problem of liquidity but also with that of laying the foundation of an open market. This method consisted of making three-months' paper with no fixed interest out of long-term and fixed-interest Treasury Bonds by issuing Certificates of Participation in these Bonds. At first the Certificates were offered to the banks in amounts and at prices already fixed, but after a few months' experience the Bank decided to change this procedure and substitute that of fortnightly tenders and allotments to the highest bidders, which "amongst other advantages allows oscillations of the money market to be closely followed".³ Moreover, the Certificates could be discounted at any time with the Central Bank at the minimum rate for rediscounts of bills bearing two signatures. At the end of 1937 the Certificates in circulation amounted to 310,000,000 pesos.

In addition to the fortnightly tenders for Participating Certificates, the Central Bank acted as the agent of the National Government in connection with the monthly tenders for Treasury bills for the Government's own requirements. The amounts of these bills in circulation, however, fluctuated only between 32,000,000 and 57,000,000 pesos during 1937. Other issues of Treasury bills have been made by the Bank in part payment for the purchases

¹ These bonds did not constitute a new Government issue, but were merely the result of the conversion of Treasury bills and other Government securities held by the Banco de la Nacion and the Caja de Conversion and transferred to the Central Bank on its establishment.

² Another method of absorbing liquid funds was that of redeeming foreign debt of the Argentine Government to the amount of 357,000,000 pesos (about £24,000,000), during 1936 and 1937, out of the proceeds of Government bonds and Treasury bills issued in Argentina and out of exchange profits. This method was also used by the Government of the Union of South Africa, which redeemed overseas debt to amount of about £30,000,000 during the years 1934-7.

³ *Annual Report of Central Bank of the Argentine for 1936*, p. 6.

of exchange on behalf of the Foreign Exchange Fund. These issues were authorised by the Treasury at the request of the Bank, which desired to increase its capacity for absorbing an excess of liquid funds, and the interest on these bills was not to be borne by the Treasury but was to be paid for out of an additional commission on purchases and sales of exchange. According to the Bank's Annual Report for 1936,

this has proved to be an effective measure in the short period of its application and without doubt will continue to be so while the balance of the Country's international payments continues to be favourable.

Conclusion. It will be observed, therefore, that, while genuine open-market operations are, and can be, undertaken at present on a relatively large scale only by the Bank of England and the Federal Reserve System of the United States, the central banks of many other countries, old and new, have been exerting themselves in recent years to establish some or other form of open-market operations as a supplement to discount-rate policy and as an instrument for neutralising seasonal movements or movements of Government funds or for insulating the internal credit structure from sudden and temporary changes in the balance of payments.

The immediate problems for many of these central banks are, firstly, the establishment or development of an open market for Treasury bills, which has been found all the more necessary in the absence of a wide and active market in long-term Government bonds and of wide powers of dealing in such bonds; and, secondly, the absorption of an excess of liquid funds which has been brought about by the revaluation of gold stocks or inflow of capital or favourable balances of payments on current account.

For the purpose of an open market the following conditions have been found to be more or less essential, namely, a sufficient volume of Treasury bills; a not too uneven or irregular flow of maturities; the offer of Treasury bills to the banks and the general public on a weekly, fortnightly or monthly tender basis, preferably under the ægis of the central bank which should also be allowed to tender; the use by banks of Treasury bills as a secondary

reserve ; and an undertaking by the central bank that it would always be prepared to discount Treasury bills for third parties at a rate not far removed from the current rate at which such bills are issued. The establishment of one or more bill dealers or brokers would be of great assistance, but not essential, to an open market.

The central bank, with its branches in the principal towns, operates satisfactorily as the agent of the Treasury, receiving tenders for Treasury bills and issuing them to the highest bidders, and financing the Treasury with ways and means advances at times in order to avoid a too uneven flow of maturities or to tide the Treasury over the intervening period in the event of unsatisfactory or insufficient tenders. On the other hand, the central bank requires the active co-operation of the Treasury in attaining some of the conditions, such as the issue of Treasury bills on a tender basis, a relatively even flow of maturities, and a sufficient volume of bills. To attain the last-named condition in some countries, the Treasury may even have to consider redeeming a long-term loan at maturity out of the proceeds of new Treasury bills instead of converting it.

With regard to the absorption of an excess of liquid funds, some of the central banks which have been faced with such a situation have been handicapped by the fact that they did not have at their disposal any Treasury bills or other Government securities over and above what they consider to be their minimum holdings as a source of income, and that even if they were prepared to sacrifice the income by selling these securities, they could only absorb a part of the liquid funds with their small holdings. In Sweden an attempt was made to overcome this difficulty by arranging for the creation of special securities by the Treasury for sale by the central bank to the market ; and in Argentina, where the central bank had a substantial holding of Government securities, special securities were created as an additional means of absorbing liquid funds. The disadvantage of this expedient is, however, that it is artificial and may, like all artificial measures, complicate matters in the end. In any event, if such securities are created, the Treasury would ordinarily not be prepared to pay interest on securities the proceeds of which it did not need for its own purposes ; and the central bank would

have to pay it out of its own resources, as was arranged in Sweden, or out of a new commission or other charge, as was devised in Argentina in connection with the issue of Treasury bills for the purchase of exchange.

CHAPTER XIII

OTHER METHODS OF CREDIT CONTROL

RATIONING of Credit. Rationing of credit was used by central banks as a method of control prior to their adoption of a systematic discount-rate policy and prior to their unqualified acceptance of the responsibilities of the lender of last resort.

It was found to be employed as an instrument of credit control towards the end of the 18th century by the Bank of England, which placed a limit upon its discounts for any one house or rejected a proportion of each discount application whenever total demands exceeded the sum which it was prepared to discount on any one day.¹

As long as the Bank was prohibited by the usury law from raising its discount rate beyond the maximum of 5 per cent., it was obliged to resort to other methods of restricting the demands for accommodation made upon it during times of stringency and declining gold reserves; and the methods which it chose to use under the circumstances were not only the rationing of credit by limiting the amount available to each applicant, but also the restriction of its discounts to bills of a shorter currency. Both these methods invariably elicited severe protests, since they tended at times to operate very harshly and unjustly against certain houses and certain trades, and also to engender fears of a panic or crisis whenever a credit stringency developed.

The usury law was relaxed in 1833, when bills of exchange of up to three months were exempted from the legal restriction, followed a few years later by the extension of the exemption to bills of any currency, but Bank rate was not used as an instrument of control till 1839, and it was not until after the Bank Act of 1844 was brought into operation that the Bank came to rely upon Bank rate as its primary weapon. It was then decided to discontinue rationing credit either as an alternative or a supplement to a rise in Bank rate, since the Bank was gradually developing in the direction of accepting the

¹ See *King's History of the London Discount Market*, pp. 13 and 71.

position of being the lender of last resort, and since rationing of credit in a crisis was clearly difficult to reconcile with the duty and responsibility of the lender of last resort.

This situation developed also in the case of other central banks according as they came to adopt the discount rate as their principal weapon. It was only under war or other highly abnormal conditions that further instances of credit rationing by some Continental central banks emerged from time to time.

In recent years, owing to the exceptionally difficult and critical conditions with which some countries have had to contend as a result, directly or indirectly, of the aftermath of the Great War, credit rationing in one form or another has been adopted on several occasions by the central banks of those countries. According to Wagemann,¹ "it might be said that it had been 'rediscovered' for this purpose", and he refers to the use of credit rationing in Germany in 1924, "when the currency which had been stabilised by the introduction of the Rentenmark was endangered"; in 1929, "when the Paris negotiations in connection with the Young Plan led to the withdrawal of foreign money from Germany and to attacks on the German currency", and when "the Reichsbank wanted by means of credit restriction to force the banks to do everything in their power to counteract this manœuvre"; and in 1931, when "the Reichsbank used credit quotas to prevent the collapse of the large banks."

According to Mildred Northrop,² who has made an interesting analysis of the Reichsbank's technique of credit restriction and rationing during the years 1924-6, "some control action was essential on the part of the central bank because the speculative boom of the rentenmark cycle had got out of hand", and "a complete understanding of the conditions present in Germany in April, 1924 precludes any possibility of arguing that the Reichsbank should have controlled this situation through an increase in its discount rate." To her "it seems evident that the firm stand taken and maintained by the Reichsbank was one of the strongest factors that prepared the way for the relative prosperity of the later years", but "to hold that the restriction and rationing policy of the

¹ *Wirtschaftspolitische Strategie*, p. 321.

² *Control Policies of the Reichsbank, 1924-33*, pp. 336-61.

Reichsbank completely attained its ends is obviously unsupportable", since *inter alia* "it is probably true that many worthy industries suffered undue hardships or were even forced into bankruptcy because of lack of credit."

In Russia credit rationing by the central bank has become an important factor in general economic policy. Katzenellenbaum¹ points out that the discount rate of the central bank, the State Bank, "is neither an index of the supply and demand of loan funds nor a regulator of such supply", but that

the State Bank is guided by another principle in regard to the investment of its inflowing funds, namely, the allocation of funds among financially sound credit aspirants in accordance with a definite plan,

and that

at times when the demands for credit exceed the State Bank's available resources . . . the State Bank is obliged to divide these funds in some definite way among the enterprises which have need of them.

In fact, rationing of credit is, in a large measure, a logical concomitant of national planning schemes in authoritarian States.

There is no doubt that credit rationing can be employed as a decisive method of credit control. Wagemann² even claims that "in more primitive economic conditions, the setting of credit quotas is the only decisive method which the central bank has in order to prevent excessive credit demands on the part of business." Unless, however, it is accompanied by such efficient control and complete regimentation of the body economic as is practically impossible of achievement or can be approximated only in very few countries, it is a method which is open to serious abuses and inequalities of application,³ and cannot, in any case, be reconciled with the assumption by

¹ *Foreign Banking Systems*, edited by Willis and Beckhart, pp. 953-4.

² *Op. cit.*, p. 321.

³ The President of the Reichsbank, in dealing with the rationing of credit by that bank during the 1924-6 period, referred to credit rationing as "an extremely imperfect and undesirable form of action for a bank of issue", but justified its use by the Reichsbank on the ground that "extraordinary situations call for extraordinary remedies, and cannot always be mastered by the theoretical rules evolved for normal conditions." *Schacht's Stabilization of the Mark*, p. 203.

the central bank of the position of the lender of last resort.

In short, it can be justified only as a temporary expedient or a measure of despair, or as part of a comprehensive scheme of national economic planning which is itself the result of a desperate situation.

Direct Action and Moral Suasion. In one form or another direct action and moral suasion have been used at various times by central banks, either as alternatives to discount-rate policy or to open-market operations or in conjunction with them. In the wider sense direct action may be taken to include moral suasion; i.e. moral suasion may be regarded as one of the forms of direct action and has been treated in this manner by several writers. In general, however, it appears to be desirable to make a clear distinction between the two, "direct action"¹ embracing only those cases where the central bank decides or is compelled to take coercive measures against a commercial bank or other financial institution, while "moral suasion" is applied to those cases where the central bank endeavours to achieve its object by making suitable representations to the institutions concerned and relying on its moral influence and power of persuasion.

Direct action may take the form either of a refusal on the part of the central bank to rediscount for banks whose credit policy is regarded as being inconsistent with the maintenance of sound credit conditions, or a refusal to grant further rediscounts to banks whose borrowings from the central bank are considered to be excessive in relation to their capital and reserves or to their proportionate share (as compared with the other banks) of the resources of the central bank. Where the central bank desires to avoid having to detract from its position as the lender of last resort, it need not actually refuse to rediscount, but may charge such banks varying penalty rates over and above the official discount rate.

¹ "Direct action" has derived its designation from the fact that it implies direct dealing with individual banks, whereas discount-rate policy is applied generally and objectively to all financial institutions which have to borrow from the central bank, and open-market operations are characterised by their impersonal application and indirect effect. Moreover, rationing of credit is distinguished from direct action by virtue of its being applied at any particular time either to all credit institutions or at least to all of a particular type or group.

If, however, under the same set of conditions as outlined above, the central bank decides to apply moral suasion rather than direct action, it would merely resort to requesting and persuading the banks concerned to refrain from increasing their loans for speculative or non-essential activities, or even to reduce their loans for such purposes.

The theoretical significance of direct action and moral suasion is, by virtue of their direct and personal relationship with commercial banking operations, based primarily on the possibility of enabling the central bank to secure better qualitative distribution of bank credit, in contrast to discount-rate policy and open-market operations which can, in general, be used only for the purpose of quantitative control of credit.

In practice, however, direct action has not been found to be satisfactory and effective for purposes of qualitative control, partly because the element of force associated with it is not generally conducive to the attainment of positive results, and partly because commercial banks themselves find it very difficult to control the ultimate use of credit¹ and to make clear-cut distinctions in all cases between essential and non-essential industries, productive and unproductive activities, investment and speculation, or between legitimate and excessive speculation. Moreover, it is difficult to reconcile direct action, in the form of a refusal to rediscount, with the central bank's function as lender of last resort, and it can be applied only if the offending banks are short of funds and cannot replenish their reserves from outside sources.

Direct action has been given great prominence in the United States in the reports and pronouncements of the Federal Reserve System as well as in public discussion, particularly during the period 1928-9 when the Federal Reserve Board preferred it as a means of dealing with an abnormal speculative situation to the use of the discount rate, notwithstanding strong representations by the Federal Reserve Bank of New York for permission to make further increases in its discount rate. The experience of the Federal Reserve System with direct action has, however, been of such a nature that it cannot be envisaged as a possible alternative or substitute for discount-rate policy and must be regarded as of limited value and importance.

¹ See reference to elusiveness of credit on pages 130-31.

for other purposes. As Burgess¹ said, direct action is adapted to dealing with a few banks obviously using Federal Reserve credit for too long periods or in too large amounts, but to attempt to apply it more generally would involve endless controversy as to what constitutes "undue use of bank credit for the speculative carrying of or trading in securities, real estate, or commodities, or for any other purpose inconsistent with the maintenance of sound credit conditions".² Moreover, it would place the Reserve Banks in a position of assuming responsibility for the management of member banks.

Under the Banking Acts of 1933 and 1935 the Board of Governors of the Federal Reserve System were given much wider powers, not only over the Reserve Banks, but also over the lending operations of member banks. It is provided that each Federal Reserve Bank is to keep itself informed of the general character and amount of the loans and investments of its member banks with a view to ascertaining whether undue use is being made of bank credit for speculation in securities, real estate or commodities, and that in determining whether to grant or refuse advances, rediscounts or other credit accommodations, the Federal Reserve Banks shall give consideration to such information. If in the opinion of the Board any undue use of bank credit for the purposes mentioned is made by a member bank, the Board may suspend such bank from the use of Federal Reserve credit facilities, even if the Federal Reserve Bank concerned is not prepared to recommend it. The Board may also direct any member bank to refrain from further increase of its loans secured by stock or bond collateral for any period up to one year, under penalty of suspension of all rediscount facilities at Federal Reserve Banks. Furthermore, the Board is empowered to fix from time to time for each Federal Reserve district the percentage of each individual bank's capital and surplus which may be represented by loans secured by stock or bond collateral.

While in theory such wide powers as are now vested in the Board of Governors of the Federal Reserve System could be regarded as adequate for the purpose of quali-

¹ *Federal Reserve Banks and Money Market*, Revised Edition (Harper), page 256.

² In accordance with the provisions of the Federal Reserve Act.

tative control of credit by the central bank and for the maintenance of sound credit conditions, in practice the two limitations mentioned by Burgess are fundamental, namely, the difficulty of deciding at any time and for any bank when it is making undue use of bank credit for purposes inconsistent with the maintenance of sound credit conditions, and the effect which the exercise of such powers would have of placing the central bank in a position of assuming responsibility for the management of commercial banks. The issue of such regulations and decisions by a central authority with the power to enforce them would strongly tend to make the commercial banks slacken their vigilance and attention to detail and throw the onus on the central authority, or to make them look for ways of evading the full force of the regulations and decisions. In such a highly specialised and complicated business as commercial banking, the division of responsibility between the central bank and the commercial banks for the soundness of the lending operations of the latter and the confusion resulting from the evasion of the regulations by some banks and their observance by others are fraught with grave dangers to the financial welfare of the community.

With regard to moral suasion, while it has some of the limitations of direct action, it has at least the advantage of creating a less unfavourable psychological reaction, since it is not accompanied by statutory or administrative compulsion or threats of punitive action. If any element of compulsion is involved, it is in the nature of a moral obligation, and if any sign of a threat can be detected, it is not a direct one but rather in the nature of a friendly and well-meant warning. Moreover, if moral suasion can be regarded as a form of direct action, it is the only form which can secure for the central bank the willing and active co-operation of the commercial banks; and without such co-operation the central bank cannot hope to achieve tangible results in the long run in the direction of qualitative control of credit.)

Burgess¹ takes the view that "the Reserve Banks may at times exercise an important influence on the general credit situation through the informal suggestions which they may make to bankers", and that "the informal influence which they exercise in this way may at times

¹ *Op. cit.*, p. 257.

prove more important than their formal action under the law", but that "it is an influence to be exercised with the utmost discretion and would vanish with excessive use."

On the basis of Federal Reserve experience some American writers are not inclined to regard moral suasion as of much practical significance unless it is set with teeth in the form of statutory powers of intervention and control, and they welcome, therefore, the new powers which have been given to the Federal Reserve System. Clark,¹ for example, says that "persuasion as a means of credit control has not been successful" and that "the efficacy of warnings as an instrument of credit control has been very slight", for, "while at times they no doubt have exerted a restraining influence, the forces making for expansion have proved too powerful for warnings without any teeth in them to be effective."

According to the testimony of the Federal Reserve Bank of New York before the Senate Committee on Banking and Currency in 1931, "it is impracticable to use moral suasion as an effective part of a program designed generally to restrict or control expansion in or use of Federal Reserve credit", and it is not "possible for Federal Reserve banks by moral suasion or other means to prevent credit from being used for speculative or investment purposes as distinguished from other purposes." It was also stated that, while "some bankers are exceedingly anxious to coöperate with the reserve bank and are willing to sacrifice all other considerations to an accomplishment of that purpose", "others resent any suggestions as to how they should run their own business and are but little affected by anything less than most drastic methods"; and that "moral suasion, if effective, is bound to lead to discrimination, as it merely drives business from the coöperative bank to another less coöperative one." Moreover, in their opinion

there is no doubt that much can be done by direct contacts with bank officers, and in cases where the individual bank is borrowing in a manner which requires special treatment the method of direct contact must necessarily be employed,

but "it is a slow operation and, when many banks are to be dealt with, it does not produce results nearly so promptly,

¹ *Central Banking under the Federal Reserve System* (Macmillan), pp. 268 and 271.

effectively, or equitably as does a change in rate", the reaction to which "is sufficiently uniform to bring about prompt movement in the direction in which the rate should operate".

In this connection, however, it should be mentioned that the position in the United States, by virtue of the thousands of independent unit banks and the comparative newness of central banking, is rendered more difficult for the central bank which uses moral suasion than in the countries with old-established central banks and a relatively small number of big branch banks. In Great Britain, Sweden and Holland, for example, it is generally accepted that the central bank exerts its influence with an appreciable measure of success. Even in the case of several of the newer central banks operating in countries with a coherent branch-banking system, moral suasion has been resorted to with success.

In Germany also moral suasion has been employed on various occasions by the Reichsbank. Mildred Northrop¹ gives examples of the Reichsbank's use of "warnings backed up solely with publicity in fields where control lay wholly outside of the province of the central bank", and "warnings accompanied by threats of drastic central bank action unless the dangerous tendency was modified". As an example of the latter was given the attempt by the Reichsbank, in the Spring of 1927, "to force greater liquidity upon the German commercial banks" and "check stock market speculation" by warning them against "foreign short-term borrowing (particularly for stock market speculation)" and "their continued dependence upon central bank support for stock exchange commitments". At first "these warnings were not heeded" by the banks, and the Reichsbank only achieved its objective when it threatened them with credit restriction if they did not "put their affairs in a more liquid position".

✓To sum up, therefore, while there is scope for the useful application by central banks of direct action and moral suasion, their limitations in various directions must be fully recognised; and as instruments of credit control they must usually be regarded as subsidiary to discount-rate policy and open-market operations. Direct action should on the whole be confined to special cases, particu-

¹ Op. cit., pp. 369 and 377-8.

larly in democratic countries, although it might, like rationing of credit, fit in fairly well with the conditions prevailing in authoritarian states. For moral suasion there is in general a wider scope than for direct action, and in countries where there are highly liquid monetary conditions and where the central bank either cannot undertake open-market operations at all or cannot do so on a scale sufficient to counteract the undue liquidity, it is advisable if not essential for the central bank to use moral suasion as far as possible, in spite of its limitations. Its success would depend largely on the make-up of the financial structure, the prestige and experience of the central bank, and the degree of co-operation between the central bank and the commercial banks.

Changes in Minimum Cash Reserves of Commercial Banks. In recent years a new method has been devised for the purpose of increasing or decreasing the available supply of bank cash, namely, that of giving the central banking authorities the power to decrease or increase the minimum cash reserves to be kept with the central bank by the commercial banks.

This method was first introduced in the United States in 1933 and amended in 1935, when legislation was passed empowering the Board of Governors of the Federal Reserve System to change the member banks' reserve requirements by regulation "in order to prevent injurious credit expansion or contraction", the minimum reserve percentages not to be less than those existing at the time nor more than twice such percentages. This power to change the minimum reserves to be kept with the Reserve Banks by the member banks was intended as an additional means of enabling the Reserve Banks to control the money market and to contract or expand the credit-creating capacity of the member banks.

It was brought into use for the first time in August, 1936, when the reserve requirements were raised by one-half because of the fear that the big increase in the cash reserves of the member banks resulting from the heavy inflow of gold might be used as a basis of injurious credit expansion. As the Board of Governors ¹ said at the time,

¹ *Federal Reserve Bulletin*, August, 1936.

it is far better to sterilise a part of these superfluous reserves while they are still unused than to permit a credit structure to be erected upon them and then to withdraw the foundation of the structure ; and in the *Annual Report of the Federal Reserve Bank of New York for 1936* it was stated that the principal effect of the increased reserve requirements was " not to restrict the current availability of money, but rather to limit the potential expansion of credit which might ultimately be based upon the reserves held by the banks ".

The result of the increase of 50 per cent. in the minimum reserves was that the excess reserve balances of the member banks (i.e. over and above the legal minimum) were reduced from \$3,100,000,000 to \$1,800,000,000 ; and this reduction brought the reserves, in the opinion of the Board of Governors, " within the scope of control through the System's open-market portfolio, which consists of \$2,430,000,000 of United States Government securities." In other words, should a tendency towards undue expansion of bank credit develop, the System could, by selling a large part of its Government securities in the open market, eliminate the surplus funds of the member banks. In its *Annual Report for 1936* the Federal Reserve Bank of New York also referred to the necessity of bringing or keeping the central bank " within the range of effective contact with the money market ".

The excess reserves of the member banks, however, again increased as a result of the continued inflow of gold, and by the end of 1936 they stood at \$2,250,000,000. Accordingly the Board of Governors decided, in the beginning of 1937, to make a further increase in reserve requirements in two stages up to the limit allowed by legislation, namely, double the minimum reserves existing prior to August, 1936. On the 1st May, 1937, when the final increase was brought into effect, the excess reserves were reduced to \$875,000,000 ; and on that occasion the Board of Governors¹ issued the following statement, which affords a concise explanation of the motives and forces behind this new method :

So long as member banks had a volume of reserves far in excess of legal requirements, the customary instruments of credit policy, open-market operations and discount rates, were wholly ineffec-

¹ *Federal Reserve Bulletin*, May, 1937.

tive. . . . Through the elimination of about \$3,000,000,000 of excess reserves, the Federal Reserve System was brought into closer contact with the market and was placed in a position where sales or purchases in the open market could tighten or ease credit conditions in accordance with the public interest. In this way open-market operations, a far more flexible instrument of credit policy than changes in reserve requirements, have once more become an effective means of exerting the System's influence on credit conditions.

In April, 1938, however, "as a part of the Government's program for encouragement of business recovery",¹ the minimum reserves were reduced by 12½ per cent. from their new high level, thereby releasing approximately \$750,000,000 of reserves.

It appears, therefore, to be clear that the Federal Reserve authorities have decided to employ the device of changes in reserve requirements, like open-market operations and in conjunction with them, as a means of counteracting cyclical fluctuations in business activity.

The introduction of this device as an additional instrument of credit control in the United States has attracted a great deal of attention in other countries where central banks have experienced difficulty in controlling the credit situation and money-market conditions.

In New Zealand legislation was passed in 1936 which empowered the Governor of the Reserve Bank, acting with the authority of the Minister of Finance, to vary the percentages of balances to be maintained by trading banks with the Reserve Bank, subject to such balances not being at any time less than those provided for in the original statute, namely, 3 per cent. of time liabilities and 7 per cent. of deposit liabilities; and in Australia, where no statutory provision has yet been made for the holding of minimum reserve balances with the Commonwealth Bank by trading banks, a Monetary and Banking Commission recommended in 1937 that legislation be passed, providing not only for the holding of such minimum balances with the Commonwealth Bank for limited periods, but also for power being vested in the Commonwealth Bank Board, subject to the consent of the Treasurer, to vary the reserve percentages within the limit fixed by the consent of the Treasurer. In both these countries the underlying idea

¹ *Federal Reserve Bulletin*, May, 1938.

seems to be that the mere possession of the power of making changes in reserve requirements would considerably strengthen the hands of the central bank *vis-à-vis* the trading banks and increase its capacity or scope for moral suasion, and, consequently, that it might never be necessary actually to use this power.

In Sweden legislation was introduced in 1937 giving the Government the power for a limited period to authorise the Riksbank, at the latter's request, to prescribe at will the minimum proportion of their legal reserves which the commercial banks should keep in the form of balances with the Riksbank.

This method of changes in reserve requirements will probably tend to be more widely adopted and further developed, either as an alternative to open-market operations where they cannot be undertaken extensively or effectively, or as a supplement to them, in order to strengthen the technique of central banking control under highly liquid monetary conditions or, conversely, under conditions of severe credit stringency.

After saying that when there are excess reserves "the surplus of reserves is not distributed evenly among the banks of the country (some banks have more excess, some less, and a few have none)", and that "when reserve requirements are increased some banks will be hit much harder than others", Burgess¹ concludes that

despite these limitations the power is a most useful addition to the System's mechanism for credit control, especially as a means for dealing fundamentally with the large excess of reserves created by the extraordinary events of the depression emergency.

There are, however, further limitations than the one mentioned by Burgess. There is, for example, the fact that, like open-market operations, changes in reserve requirements have the effect of increasing or decreasing the available supply of bank cash, but such changes in bank cash do not always bring about corresponding or proportionate changes in the volume of credit actually created, either because commercial banks do not always seek to increase or decrease their loans and investments in accordance with the increase or decrease in the available supply of bank cash, or because the scope or demand

¹ *Reserve Banks and the Money Market*, Revised Edition (Harper), p. 260.

for bank credit does not always increase or decrease in accordance with such increase or decrease and the lowering or raising of money rates which may result therefrom.

Moreover, since changes in reserve requirements have a direct and immediate effect on the potential credit-creating capacity of all commercial banks and represent a powerful force to do good or harm to the banks and the community as a whole, the power to make such changes and the decision to do so at certain times throw an enormous responsibility on the central bank. It is not only that there will be a strong tendency generally to attach blame for any loss or disturbance to the action of the central bank owing to its direct connection with the change in credit conditions, but also that the effective use of this method demands what virtually amounts to superhuman knowledge and ability.

In short, while in theory it is a very prompt and effective method of bringing about the desired changes in the available supply of bank cash, in practice it has some technical and psychological limitations which tend to reduce its value as an instrument of control, and which prescribe that it should be used with great moderation and discretion and only under obviously abnormal conditions.

Changes in Margin Requirements on Security Loans.

Under the Securities Exchange Act of 1934 the Federal Reserve System has been given another instrument of credit control, designed specifically to assist it in controlling the volume of credit used for speculation in securities. The Board of Governors was empowered to prescribe rules and regulations with respect to the amount of credit that can be extended by banks against securities¹ registered on national securities exchanges for the purpose of carrying or trading in such securities, and with respect to margins for loans by brokers to their customers.

In 1936 the Board fixed a margin requirement of 55 per cent. for loans by banks or brokers to their customers for the purchase of Stock Exchange securities; and in November, 1937, this margin was reduced to 40 per cent.²

¹ Provision was made for the exemption of certain securities, such as Government securities and bonds.

² In the case of loans by banks to brokers and dealers in securities for the purpose of financing customers' commitments, and loans by brokers to other members, brokers and dealers, the margin requirement was reduced from the previous 40 per cent. to 25 per cent.

of the current market value of the securities held as collateral, as a result of the slump in the market prices of securities. For the same reason it was decided to fix a margin requirement of 50 per cent. for short sales with a view to restraining the activities of bears.

The Board was further assisted in its task of controlling the use of credit for speculative purposes by a provision in the Banking Act of 1933, which prohibited member banks from acting as agents for companies and individuals in the making of loans on securities, the so-called "loans for account of others", which constituted an important element in brokers' loans during the great Stock Exchange boom of 1928-9.

In referring to the Board's recently acquired power of adjusting margin requirements on security loans, Burgess¹ says that

it is a form of control which is in some degree paternalistic and restrictive, but speculation in securities had proved itself so destructive of economic stability in this country that some vigorous form of control of this sort appeared to be necessary.

From the technical point of view it is capable of being used as a prompt and effective method of restraining speculation in securities, but in practice it suffers from the same disadvantage as was mentioned in the case of the method of changes in reserve requirements, namely, that it throws an enormous responsibility on the central bank and will tend to cause the latter to be singled out, more than ever, for the rôle of arch-scapegoat. Burgess admits much of this in connection with the method of adjusting margin requirements on security loans when he says that

the legislation has placed upon the Reserve System a responsibility which is likely to prove onerous, for the System will find itself at times required by circumstances to take action which will directly and immediately influence the profits and even solvency of considerable groups of people.

Nevertheless, it must be appreciated that, as the United States have in the past been inflicted with speculative booms of greater frequency and intensity than any other country in the world, and as the Stock Exchange position

¹ *Op. cit.*, pp. 263-4.

has usually had strong reactions on general business activity, some method had to be devised in the United States for dealing with a phenomenon "which had proved itself so destructive of economic stability".

Publicity. Publicity as an instrument of policy is used by a large number and variety of central banks, which regularly publish weekly statements of their assets and liabilities, monthly reviews of credit and business conditions, and comprehensive annual reports on their own operations and activities, money-market and banking conditions generally, public finance, trade, industry, agriculture, etc.

Nowhere, however, has publicity been employed as extensively as in the United States, where the Board of Governors publishes, in addition to a weekly statement of the condition of the Federal Reserve System, a monthly bulletin on general business and credit conditions, and each of the twelve Federal Reserve Banks publishes a monthly review of conditions in its own district. Furthermore, the Board issues a weekly report of the condition of member banks in the principal cities and of the volume of bank transactions in the principal centres of the United States; and at times the views of the officials of the Federal Reserve System on financial conditions have been expressed in the official publications of the System or in other ways.

It is difficult, on the whole, to judge of the efficacy of publicity as a method of control, for while some central banks seem to regard and treat it largely as a matter of duty and as a very minor instrument of policy if at all, there are others which place a great deal of value and importance on it. Burgess,¹ for example, holds that the statements of views of officials of the Federal Reserve System "have sometimes constituted an instrument of policy fully as effective as specific action which might be taken", and that the availability of a wide range of information in the System's publications "may well prove in the long run as important a factor making for financial stability as discount or open-market policy."

The Reichsbank has also made extensive use of publicity. Dealing with the period from 1924 to 1933, Mildred

¹ *Op. cit.*, p. 258.

Northrop¹ says that "publicity at all times and at all places and in connection with every aspect of German economic life that the Bank considered vicious, unhealthy, or undesirable was resorted to without stint", and that "the danger of reckless public spending, the essential poverty of Germany, the uneconomic use of foreign funds . . . were all unpopular causes", but concludes that the Reichsbank "was in no measure successful in checking or correcting these basic weaknesses."

Owing to the increasing public interest and intervention in matters of monetary and banking policy, some publicity by the central bank appears to be essential. In general, however, it may be regarded as another instrument which is to be used with moderation and discretion.✓

¹ *Op. cit.*, pp. 380-1.

CHAPTER XIV

CENTRAL BANKS AND BUSINESS CYCLES

Business Cycles. The term "business cycles" has been derived from the cyclical nature of fluctuations in trade and industry. According to Wesley Mitchell,¹ a business cycle must be defined as any single succession of expansion and contraction of business activity, i.e. between one period of prosperity and another or between one depression and another, irrespective of whether the transition from prosperity to depression is of the nature of a crisis or merely a mild recession. On this basis any business cycle is held to consist of four successive phases, viz. prosperity, recession, depression and revival; and the regular recurrence thereof in that sequence has been established by a study of economic statistics and business annals in a large number of countries over an extended period of years.

Moreover, these business annals as compiled and analysed by Mitchell, Thorp, Mills and others have revealed that in most cases business cycles have tended to develop the same phase at nearly the same time in different countries, that they have followed each other without intermissions, that they have been affected by all sorts of non-business factors, and that they have varied in intensity and duration, depending upon circumstances. For example, there have been wild panics and quiet recessions; sensational booms and mild prosperity; complete prostration and mere dullness; dramatic revivals and long-drawn-out recoveries.

The recurrence of alternate periods of prosperity and depression is not a law of nature, but by reason of the regularity of such recurrence over a long period of years in practically all countries it has come to be regarded by many as being largely of the nature of a law.

Nature and its vicissitudes undoubtedly exercise a substantial degree of influence over the course of fluctuations in business activity. For example, serious crop failures in a country where agriculture played an important

¹ *Business Cycles : The Problem and Its Setting.*

part might serve to bring about a recession in business activity by causing a considerable reduction in the purchasing power of that country, or they might accentuate and prolong a recession or depression which had already set in owing to other causes. On the other hand, bumper crops in such a country might facilitate or accelerate the transition from depression to prosperity, and might even create a boom if they came at a time when prosperity was already in full swing. In general, however, the coefficient of correlation between weather and business cycles has been found to be relatively low. In other words, while the fluctuations in weather conditions and their influence on agricultural and pastoral production certainly constitute one of the determining elements in the cyclical fluctuations of business activity, the principal forces are what might be called business factors arising out of the modern type of intricate economic organisation which has spread over the greater part of the world since the Industrial Revolution, and which has tended to become more and more complicated and specialised in the course of time.

In economic circles, however, there is no unanimity of opinion regarding the relative importance of the various business factors which may be found to enter into the matter. Some have evolved elaborate theories purporting to trace business cycles in all cases almost exclusively to monetary phenomena or credit policy, while others have attempted to explain business cycles almost entirely in terms of business psychology and alternating waves of optimism and pessimism. Moreover, in certain quarters stress is laid on the predominant importance of periodic overproduction as a cause of crises and depressions, while others prefer to regard underconsumption or oversaving as the primary cause. As a matter of fact, all these phenomena have a bearing on the matter to a greater or lesser extent, and are in any case closely connected, acting and reacting on one another. Cyclical fluctuations in business activity cannot, therefore, be ascribed to any one or two factors only, but are caused by the action and interaction of various economic as well as non-economic forces.

While Valk¹ may have exaggerated the complicated nature of business cycles when he said that "the business cycle is a diamond with a thousand facets" and that "if,

¹ *Conjunctuurdiagnose*, pp. xiii and xiv.

of this thousand, only a hundred are revealed, the picture is oversimplified", the fact remains that the business cycle is a very intricate phenomenon; and this must be borne in mind in any attempt at counteracting it.

Relation between Banks and Business Cycles. With regard to the relation between banks and business cycles, although the latter cannot be regarded in any way as purely or predominantly a monetary phenomenon, there is no doubt that the credit policy and operations of banks play an important part in business cycles generally. Whether the actions of banks are determined and influenced by an atmosphere of undue optimism or undue pessimism, or by other forms of misjudgment, or by imports or exports of monetary gold, or by a credit strain resulting from rapid expansion of trade and industry, their effects are equally important from the point of view of the state or the trend of business activity.

In a period of prosperity and expanding activity a spirit of optimism and enterprise naturally prevails. At such times profits are easily made in business, and to make still greater profits the business community seek to increase their turnover and call upon the banks for increased accommodation. As a result of such constant pressure banks may be induced to extend credit more freely to manufacturers and merchants, who in turn are encouraged by the evidences of prosperity to extend credit more freely to their own customers. Under such conditions of easy and excessive credit the ratio of business turnover to capital and the volume of trade and production of consumers' as well as capital goods tend to grow more and more rapidly as time goes on. In due course speculative activity becomes intense and a boom psychology prevails. The process of increasing profits, expanding trade and production, growing speculative activity, and rising prices of land, commodities and securities, cannot continue indefinitely,¹ however. Sooner or later the tide must turn, when the opposite tendencies are set in motion and prevail until they have spent their force.

After a period of expansion and prosperity the crisis or the recession of business activity may be precipitated in any one or more of several ways.

¹ Hayek refers to "a particular movement of 'boom' which contains, within itself, the seeds of an inevitable reaction". *Monetary Theory and the Trade Cycle*, p. 183.

Firstly, a serious credit strain may develop as a result of great expansion of trade and industry. In other words, the consequent expansion of credit may have seriously encroached on the cash reserves of the commercial banks and brought their reserve ratio as well as that of the central bank to the point which past experience has taught them to be the danger signal. Or the credit strain may develop as a result of exports of monetary gold, which naturally reduce the general credit base. This export of gold may have taken place in consequence of a net export of capital or an unfavourable balance of payments on current account caused by excessive imports in relation to exports of merchandise; and the excessive imports may in their turn have been brought about, either through rising prices and production costs in such countries encouraging imports and discouraging exports, or through a decline in world prices for some of their principal exports, or through bad harvests. However, whichever of these factors may have caused the credit strain and financial stringency, the usual results are higher interest rates, contraction and liquidation of credit, and restriction of investment and speculation, with dire consequences to merchants, manufacturers, entrepreneurs, dealers, brokers and others concerned, e.g. forced sales of commodities and securities, lower prices and losses on sales, insolvencies, restriction of production, unemployment, etc.

Secondly, as prices¹ tend to rise more rapidly than wages and other costs in a period of expansion, a supply of consumers' goods may be created without a corresponding amount of purchasing power being released through wages, salaries, interest, etc., the result being that while certain groups of consumers may have the desire and the physical capacity to consume their relative proportion of the increased production of consumers' goods, they are prevented from doing so by the higher prices and the widening gap between their purchasing power and production. As soon as the lack of balance between such important elements in the economic system manifests itself clearly, a recession of business activity is likely to occur. It may be hastened or aggravated if the banks

¹ Another circumstance of rising prices is that all prices do not rise at the same time and in the same proportion and that changes in individual price-relationships bring about disturbances of their own.

decide to raise their rates and contract credit or if strikes and other forms of industrial unrest arising from the lag between wages and prices intervene at the critical moment. On the other hand, if the demands of wage-earners are fully complied with because of the demand for labour tending to exceed the available supply, the higher costs of production may materially reduce business profits and enterprise and cause a setback in business activity nevertheless.

Thirdly, a tendency towards oversaving may develop, not only in the form of too large a proportion of the national income being devoted to the production of capital goods and the subsequent production of consumers' goods, resulting in overproduction compared with the effective consumptive demand, but also in the form of idle balances being maintained because of the desire for liquidity and for the advantages which the possession of money offers at times when there is uncertainty regarding the future course of business and price movements. The latter case involves the withholding of a portion of the national income from investment as well as from current consumption, sometimes referred to as under-investment and under-consumption respectively. In the complicated economic structure of to-day the constant tendency towards disequilibrium between saving and investment must always be reckoned with as a potential cause of business-cycle movements.

Fourthly, in a period of expanding activity and rising prices forward buying receives a considerable impetus. Manufacturers tend to buy larger quantities of raw materials in advance, and merchants and dealers larger stocks of finished goods, not only because of the rising prices and the growing demand for goods, but also because of the likelihood of occasional congestion in the field of transport at such times and the consequent difficulty of regularly securing the requisite raw materials or fulfilling orders within the stated period. There is a strong tendency, therefore, for an accumulation of stocks of raw materials and finished goods by manufacturers, merchants and dealers, and when it is realised that such an accumulation has reached dangerous proportions, conditions become favourable for a business recession. If it is accompanied by restriction of bank credit and high money rates or by

general strikes or appreciable increases in wages, a crisis or a violent recession may result.

Finally, while there may be a controversy as to the relative importance of over-production or under-consumption as a factor in business cycles, there is no doubt that the tendency towards maladjustment between production and consumption is always present in any country organised on the basis of the modern business economy. Whether this maladjustment is brought about by insufficient data at the disposal of producers and middlemen or general misjudgment on their part, or by a pervading spirit of optimism and speculation, or by undue cheapening and expansion of bank credit or undue contraction thereof, or by keen competition amongst manufacturers and distributors resulting in intensive efforts to cut costs through increased turnover and lower overhead or to increase sales through high-pressure salesmanship and advertising, or by over-investment in producers' goods and the undue increase of productive capacity compared with purchasing power, or by under-consumption resulting from wages lagging behind rising prices, or by a decline in exports owing to the loss of foreign markets or a drop in world prices or for other reasons, the fact remains that such maladjustment is one of the prime factors in the oscillations associated with business cycles.

With the complicated processes of production, distribution and consumption obtaining under the modern economic organisation, and the long time that lapses between the production of the raw materials and the sale of the finished goods over the counter, as well as the large number and variety of channels through which transactions go, there is a host of opportunities for human error. This applies to bankers as well as to primary producers, manufacturers, merchants, dealers, entrepreneurs and speculators.

It is clear that the policy and operations of banks have by their very nature some relationship with business-cycle movements. In this connection, however, it must be emphasised that in most cases banking operations merely reflect the results of cyclical fluctuations in business activity and do not themselves constitute the prime causal factor, although at times they may appear in the rôle of a substantial contributing factor.

Bank Credit and Business. Bank credit does not always play an important part in business finance. Many business transactions are financed entirely with the working capital of business concerns, and there appears to be a strong tendency in several countries for working capital to increase relative to business turnover. In some cases business firms finance their transactions partly with their own working capital and partly with book or other trade credits out of the working capital of their creditors, and in others they do so partly with their own working capital, partly with book credits, and for the remainder with bank credit, or the book credits granted by their creditors may be based partly on bank credit. Moreover, bank credit itself is based partly on the liquid capital of business concerns which figures in bank deposits.

The proportion of bank credit used in business varies greatly, not only as between one business concern and another in the same country or as between one country and another because of differences in banking and business practice and financial conditions, but also as between one period and another in the same country. During a period of depression many business firms may not require any accommodation from their bankers, and some may even have substantial credit balances; during a period of revival of business activity they may be obliged to call upon their bankers for moderate advances; and during a period of prosperity they may be indebted to their bankers for considerable amounts because of the bigger turnover, larger stocks and higher prices.

Banks do not ordinarily take the initiative in business finance. The initiative has to come from their business customers in the form of applications for discounts and advances, the function of the banks being that of meeting the currency and credit needs of their customers to the extent that such needs are based on sound conditions and prospects, as judged by the banks, and can be met out of the available banking resources. This is the main reason why there is some relation between the volume of bank credit and the state of general business activity, and why the position of bank credit is principally that of effect rather than cause. To the extent that bank credit does operate as cause it may have the effect either of exaggerating business-cycle fluctuations and trends which were

originally set in motion by other forces or of counteracting them, and this is where the formulation of the correct credit policy becomes an important matter.

Central Bank as the Controller of Credit. While banks in general have definite duties and obligations to the public, the duty and responsibility of controlling credit in the national economic interest have in most countries been imposed more particularly on the central bank. In some countries this responsibility was placed on the central bank in return for special privileges which it enjoyed, and in others special privileges and powers were granted to the central bank in order to enable it to perform the function of credit control more efficiently. Moreover, in some countries the function of credit control was imposed on the central bank by legislation, and in others by command or request from the State or by public opinion. Whichever way it is done, however, the central bank is generally recognised as having the duty of seeking to control or adjust credit in the interest of national economic welfare.

There are many of the opinion that national economic welfare would best be served by the elimination of the business cycle and the maintenance of a normal and steady rate of growth in business activity, even although this might at times involve fluctuations in prices and exchange rates. Some of them also hold that central banks should and could control the business cycle by controlling the volume and cost of credit.

Detailed reference¹ has already been made to the limitations of credit control by a central bank or, in fact, any other organisation. Owing to the extensive use of non-bank credit in business and speculation and to other difficulties and complications which may be encountered in credit control, central banks cannot always bring about the contraction or expansion of credit immediately or to the extent desired. Even in the sphere of bank credit various difficulties and resistances may be encountered by central banks.

As already explained, there is some relation between bank credit and the business cycle, but an analysis of available data in many countries shows that there is no close and consistent relationship between the volume or the cost of bank credit and the volume of production,

¹ Chapter VIII.

trade and employment. Consequently, bank credit alone cannot be used as a basis for business-cycle control.) The velocity of bank credit is not controllable since it is largely the resultant of human reactions, and there are so many non-monetary factors constantly at work, whose influence and bearing on the business situation cannot be precisely determined, that their effects cannot be wholly countered by monetary action. (

The Macmillan Committee¹ ascribed the economic difficulties of the post-War decade primarily to "unusually large and rapid changes on the part of what are rightly described as non-monetary phenomena, these non-monetary factors again themselves producing monetary changes." The non-monetary factors were detailed by them as follows: (1) the unusual instability in the demand for capital resulting from the losses and interruptions consequent on the War; (2) the changes in the established relationships between debtor and creditor countries consequent on the War debts; (3) the rapidity of technical changes in manufacture and agriculture; (4) the shifting character of demand resulting in a want of balance between the demand and supply of services as against manufactured products, of new types of manufacture as against old, and of manufacture as a whole as against agriculture; (5) rigidity of wage-rates, etc.

However, if cyclical fluctuations in business activity cannot be eliminated altogether because of certain inherent economic and psychological influences which constantly defy human attempts at full control and complete adjustment of economic activity, and there is no doubt that this is the case in all countries organised on the basis of the modern business economy, then at least central banks, with the co-operation of commercial banks, could aim at reducing the amplitude of such cyclical fluctuations to a minimum and "ironing out" the business cycle as far as possible. In other words, central banks could undertake the responsibility of trying to control and adjust credit in such a manner as at least to prevent violent oscillations in business activity, as reflected in terms like unbounded prosperity, sensational booms, frenzied finance, wild panics, severe crises, intense depressions, widespread unemployment and general distress.

¹ Page 93 of Report.

Credit Policy. With regard to the credit policy to be followed by central banks in dealing with cyclical fluctuations in business activity, a factor of great importance is to be able to determine the particular stage of the business cycle at any time, with a view to deciding not only when to act but what to do and how far to go.

A lesson which has been learned by all central banks is that the effectiveness of their credit policy depends, to no small extent, upon what Lewinski¹ calls "the timeliness of action". The trend of credit and business movements cannot easily be reversed after they have acquired a certain momentum, and consequently central banks must intervene in good time if their operations and warnings are to have any rapid or substantial effect on such trends. In order to be able to judge when is the proper time to take action, various factors have to be kept under constant observation. Adequate statistical and other data, bearing on phenomena which have been found by research or experience to be relatively reliable indicators or reflectors of economic activity, must be regularly and promptly obtained, to be used as a basis not only for analysing the current state of business, but also for determining the general trend of business activity.

In recent years a great deal of valuable research work in connection with business cycles has been performed by the National Bureau of Economic Research in New York, the Harvard Economic Society, the London & Cambridge Economic Service, the Berlin and Vienna Institutes for Research on Business Cycles (*Konjunkturforschung*), and the Economic Section of the League of Nations; and various statistical methods and devices have been formulated and applied to economic phenomena for the purpose of tracing in minute detail the causes and movements of fluctuations in business activity at different times in the same country over a period of 50 years or at the same time in different countries, and forecasting business conditions in the light of the behaviour of economic phenomena in the past. Moreover, many central banks have a division of research and statistics of their own, and some of them publish elaborate monthly reviews of monetary, banking and business conditions and developments.

Altogether, therefore, a mass of information is already

¹ *Currency, Credit and Prices*, p. 70.

available regarding the behaviour of economic phenomena in the past in different countries and the existence of certain sequences or relationships between such factors as the volume of trade, volume of production, employment, commodity prices, security prices, real estate values, money rates, bank debits, incomes, profits, building plans, railway traffic, etc. More and more experience is being gained in the construction of reliable and promptly available indices of production, trade, speculation and money-market movements; and adjustments are effected from time to time according as errors in the weighting of different constituents of indices, the allowances made for seasonal variation, etc., are detected. As between certain factors, discrepancies and time lags have been found to occur, and these deserve close consideration, since if some of them are found to persist in successive cycles in approximately the same relations and sequences, they may be used as valuable clues in forecasting.

While a great deal of progress has undoubtedly been made in the direction of a better understanding of the causes and manifestations of business cycles, it would be a mistake to assume that successful business-cycle control could be achieved through the adoption of an automatic device or a mechanical formula as a basis for central bank action. Statistical and historical studies as well as personal experience have convinced central bankers that, although fluctuations in business activity are cyclical and rhythmical, they are not uniform in type or regular in duration. There is something different about every business cycle, due to changes in fashions and in methods of production and distribution, changes in political ideologies and in international relationships, changes in human reactions, etc. Because of this there is great danger in treating the business-cycle question too mechanically.

In short, while the manifestations and lessons of previous business cycles can advantageously be used as a background for a credit policy aiming at a reduction in the amplitude of cyclical fluctuations in business activity, central bankers cannot avoid the need for the exercise of personal discretion and judgment in deciding whether and, if so, to what extent, they should seek to bring about contraction or expansion of credit by any or all of the positive or negative methods of control available at the time.

Apart from the question of determining the particular stage of the business cycle, central banks should also aim at being able to determine approximately the extent to which bank credit is responsible for a given situation at any time as compared with the operation of non-monetary factors, since the relation between the two is very important for the purpose of formulating the correct credit policy. Sometimes central banks may be able to neutralise the effects of non-monetary factors by means of a suitable adjustment of the supply of bank cash, but more often than not they will find themselves at a great disadvantage when trying to combat the influence of non-monetary forces. In general, non-monetary factors are outside the radius of central banks, and in attempting to do the impossible they may set in motion other forces which may do more harm than good. In this connection central banks should, except in cases where they know by experience or deduction that neutralising operations are likely to be successful, content themselves with using their moral influence in the direction of contraction or expansion of economic activity according as the circumstances require.¹

With regard to the part played by bank credit, while difficulties and resistances may even here be encountered by central banks, the least that can be said is that bank credit falls within their sphere of action and that central banks can be expected to use their powers to the utmost extent in an attempt to adjust the quantity of money in the interest of a sound business situation.

In a recent report² by a study group of the Royal Institute of International Affairs, a useful line of distinction from the point of view of credit policy was drawn between "primary recessions" and "secondary recessions" to the effect that, where a primary recession has been caused by maladjustment or maldistribution of economic activity which would be aggravated in the long run by any attempt to counteract it by purely monetary measures, central banks should "do nothing which increases this

¹ The central bank should also aim at maintaining itself in a strong and liquid position with a view to giving the commercial banks and the public the assurance that, while in a period of prosperity and expansion it may be following a policy of credit contraction, in an emergency it would have the capacity to supply the cash necessary for all sound and essential business transactions.

² *The Future of Monetary Policy*, pp. 50-1.

maladjustment or holds up the tendency towards readjustment", but that they should do everything in their power to counteract secondary recession, i.e. to prevent such a primary recession from developing into a secondary phase of monetary collapse.

Sprague,¹ on the other hand, emphasises the importance of a distinction between major and minor trade fluctuations and rightly points out that, while monetary policy may succeed in counteracting the latter, it cannot bring about a recovery from a major depression, since "the economic adjustments that are required can neither be imposed upon the community by means of limitless contraction nor induced by unlimited credit expansion."

As regards specific guides to credit policy, three American economists² have given it as their considered opinion that

the total supply of credit should be kept constant, subject to the one qualification of an increasing population; if population increases, credit should increase at the same rate; should the population become stabilized, the total amount of credit should remain unchanged.

This method of stabilising the rate of credit growth in terms of population is too rigid and mechanical, taking no account of changes in unit production costs, changes in standards of living, changes in demand and in the terms of international trade, etc. The only advantages it has are that it is very simple to operate and that it imposes a limit, though arbitrary, on the expansion of credit and, consequently, on the tendency towards over-production and over-speculation.

In his exposition of the monetary theory of the trade cycle, which holds changes in the supply of money primarily responsible for cyclical fluctuations, Hayek³ expresses the view that "if it were possible . . . to keep the total amount of bank deposits entirely stable, that would constitute the only means of getting rid of cyclical fluctuations." He is quick to emphasise, however, that "the stability of the economic system would be obtained at the price of curbing economic progress" and "there would disappear

¹ Address before Royal Statistical Society, June, 1931.

² Phillips, McManus and Nelson: *Banking and the Business Cycle*, p. 202.

³ *Monetary Theory and the Trade Cycle*, pp. 190-2.

a psychological incentive towards progress whose importance cannot be judged on purely economic grounds." He concludes, therefore, that all that can be done is

that bankers will have to weigh carefully the relative advantages and disadvantages of granting credits on an increasing scale, and to take into account the demand, now fairly widespread, for the early application of a check to credit expansion.

In general, one can endorse his conclusion without accepting his emphasis on changes in the supply of money as the prime factor behind cyclical fluctuations and his low estimate of the influence of non-monetary forces.

A practical line of policy is that recommended by the London Economic Conference of 1933, namely, that central banks should endeavour to adapt their measures of credit regulation as far as their domestic position permits, to any tendency towards an undue change in the state of general business activity, and that an expansion of general business activity of a kind which clearly cannot be permanently maintained should lead central banks to introduce a bias towards credit restriction into their credit policy, while an undue decline in general business activity should lead them to introduce a bias towards relaxation. The difficulty is, of course, to decide the question of an "undue change". A similar difficulty in the making of decisions arises when the policy prescribed is that of "controlling or adjusting credit in accordance with the requirements of business", as implied in the proposals of many economists and in the statutes of some central banks, or "preventing contraction or expansion of the medium of exchange below or above the requirements", as suggested by Van Nierop.¹ What are the normal or legitimate requirements of business?

For these decisions the best guides are accumulated experience and personal discretion based on continuous observation of all the factors bearing on the business situation and speculative activity; and in this respect the task of the central bank would be greatly facilitated if it were assured of the active co-operation of the commercial banks.

Co-operation between Central Bank and Commercial Banks. Since the commercial banks are in the front firing-

¹ *Economisch-Statistische Berichten*, 6 July, 1932.

line as far as business activity is concerned and come into direct contact with entrepreneurs, investors and speculators, close co-operation between commercial banks and the central bank is essential in order to enable the latter not only to form a sound judgment of the state and trend of the business and speculative situation, but also to carry into effect with a substantial measure of success whatever policy it has decided upon.

In recent years the need for such co-operation has been given more serious consideration. For example, the Macmillan Committee proposed that there should be an increased measure of consultation and co-operation between the Bank of England and the clearing banks, and emphasised that commercial banks should supply central banks with more detailed monthly returns, periodical analyses of bank advances according to the purposes for which they are employed, figures of turnover on bank accounts (preferably divided by geographical areas), and any other statistical or descriptive data which they may consider helpful to central banks. Moreover, at the annual meeting of the Midland Bank in 1935 the Chairman said the following :

Co-operation between the central bank and the money market long ago reached an advanced stage ; but co-operation between the central bank and the commercial banks is still only intermittent and limited to the necessities of special occasions. Under such conditions monetary policy must fail to be either as well informed or efficient in action as it might be.

And at the annual meeting in 1937 he said that the banks " have the power, acting together on an agreed basis, to place a curb upon speculation by directly restricting the quantity of credit used for that purpose ", as a result of which genuine business need not always be affected by a tendency towards over-speculation.

An excellent outline of the matter under review was also given by W. F. Crick,¹ Economist of the Midland Bank, as follows :

The most valuable information interpretative of the fluctuations in current and deposit accounts is the day-to-day knowledge of the banker, who sees in the course of his business what kinds of money are being placed to the credit of customers. . . . This leads me to say that in forming and carrying out a positive mone-

¹ *London Bankers' Magazine*, June, 1933.

tary policy the co-operation of commercial bankers with the personnel of the central bank is becoming imperative. . . . The central bank, for all its power over the total quantity of money, cannot see at close range how that money is distributed and what changes are taking place within the total.

In other words, while central banks can in various ways apply quantitative control of bank credit, they need the active assistance of the commercial banks in practically every phase of qualitative control or qualitative distribution of bank credit.

It is gratifying to note that the need for co-operation is being recognised by commercial banks as well as central banks. The commercial banks have much to benefit from the maintenance of sound business conditions and the elimination of the extremes of booms and slumps and should, therefore willingly and actively assist central banks in the performance of their duty of controlling credit. One of the next big developments in central banking will probably be the devising of ways and means of securing effective consultation and co-operation between the central bank and the commercial banks.

Co-operation between Central Bank and Capital Market.

As a result of the close connection between investment and business activity it is highly desirable to have some form of co-ordination between the central bank and the capital market, with a view to avoiding the extremes of over-investment or under-investment as far as possible. As Keynes said recently,

the sustained enjoyment of prosperity requires as its condition that as near as possible the right proportion of the national resources, neither too much nor too little, should be devoted to active investment.¹

During the financial crisis of 1931-2 the capital markets of many countries were placed under varying degrees of control by the respective Treasuries and central banks. Much of this control still remains, but in the event of the restoration of the international gold standard it is probable that at least the capital markets of Great Britain and the United States, and also of some of the other democratic countries, would be liberated from such rigid control. In the absence of control, however, close co-operation

¹ Article in *London Times*, January, 1937.

between the central bank and the capital market would be advantageous to both.

Co-operation between Central Bank and Treasury. The need for co-operation between the central bank and the Treasury must also be stressed, owing to the intimate connection between public finance and monetary affairs. Referring to this matter, Crick rightly commented that

without co-ordination there is no end to the possibilities of wise monetary policy being defeated by action in some other direction—tariffs, taxation, public borrowing, floating debt and so on ;

and that

it is impossible to leave out of account the Government, if for no other reason because the Government, in all its manifold activities, is the largest single borrower from the banking system, the largest debtor to the public, the recipient of the largest income and the disbursing of the largest expenditure.¹

In recent years the need for co-ordination with the Treasury has become much more pronounced as a result of the increased extent to which the Governments of many countries have assumed responsibility for monetary policy, exchange control, and loans to farmers, co-operative societies, manufacturers, banks, etc., either directly or through State credit institutions. In some countries this increased State responsibility may be no more than a temporary phase pending the restoration of the gold standard, while in others it may become part and parcel of a new political ideology. In either case, however, co-operation and consultation between the central bank and the Treasury are essential.

Public-Works Policy. Another reason for co-ordination with the Treasury is the prominence now being given in theory and public discussion to public works as a means of facilitating the smoothing out of the business cycle.

As far back as 1909 Bowley had suggested to the Poor Law Commission of Great Britain that public works should be postponed during periods of active trade and industry with a view to their being put in hand as soon as a recession appeared ; and in 1919 at the first International Labour Conference in Washington a recommendation was adopted that each Member State should “ co-ordinate the execution

¹ *London Bankers' Magazine*, December, 1933.

of all work undertaken under public authority with a view to reserving such work as far as practicable for periods of unemployment". Not much public attention, however, was given to this matter until recent years when Sweden adopted it as part of her monetary and financial policy and Keynes and several other economists focused particular attention on public-works planning as a necessary constituent of practical monetary policy.

In his analysis of the business cycle Keynes¹ had for years elaborated on disequilibrium between saving and actual investment being the primary cause of cyclical fluctuations in business activity. Unlike some of his predecessors (Bouniatian, Hobson, Foster and Catchings), who had a predilection for "oversaving" or "under-consumption" as the primary cause, he did not assume that the whole of that part of the money income of the community which was not spent on the current consumption of goods and services was always invested in the actual production of new capital goods. Whereas they had attributed the downward phase of the business cycle to the overproduction of capital goods resulting in a larger production of consumers' goods than the purchasing power of the public could absorb at the prevailing price level, Keynes considered that the cause was frequently to be found in a certain amount of saving which did not result in a correspondingly large amount of investment.

This method of analysis led Keynes, in due course, to suggest that the business cycle should be controlled by adjusting the capital outlays of the State and public bodies generally according to the exigencies of the business situation. By retarding investments in times of active trade and speeding up investments in times of declining trade, public bodies could help to restore equilibrium between savings and investment; and it was naturally easier to confine this duty to the official bodies than to try to extend it over the entire sphere of production. As Keynes said recently,

the best we can hope to achieve is to use those kinds of investment which it is relatively easy to plan as a make-weight, bringing them in so as to preserve as much stability of aggregate investment as we can manage at the right and appropriate level.²

¹ See *Treatise on Money*, Vol. I, pp. 172-84.

² Article in *London Times*, January, 1937.

The public-works plan of combating business cycles has recently been discussed in various parts of the world. A group of economists of Oxford, including MacGregor, Salter, Cole and Henderson,¹ have argued that public authorities as well as industry ought to have plans ready for important capital works in preparation for the following slump or recession. Robbins is also in favour of some planning of public works to smooth out the business cycle, as far as public works can be conveniently held up, but considers that they must be properly planned to avoid wasteful expenditure.² In the United States the Chairman of the Board of Governors of the Federal Reserve System has stated that "the Government must be looked upon as a compensatory agency in this economy to do just the opposite to what private business and individuals do", since "the latter are necessarily motivated by the desire for profit", while "the former must be motivated by social obligation"; and that the Government should always "be ready to incur a budgetary deficit",³ if spending the total revenue is not sufficient to meet the unemployment situation and stop credit contraction.

Moreover, the idea of a deliberate programme of public works and deficit financing as a means of counteracting unemployment and a decline in business activity was actually translated into practice in Sweden during the period 1930-5⁴ and is held out in prospect for future recessions,⁵ and, conversely, a policy of retarding public works and

¹ Letter to *London Times*, June, 1937.

² *Lloyds Bank Monthly Review*, May, 1937.

³ *American Bankers' Association Journal*, February, 1937.

⁴ In July, 1933, new principles were applied. "Whereas before that date the aim of the unemployment policy had been to provide the greatest possible amount of employment, the intention now was, in addition to that, to produce the maximum effect in the way of stimulating production. This was to be achieved partly by applying open-market wage rates and partly by financing the public works out of borrowings." (Supplement to *Svenska Handelsbanken's Index*, June, 1938.)

⁵ In June, 1938, owing to fear of a business recession developing in Sweden, an Enabling Act was rushed through the Riksdag, providing for an Emergency Budget of 250,000,000 kronor for public works to be carried out in the event of depression.

The Swedish Government is also trying to extend this policy to the sphere of private industry by having a law passed which would tend to encourage industrial investment during periods of depression, by exempting companies from the income tax on such part of their net profits as can be shown to have been funded for depression investment purposes, subject to a limit of 10 per cent. of annual profits or 2 per cent. of share capital for building investments and 20 per cent. of profits or 4 per cent. of capital for investment in acces-

budgeting for a surplus in times of prosperity has been enunciated ; and in the United States, according to a statement made by the Secretary of the Treasury in November, 1937, the Government has during the period 1933-7 "deliberately used the unbalanced budget to meet a great emergency." In Finland a Budget Equalisation Fund was established in 1934 for the declared purpose of counteracting cyclical fluctuations in business activity. Budget surpluses are paid into this Fund and the proceeds invested in gold, foreign exchange and deposits with the central bank. In the beginning of 1938 Sweden also decided to set up a Budget Regulation Fund, to which the Minister of Finance proposed to transfer the estimated surplus of £1,000,000 for the year.

In Norway public-works planning also seems to have attracted the attention of the authorities, for in the *Annual Report of the Bank of Norway for 1936* the following statement occurs :

It is to be wished that the works and the orders of the State and the Municipalities should not follow the fluctuations up and down of industry and trade, because in that case new difficulties will be added to those already existing. What is needed is, in other words, planning at long sight, so as to keep in reserve works that can be commenced when private business slackens.

Furthermore, in Great Britain a circular was addressed by the Ministry of Health to Local Authorities in the beginning of 1938, emphasising not only that

by an ordered planning of their prospective capital works on a basis which will admit of adjustment should circumstances make it desirable, Local Authorities can make a valuable contribution to the stabilisation of the conditions in industry over a considerable period,

but also that

the adoption of such a policy will enable them to take the fullest advantage, in the interests of their ratepayers, of periods when industrial resources are not unduly strained and conditions are therefore most favourable for the execution of necessary works.

sories and inventory. The funded money is to be used only in years fixed by the Government with a view to levelling out the trade cycle, and only for writing off buildings, machinery, etc., constructed during such years. See *London Times*, 25 May, 1938.

Finally, according to the *Directors' Report of the Commonwealth Bank of Australia for 1937-38*, "the board is of opinion that expenditure on public works should be relatively low in times of prosperity and that plans should be ready for expansion in times of depression", since

preparation of plans of useful public works, expenditure on which can be increased or decreased as circumstances require, would help in the timing and regulation of capital expenditure and contribute towards stability of employment.

There is no doubt that a sound public-works plan as a compensatory measure in business movements can be of great benefit from the point of view of national economic welfare, since experience has shown that too much cannot be achieved by means of credit adjustment alone. In the absence of a preconceived policy, Governments and Municipalities are ordinarily inclined to be affected by the same spirit of optimism or pessimism which pervades the individual members of the community, and, therefore, to undertake projects involving heavy capital expenditure when industrialists and other private interests are also engaged in expansionist schemes, and to contemplate curtailing capital outlays when private interests are induced to do so by the shrinkage of profits and demand. Apart from the psychological factor of aggregate optimism or aggregate pessimism, as Josiah Stamp calls it, Governments and Municipalities are actually affected by the shrinkage of their revenue in times of business recession and the expansion of their revenue in times of prosperity. Public-works planning thus definitely involves deficit financing and public borrowing during periods of declining business activity and deliberate budgeting for surpluses and redeeming public debt during periods of business expansion.

There are, however, important limitations in connection with the planning of public works as a counteracting factor. In the first place, public authorities have assumed responsibility for a large part of the modern means of transportation and communication and of the supply of water, light, power, etc., all of which are intimately connected with business movements and the increase or decrease in effective demand. While it is possible at times that some of the construction projects may be held up in anticipation of the following slump without unduly hampering business activity,

there are others which cannot be postponed, for fear of congestion or inability to meet the legitimate requirements of business and other consumers. On the other hand, while some projects may be taken in hand during a business recession in anticipation of an increased demand when business swings upwards again, there are others which it might be dangerous to undertake in advance owing to new inventions being experimented with or to rapid improvements in methods and technique or to likely changes in the character of demand. The most that can be said is that public authorities could with great advantage to their country consider planning their works programme as far as possible with a view to counteracting the extreme tendencies of business activity.

Secondly, it is not an easy matter for public authorities (particularly in democratic states) to maintain a policy of budgeting for surpluses and paying off debt in times of prosperity. With surpluses the control over the growth of public expenditure is considerably weakened in that the State Treasury as well as the treasurers of other public bodies are deprived of their easiest and most effective answer, namely, "lack of funds". At such times the general public is infected with optimism and does not see the necessity of paying off public debt in anticipation of a slump for which they do not prepare themselves. For the carrying out of such a policy strong Governments and strong treasurers are essential.

Thirdly, when, as a result of postponing works and budgeting for surpluses, public bodies and public funds have surpluses which can no longer be devoted to the redemption of debt owing to the absence of maturing loans, the trouble is, as Robbins has pointed out, that, if such surpluses are invested in securities or bills, the rate of interest would be too low for a period of prosperity and might exaggerate the upward movement of private business, and that, if the investments are realised on the appearance of depression, the rate would be too high for such circumstances. In this connection the method recently adopted by Finland, namely, that of investing budget surpluses in gold, foreign exchange and deposits with the central bank, deserves close attention, particularly in those countries where budget surpluses usually coincide with favourable balances of payments. The loss of interest on

the holdings of gold and the deposits with the central bank might then be regarded as an insurance against the extremes of booms and depressions.

Combination of Public-Works Planning and Credit Control. While it is admitted that there are limits to the efficacy both of public-works planning and of credit control as means of smoothing out the business cycle, it does not relieve public authorities and central banks of the duty and responsibility of exerting themselves to the utmost to achieve whatever they can in those directions, collectively and individually. Even allowing for the limitations already referred to, the combination of these two methods could be made to operate with some beneficial results.

The importance of public-works planning as a supplement to credit control by central banks is derived in particular from the fact that a business recession is accompanied by psychological factors which reduce the velocity of the monetary circulation and the willingness of entrepreneurs and investors to take risks. Experience has shown that under such circumstances central banks cannot "pump out" much credit into active use merely by creating conditions of easy money. The credit base may at such times be increased by central banking operations without an increase in the effective demand for credit and for goods and services. It is then that spending by public authorities out of hoarded funds or borrowed money, provided the objects of expenditure have a sound basis and have been carefully planned beforehand to avoid wasteful expenditure, can be of great benefit in increasing the effective quantity of money flowing into active use.

CHAPTER XV¹

CONSTITUTION AND ADMINISTRATION OF CENTRAL BANKS

IN view of the fact that the central bank has been entrusted with a complete or residuary monopoly of the note issue and with the keeping of the Government's accounts, and that it is generally recognised as an institution which should act only in the public interest and without regard to profit as a primary consideration, the State has almost everywhere claimed the right to some form of participation in the affairs of the central bank, whether in connection with the ownership of its capital or the appointment of its directors and chief executive officers or the distribution of its profits.

Ownership of Capital. With regard to the ownership of their capital, central banks may be divided into seven different groups according as their capital is owned solely by the State or private shareholders or commercial banks, or jointly by the State and private shareholders, or the State and the commercial banks, or the State, the commercial banks and private shareholders, or the commercial banks and private shareholders.

The State owns the entire capital of the following central banks : Riksbank of Sweden, State Bank of Russia, Bank of Finland, National Bank of Denmark, National Bank of Bulgaria, Bank of Latvia, Commonwealth Bank of Australia, Reserve Bank of New Zealand, Bank of Canada, Central Bank of China, Bank of the Republic of Paraguay, Bank of the Republic of Uruguay and the National Bank of Costa Rica.

Some of these central banks were not originally State-owned banks. In fact, those of Denmark, New Zealand and Paraguay were only converted into State banks in 1936, and that of Canada in 1938. In the case of the National

¹ In connection with this chapter it must be mentioned that, while the author had the statutes of all the central banks at his disposal, he was greatly assisted in the work of translation by referring to the summary of the statutes of certain central banks contained in Appendix I of Kisch and Elkin's *Central Banks* (Fourth Edition, 1932), to *Monetary and Central Bank Laws* published by the League of Nations in 1932, and to the annual Money and Banking series of the League of Nations.

Bank of Denmark the shareholders were given in exchange Government bonds at twice the nominal value of the shares, while the shareholders of the Reserve Bank of New Zealand were repaid in Government stock or cash at the discretion of the shareholder and on the basis of the market valuation of the shares, and the private shareholders of the Bank of Canada were paid out in cash at the market price.

The central banks which are still owned solely by private shareholders ¹ are the Bank of England, Bank of France, Netherlands Bank, Bank of Norway, National Bank of Belgium, Reichsbank of Germany, Bank of Japan, Bank of Spain, Bank of Portugal, Swiss National Bank, National Bank of Hungary, Reserve Bank of India, Bank of Poland, Bank of Lithuania, and Bank of Danzig.

As regards central banks which are owned solely by commercial banks, the only examples which can be given are the 12 Federal Reserve Banks of the United States. When the Federal Reserve System was brought into being, all the national banks ² were required to become members of the System, while the state banks ³ which conformed to certain requirements and conditions could become members on application. All these member banks ⁴ had to subscribe for stock of the Federal Reserve Bank in their particular area to the amount of 6 per cent. of their capital and surplus, and of this amount one-half was to be paid up and the other half to be at call. The stock of a Federal Reserve Bank was to be increased or decreased according as member banks increased or reduced their capital and surplus.

In a sense the Bank of Italy may, since its transformation into a "public law" institution in 1936, be placed in the same category as the Federal Reserve Banks. Prior to 1936 its capital was held entirely by private shareholders, but in that year legal provision was made for the repayment to these shareholders of the old capital and part of the reserves, and the new capital was subscribed by "public law" banks

¹ Commercial or other banks may be found amongst the shareholders of some of these central banks, but not because they were originally required to subscribe to the capital of the central bank, as in the case of other groups mentioned below.

² Banks operating under the National Bank Act of the Federal Legislature.

³ Banks operating under laws or charters of the individual States.

⁴ At the end of 1937 there were 6,341 member banks, of which 5,260 were national banks and 1,081 state banks.

and credit institutions, savings banks, insurance companies and provident societies.

Within the category of central banks whose capital is owned partly by the State and partly by private shareholders there are the Bank of Estonia and the Bank of Mexico. In the latter case the State has for years owned a controlling interest in the form of 51 per cent. of the capital. With regard to the Bank of Estonia, the whole of the capital was first taken up by the State, to be sold later to the public. In 1929, when a public issue was made, it was reported that about one-third of the capital was transferred to the public ; and it appears that the bulk of the capital of the Bank is still held by the State.

In the case of the Bank of Greece and the National Bank of Roumania it was provided by law that the State and State enterprises may not directly or indirectly hold shares amounting to more than 10 per cent. of the capital, and not more than 20 per cent. and 33 $\frac{1}{3}$ per cent. in the case of the National Banks of Yugoslavia and Czechoslovakia respectively, while the increase in the capital of the Bank of Poland was subscribed by the State, to be sold later to the public.¹

As examples of central banks whose capital is owned jointly by the State, the commercial banks and private shareholders, may be mentioned the Bank of the Republic of Colombia, the Central Bank of Chile, and the Central Reserve Bank of Peru. In Colombia the State subscribed 5,000,000 pesos, while national and foreign banks operating in Colombia were authorised to subscribe on the basis of 15 per cent. of their paid-up capital and surplus,² and the remainder was offered for subscription to the general public. In Chile the State subscribed 20,000,000 pesos, and the national and foreign banks were required (not authorised) to become members of the Central Bank and to subscribe on the basis of 10 per cent. of their paid-up capital and reserve funds, while the remainder was subscribed by the public. In Peru the domestic and foreign banks were also required to subscribe on the basis of 10 per cent. of their

¹ The State's participation in the increased capital of the Bank of Poland was not sold to the public, but in 1936 the capital of the Bank was reduced by the amount subscribed by the State, while the State debt to the Bank was reduced by an equivalent amount.

² In the case of foreign banks an apportionment was made in accordance with their business in Colombia. This was also done in Chile and Peru.

paid-up capital and surplus, the remainder being subscribed by the State and the public.

In Argentina, however, the public was not given an opportunity to participate in the subscription of the capital of the Central Bank, which is owned jointly by the State and the commercial banks. The capital of the Bank was fixed at 30,000,000 pesos, of which 10,000,000 were provided by the State and a further 10,000,000 by national and foreign banks established in Argentina and having a paid-up capital of at least 1,000,000 pesos. The balance of the capital was reserved for subsequent issue according as new banks are established or old banks increase their capital.

In the last group of central banks, namely, those which are owned partly by commercial banks and partly by private shareholders, there are to be found the South African Reserve Bank and the Central Reserve Bank of Salvador. In South Africa and Salvador the commercial banks were required to provide a portion of the capital, the balance being offered to the public. In South Africa, however, the banks were, under an amendment of the statute in 1923, relieved of the obligation to hold a certain amount of Reserve Bank stock, and they subsequently disposed of a substantial portion of their holdings, although it was laid down in the amended statute that, once the shareholding of a bank fell below £10,000, it was not again to exceed that amount.

Distribution of Profits. In the case of State-owned central banks the balance of the profits, after providing for allocations to reserve funds or for other purposes, is to be paid to the State. It was provided, for example, that the Riksbank of Sweden was to place 10 per cent. of its net profit to the reserve fund until it amounted to 20,000,000 kronor, and the Bank of Latvia 25 per cent. to capital until it reached 25,000,000 lats and 10 per cent. to the reserve fund, while the National Bank of Bulgaria could set aside 25 per cent. of its profit for the reserve fund until it amounted to the original capital, and 5 per cent. for the pension fund. The Bank of Finland was allowed to allocate at least one-half of its profit to capital and reserve until they reached 3,000,000,000 marks, and thereafter one-third to the reserve fund. The Commonwealth Bank of Australia, after distributing one-half of its profit between the reserve fund and the Mortgage Bank Department Capital Account, has to

pay the remaining half into the national-debt sinking fund.

With regard to the other groups of central banks, provision has been made for the State sharing in the profits of the central bank, whether it owns a part of the capital of the latter or not at all ; but whereas in the case of the Bank of England the State has claimed only the profits of the note issue, i.e. of the Issue Department as distinct from the Banking Department, the State shares in the general profits of the other central banks. Where the State owns a part of the capital of the central bank, it is entitled to a portion of the profits of the central bank in accordance with a scale or procedure laid down by statute, in addition to receiving dividends in respect of its shareholding on the same basis as other shareholders.

Two principal methods have been devised for providing a share to the State in the general profits of the central bank. The one method is that of providing for a dividend to shareholders, varying from $3\frac{1}{2}$ per cent. in the case of the Netherlands Bank to 6 per cent.¹ in the case of the Federal Reserve Banks of the United States, the National Banks of Belgium and Czechoslovakia, the Bank of Norway, and the South African Reserve Bank, as a first charge on the net profits, and thereafter a division of profits between the reserve fund, the State and the shareholders or just between the reserve fund and the State as with the Federal Reserve Banks and the Bank of Canada.

The distribution of the profits of the Netherlands Bank, for example, was to proceed on the following lines : an amount equal to $3\frac{1}{2}$ per cent. of the capital was to be set aside for dividends to shareholders ; of the remaining profit 10 per cent. was to be allocated to the reserve fund until it amounted to one-quarter of the capital, and 3 to $3\frac{1}{2}$ per cent. as bonus to the Management, Directors and Advisory Committee ; of the balance the shareholders were to receive one-quarter and the State three-quarters until the dividend amounted to 7 per cent. ; and of the remainder the shareholders were to receive one-eighth and the State seven-eighths. In the case of the South African Reserve Bank provision was made for a cumulative dividend of 6 per cent. as a first charge on the profits, while the surplus

¹ 8 per cent. for the Bank of Greece and 10 per cent. for the Bank of Spain.

was to be allocated to the reserve fund until it amounted to one-quarter of the capital ; thereafter and until the reserve fund equalled the capital, one-half of the surplus was to be allocated to the reserve fund, one-quarter to the State and one-quarter to shareholders up to a total maximum dividend of 10 per cent., and any balance remaining was to be paid to the State ; when the reserve fund equalled the capital, the whole of the profit after payment of a dividend of 10 per cent. was to go to the State. The Federal Reserve Banks were to pay a cumulative dividend of 6 per cent. which was also the maximum, while the balance of the profit was to be allocated to the surplus fund until it amounted to the subscribed capital ; thereafter 10 per cent. of the excess profit was to be paid into the surplus fund and the remainder to the State.

The second method was that of providing for the payment of 5 to 20 per cent. of the net profits to the reserve fund as a first charge on the profits, and a dividend of 5 to 12 per cent. to shareholders as a second charge, the remainder to be divided between the State and the shareholders, as in the case of the central banks of Argentina, Chile, Colombia, Estonia, Germany, Hungary, Lithuania, Poland, Portugal, Roumania, Switzerland and Yugoslavia.

The Central Bank of Chile, for example, was to set aside 20 per cent. of its total net profit for the surplus fund until it amounted to half the paid-up capital, and then 10 per cent. of its profit until the surplus fund equalled the paid-up capital, after which the approval of the President of the Republic was required for any further allocations to the surplus fund ; 5 per cent. of the profit was to be allocated to the employees' benefit fund ; out of the remaining profit a cumulative dividend of up to 8 per cent. was to be paid ; of the balance one-half was to be allocated to dividends or the dividend-equalisation fund and one-half to the State until the dividend reached 12 per cent. ; and of any remaining balance three-quarters were to be paid to the State and one-quarter to dividends, the dividend-equalisation fund or the surplus fund according to the decision of the Board of Directors. The Reichsbank of Germany was first to place 10 per cent. of its profits to reserve until it equalled the paid-up capital, and then a cumulative dividend of 8 per cent. to shareholders ; and of any remaining profit it was to pay, in accordance with a sliding scale, from 75 to 95 per cent. to

the State and from 25 to 5 per cent. to the shareholders in the form of additional dividends or contributions to a dividend-equalisation fund. The Bank of Portugal was to allocate 5 per cent. of its profits to the reserve fund until it amounted to half the capital, 5 per cent. to a special reserve fund, 2 per cent. to the staff pension fund, and then a dividend of 6 per cent. ; and of the balance 90 per cent. was to go to the State and the remaining 10 per cent. to be divided between the shareholders up to a total dividend of 7 per cent., the State and the Bank.

In general, it may be said that the State has claimed a share in the profits of central banks because the latter have been granted a monopoly of the note issue, which usually constitutes a valuable privilege, not only for purposes of control, but also as a source of profit. The State's share was also intended in many cases to operate as a means of restraining the incentive to make large profits, and for this purpose statutory limits were likewise imposed in many instances on dividends to shareholders and on allocations to reserve funds.

The payments due to the State do not always go into the general revenue of the Treasury, but have sometimes to be applied towards reducing the State's indebtedness to the central bank, as in Yugoslavia, or supplementing the gold reserve against Government notes or reducing the outstanding bonded debt of the Government, as in the United States, or to be paid into the national-debt sinking fund, as in Australia.

In conclusion it should be noted that, in the case of central banks established since 1933, there has been a strong trend towards lower levels of maximum dividends payable to shareholders, as compared with banks of similar types established prior to that time. The Bank of Canada was limited to a maximum dividend of $4\frac{1}{2}$ per cent., the Central Bank of Argentina and the Reserve Bank of New Zealand (prior to its conversion into a State bank) to 5 per cent., and the Reserve Bank of India to 6 per cent.

Administration : Chief Executive Officers. The chief executive officers of the majority of central banks are appointed by the Government, either on its own initiative or with the advice of the Board of Directors or with the approval of the Legislature.

As examples of appointments by the Government on its

own initiative¹ may be mentioned the Bank of France, whose Governor and two Deputy-Governors are appointed by the President of the French Republic ; the Reichsbank, whose President and other members of the Management Board are, under the 1937 amendment, to be appointed by the Führer and Chancellor and to be directly responsible to him ; the Bank of Japan, whose Governor is appointed by the Government on the nomination of the Emperor and whose Vice-Governor is appointed with the approval of the Emperor ; the National Bank of Belgium, whose Governor is nominated by the King, while the other three members of the Management Board are elected by the General Meeting of shareholders ; the Swiss National Bank, whose President and Vice-President are nominated by the Federal Council ; the National Bank of Czechoslovakia, whose Governor and Vice-Governor are appointed by the President of the Republic, the Vice-Governor from among the six directors elected by the shareholders ; the Bank of Portugal, whose Governor and two Vice-Governors are appointed by the Minister of Finance ; the National Bank of Roumania, whose Governor and Vice-Governor are nominated by Royal Decree, the Vice-Governor from among the councillors of the Bank ; the Bank of Estonia, whose President is appointed by the Government, while the other members of the Management Board are appointed by the Board of Directors ; and the South African Reserve Bank, Reserve Bank of New Zealand, and Commonwealth Bank of Australia, whose Governors and Deputy-Governors are appointed by the Governor-General.

With regard to appointments by the Government on the advice of the Board of Directors or the Management Board, the following examples may be cited : the Netherlands Bank, whose President and Secretary are appointed by the Crown from two names for each post submitted by a combined meeting of the Management Board and the Board of Directors (*Kommissarissen*), while other members of the Management Board are elected by shareholders from nomination lists prepared by a combined meeting as above ; the Bank of Norway, whose Governor and Vice-Governor are nominated by the King after the Supervisory Council of the Bank (equivalent to a Board of Directors) has had an

¹ i.e. without statutory provision for nomination, recommendation or approval by any other body.

opportunity of expressing itself, while the other three members of the Management Board are elected by the Storting (Legislature): the Bank of Greece, whose Governor, Deputy-Governor and Sub-Governor are appointed by the Cabinet of Ministers on the proposal of the Board of Directors; and the Reserve Bank of India, whose Governor and two Deputy-Governors are appointed by the Governor-General-in-Council after consideration of the recommendations made by the Board of Directors.

In the case of the Central Bank of Argentina, the President and Vice-President are designated by the Chief Executive of the Argentine Nation in agreement with the Senate from among the three candidates for each post elected by the meeting of shareholding banks; and the Chairman and other members of the Management Board of the Bank of Finland are appointed by the President of the Republic on the nomination of the Bank Supervisors of the Diet (Legislature).

There are, however, various exceptions to the general rule of appointments by the State. At the one end is the Bank of England, whose Governor and Deputy-Governor are elected by the Court of Directors from among themselves, and at the other is the Central Reserve Bank of Salvador, whose President is elected by the General Meeting of shareholders subject to the approval of the Government. In between these are the Federal Reserve Banks, whose Presidents and Vice-Presidents are appointed by the Boards of Directors subject to the approval of the Board of Governors of the Federal Reserve System; the Riksbank of Sweden, whose Governor is appointed by the Board of Directors from among themselves, and the Deputy-Governor either from among themselves or from outside; the Bank of Canada, whose Governor and Deputy-Governor are to be nominated by the Board of Directors with the approval of the Governor-in-Council; the Central Bank of Chile and the Central Reserve Bank of Peru, whose Presidents and Vice-Presidents are elected by their Boards of Directors from among their own members or from outside; and the Bank of the Republic of Colombia, whose Governor is to be elected by the Board of Directors by at least seven affirmative votes, and the Deputy-Governor by at least six affirmative votes.

As regards the relationship between the chief executive

officers of a central bank and its Board of Directors, provision is made in the great majority of cases for the Governor or President to be the Chairman of the Board of Directors or Council of Administration or Supervisory Council, and also of General Meetings or Assemblies of shareholders, and for the Deputy-Governor or Vice-President to be a member of the Board or Council and to act as Chairman in the absence of the Governor or President. Notable exceptions are the Commonwealth Bank of Australia, where the Chairman is chosen by the Board of Directors from its own members; the Riksbank of Sweden, where the Chairman is the director appointed by the King-in-Council; and the Federal Reserve banks, where the Chairman of the Board of Directors of each Federal Reserve Bank is nominated by the Board of Governors of the Federal Reserve System from among the three directors whom it appoints to the Board of Directors, such Chairman to be a person of tested banking experience. It should be noted, however, that the Board of Governors consists of seven members, all appointed by the President of the United States, and that, besides its function as a medium for co-ordinating the activities of the 12 Federal Reserve Banks, it has since 1935 been vested with wide powers in matters of central banking policy generally.

Prior to 1935 there was a good deal of uncertainty and difference of opinion regarding the distribution of responsibility between the component parts of the Federal Reserve System, and it was frequently said that the United States did not have a real central banking system. The Banking Act of 1935, however, while it

preserves the local autonomy of the regional banks in their dealings and relations with the member banks in their respective districts, and provides for participation of representatives of the regional banks in the formulation of national monetary and credit policies,

“places greater responsibility for the exercise of national credit policies upon the Board of Governors.”¹ As a result of the Board’s powers to change the legal reserve requirements of member banks, to revise periodically the discount rates of the Federal Reserve Banks, and to control open-market operations through the Federal Open Market Committee, on which it has seven out of the 12

¹ *Annual Report of Board of Governors for 1935*, pp. 4-5.

members, responsibility for monetary and credit policy in the United States has now been largely centralised in the Board of Governors, which has, in matters of general policy, come to approximate the position occupied in other central banks by the Management Board or the Board of Directors or the Executive Committee of the Board of Directors, under the Chairmanship of the Governor or President.

It will have been observed that in the case of several central banks statutory provision has been made for a Management Board consisting of the Governor or President as Chairman, the Deputy-Governor or Vice-President and from two to six other members, who are frequently full-time members. The Reichsbank and Bank of Finland, for example, have a Management Board without a Board of Directors, but the central banks of Holland, Belgium, Japan, Norway, Denmark, Yugoslavia, Poland, Estonia, Latvia, etc., have a Board of Directors in addition to a Management Board.¹

Moreover, in the case of some central banks it has been laid down by statute that the Governor and Deputy-Governor shall be "men of proven financial experience", as in Canada, or "persons possessed of actual banking experience", as in New Zealand, or "persons of recognised banking and financial experience", as in Argentina, or "persons of tested banking experience", as in the Union of South Africa.

With regard to the periods of years for which the chief executive officers of central banks are appointed, they vary from one year in the Bank of England, Central Bank of Chile and Central Reserve Bank of Peru, to three years in the Riksbank of Sweden; four years in the Reichsbank; five years in the National Banks of Belgium, Czechoslovakia and Hungary, the Banks of Japan, Greece and Estonia, the South African Reserve Bank, the Reserve Bank of India, and the Federal Reserve Banks; six years in the National Bank of Roumania and the Bank of Portu-

¹ In a number of central banks the members of the Management Board are called directors, while the members of their equivalents of the Anglo-Saxon concept of a Board of Directors are referred to as councillors, administrators, regents, or commissaries. In Belgium, Norway, Poland, Latvia and Lithuania the Management Board is even known as the Board of Directors, which attends to the daily business of the bank. In Japan, on the other hand, it is called the Administrative Board.

gal ; seven years in the Netherlands Bank, National Bank of Bulgaria, Reserve Bank of New Zealand, Bank of Canada, and Central Bank of Argentina ; and 14 years in the Board of Governors in the Federal Reserve System. Except in the case of the Board of Governors, the chief executive officers are eligible for re-appointment on the expiration of their respective terms of office.

*Board of Directors.*¹ With a few exceptions, such as the Reichsbank and the Bank of Finland² mentioned above, which have only Management Boards, every central bank has a Board of Directors or the equivalent of such a Board, whether called a Council of Administration (as in Belgium, Roumania and Yugoslavia), or a General Council (as in France, Japan, Poland, Spain and Switzerland), or a Supervisory Council (as in Norway), or a Board of Commissaries (as in Holland), or a General Advisory Board (as in Lithuania).

The number of directors of the central bank varies from six in Lithuania to 40 in Switzerland. There are seven in Sweden and Estonia, eight in New Zealand, Australia and Bulgaria, nine in Belgium, Greece, South Africa and the United States, 10 in Chile, Colombia, Peru, Portugal and Roumania, 11 in Latvia and Canada, 12 in Argentina and Poland, 13 in India and Hungary, 15 in Holland and Norway, 20³ in France, 21 in Spain, 24 in England and Yugoslavia, and 25 in Denmark.

With regard to the extent of participation by the State in the appointment of directors, a distinction must first be drawn between entirely State-owned central banks and others. In the case of the former all the directors are appointed in Australia and New Zealand by the Governor-General ; in Canada by the Minister of Finance with the approval of the Governor-in-Council ; in Latvia

¹ In this section any reference to directors will exclude the Governor or President and the Deputy-Governor(s) or Vice-President(s) who are, as stated previously, with few exceptions also members of the Board of Directors.

² The management and working of the Bank of Finland are, however, supervised by the Bank Supervisors of the Diet in accordance with the instructions issued to them by the Diet.

³ In addition to the 20 councillors there are three censors who are elected by the General Assembly of Shareholders from amongst industrial or commercial shareholders, and who have a consultative voice in the deliberations of the General Council of the Bank of France and exercise supervision over all the operations of the Bank.

by the Ministry from candidates proposed by the Minister of Finance ; and in Sweden by the Riksdag (Parliament), with the exception of the Chairman appointed by the King. In Denmark, on the other hand, eight of the directors are to be elected by the Riksdag from amongst its own members, two by the Minister of Trade, Industry and Shipping, and the remaining 15 by the entire Board of Directors ; and in Bulgaria four directors are to be appointed by the Executive Committee consisting of the Governor and Deputy-Governors, and the remaining four are to be nominated by the Chamber of Commerce, the Bourse and the Agricultural Boards.

The other central banks can be placed into two general groups. The one comprises those banks whose directors are all elected by the General Meeting of shareholders, as in England, Belgium, Holland, Hungary, Portugal, Poland, Yugoslavia, Greece, Estonia and Lithuania. In these cases, therefore, the State has, except in England, claimed only the right to appoint the Governor or President, who also acts as Chairman of the Board of Directors, and the Deputy-Governor(s) or Vice-President(s).

The second group consists of those banks whose capital is only partly owned by the State, if at all, and in the appointment of whose directors the State has claimed varying degrees of participation along with the shareholding banks, if any, and private shareholders. In Argentina one ¹ of 12 directors is appointed by the State ; in Spain three out of 21 ; in Chile, Colombia, Peru and Roumania three out of 10 ; in Czechoslovakia, South Africa and the United States three ² out of nine ; in India five out of 13 ; in France nine ³ out of 20 ; in Switzerland 25 out of 40 ; and in Norway all the directors are elected by the Storting (Parliament). In Roumania it is laid down that the three directors appointed by the State shall be persons with commercial, industrial, financial or agricultural qualifications, while in Peru it is stipulated that

¹ A second director is nominated by the Bank of the Argentine Nation which is a State Bank.

² Not directly by the State but indirectly through the Board of Governors of the Federal Reserve System, all of whose members are appointed by the President of the United States.

³ These directors are described as representing the collective interests of the nation, three representing the Ministers of Finance, National Economy and Colonies, while the other six are *ex-officio* members holding specified positions in State financial institutions.

one out of the three Government nominees shall be familiar with labour conditions in Peru and sympathetic with the aspirations of the labouring classes.

With regard to the election of the remaining directors of central banks in this group, all of them are elected by the shareholders (exclusive of the State but including shareholding banks) in Argentina, Colombia, Czechoslovakia, India, Roumania, South Africa, Switzerland and the United States. In the case of Chile, France, Peru and Spain, however, provision has been made that some of the directors shall be elected either directly by certain representative organisations or indirectly through their submitting lists of candidates for election or appointment.

In Chile, for example, one director is to be nominated by the National Agricultural Society and the Society for the Encouragement of Manufacturers, acting jointly, one by the Association of Nitrate Producers and the Central Chamber of Commerce, acting jointly, and one by the Labour Unions. In Peru one director is to be elected by the National Agricultural Societies, one by the Chambers of Commerce, and one by the National Society of Industries. In France six directors are to be selected by the Minister of Finance from a list of three names presented by each of six commercial, industrial, agricultural and labour organisations; one is to be nominated by the National Economic Council and one by the Central Committee of the savings banks; and one is elected by the staff of the Bank of France.

In a number of countries where the directors of the central bank (apart from those appointed by the State) are elected by the shareholders, it has also been provided that some of the directors shall have certain economic qualifications or be representative of various parts of the country. In Belgium the six directors who are to be elected directly by the General Meeting of shareholders must be leading personages in commerce, industry or banking, while the other three are to be elected by shareholders from a list of candidates submitted by the representatives of Industrial, Commercial, Agricultural and Labour organisations. In Colombia three directors shall be farmers, business men or professional men. In Greece five directors shall be particularly engaged in industrial,

commercial and agricultural affairs. In Hungary the directors must include representatives of agriculture, industry, commerce and banking. In South Africa the six directors elected by the General Meeting must be or have been actively engaged, three in commerce or finance, one in agriculture and two in other industry. In the United States three directors of every Federal Reserve Bank must be actively engaged in commerce, agriculture or other industry. In Yugoslavia the directors must be qualified by their knowledge of commercial, industrial, financial or agricultural matters. In Argentina four directors, comprising an agriculturist, a livestock producer, a business man and a manufacturer, shall be elected by the shareholding banks on the proposal of the Board of Directors and after consultation between the Board and the representative organisations. In India the eight directors elected by the General Meeting are territorially distributed by basing the election on five different registers of shareholders.

In some of the State-owned central banks provision has likewise been made for the representation of various interests or areas or for economic qualifications for directors. In Australia the directors (exclusive of the Secretary of the Treasury) must be or have been actively engaged in agriculture, commerce, finance or industry. In Bulgaria four directors are to be elected by the Chambers of Commerce, the Bourse and the Agricultural Boards. In Denmark the 15 directors elected by the Board are to be representative of the various trades and geographical divisions of the country.

In those countries where commercial banks have been required to subscribe the whole or part of the capital of the central bank, they have usually been given the right to nominate some of their directors or employees as directors of the central bank. In the United States three out of the six directors of each Federal Reserve Bank elected by its member banks shall be representative of such banks. In Chile, Colombia and Peru three out of the total of ten directors of the central bank may or shall be directors and managers or other employees of its member banks, two to be nominated by national banks and one by foreign banks operating in those countries. In Argentina seven out of the 12 directors may be bankers, of whom one is to be nominated by the Bank of the Argentine Nation and six

by the shareholding banks divided into groups for the purpose, namely three by national banks, two by foreign banks, and one by provincial or mixed banks.

On the other hand, the election of directors or employees of commercial banks as directors of the central bank has been specifically prohibited in Australia, Belgium, Canada, Czechoslovakia, Greece, India, Japan, Roumania, South Africa and Sweden. In South Africa, where the commercial banks were also required to subscribe a portion of the capital of the Reserve Bank on its establishment in 1921, they were given the right to nominate three of their representatives as directors of the Reserve Bank, while the stockholders other than banks were also to elect three directors. Under an amendment of 1923, however, the directors or employees of other banks were excluded from the Board of Directors of the Reserve Bank, and the six directors were to be elected by the General Meeting of stockholders, with the voting power of the commercial banks limited to £10,000 stock. Moreover, the banks were no longer required to hold Reserve Bank stock.

With regard to the nomination of directors of a central bank by commercial banks or commercial, industrial, agricultural or labour organisations and institutions, there is a great deal to be said, in principle, against such a practice. Kisch and Elkin¹ have stated the case against the representation of special interests on the Board of Directors of a central bank very effectively, in the following manner :

The appointment of individual members of the Board by special interests, such as commercial banks, manufacturing or agricultural associations, carries the risk of introducing sectional influences on the Board. Representatives elected by special bodies necessarily have to look to these bodies for re-election and may be drawn unconsciously into regarding questions of credit policy from the point of view of its effects on the special interests they represent rather than from that of the country as a whole. On the other hand, the special knowledge which presumably such representatives will possess may be of real value to the Board, but this is equally well secured if it is laid down that the Directors must include persons possessing such special knowledge while entrusting their election to the shareholders, as is done in the case of South Africa. Their responsibility is then to the shareholders and not to any special body identified with particular interests.

¹ *Central Banks* (Fourth Edition), p. 63.

Gregory ¹ has also emphasised that " the directorate of a Central Bank should be free from sectional pressure of all kinds " and that

there is a great difference between appointing individuals because they have a large experience in a particular branch of economic activity and appointing them as representatives of that particular body of experience.

In this connection it is interesting to note that the Australian Monetary and Banking Commission recommended that " the members of the Commonwealth Bank Board should be selected for capacity and diversity of experience and contact, and not as representatives of special interests ". Moreover, whereas in Roumania it was formerly provided in the statute of the National Bank that two of the directors to be elected by the General Meeting of shareholders were to be chosen from two lists of six candidates submitted by the Union of Chambers of Commerce and Industry and the Union of Chambers of Agriculture, in the new statute of 1935 it was merely laid down that all the directors were to be elected " from amongst persons competent in agricultural, commercial, industrial, banking, economic, financial or legal matters ". It is also appropriate to refer to a section in the statute of the Central Reserve Bank of Peru, which states that " every Director, no matter by whom appointed or elected, shall be considered a representative of the Nation and shall always vote for what he considers to be the general public interest. "

In the case of some central banks provision has also been made for Treasury representation on the Board of Directors. In Australia and New Zealand the Secretary of the Treasury is a director with voting power, while in Canada the Deputy-Minister of Finance is a member of the Executive Committee of the Board, and in India a Government official is appointed to the Board, in both cases without the right to vote. In Poland the Director of the Monetary and Credit Department of the Ministry of Finance is a member of the Council of the central bank, and in Latvia there is likewise a representative of the Ministry of Finance on the Council, while in Argentina the director appointed by the Chief Executive may be a Government official. In France, as previously mentioned,

¹ *Gold, Unemployment and Capitalism*, p. 183.

not only does the Ministry of Finance now have a representative on the Council, but also the Ministries of National Economy and Colonies and six State financial institutions. In the United States, on the other hand, when the Federal Reserve Board was converted into the Board of Governors of the Federal Reserve System in 1935, the Secretary to the Treasury and the Comptroller of the Currency, who were *ex-officio* members of the former since its inception, were excluded from the latter.

In most countries Government officials and members of the Legislature are specifically excluded from the Board of the central bank. Exceptions to the general rule of exclusion of members of the Legislature are Denmark, where eight of the 25 directors are to be members of the Riksdag, and Switzerland, where five of the 25 directors nominated by the Federal Council may be members of the Federal Chambers. As Kisch and Elkin¹ said,

whether an officially appointed element is included on the Board of the Central Bank or not, it is desirable to avoid, so far as may be, the presence on it of persons who have a special connection with Government or politics, which might possibly influence, or be thought to influence, the impartiality of their judgment.

Executive Committee. In the case of some central banks statutory provision has been made for an executive committee of the Board of Directors, e.g. in Bulgaria, Canada, Czechoslovakia, France, Hungary, Roumania and Switzerland. The executive committee usually consists of the Governor or President, the Deputy-Governor(s) or Vice-President(s), and two or more directors. In the statute of the Bank of Canada, for example, it was laid down that "the Executive Committee is competent to deal with any matter within the competence of the Board, but every decision of the Committee shall be submitted to the Board at the next meeting"; and in the statute of the Bank of Hungary the Executive Committee was empowered to "take urgent decisions in matters reserved for Directors, subject to report to the Board at the next meeting".

Other Committees or Boards. In addition to the Board of Directors, the statutes of several central banks have provided for a Board of Censors, consisting of 10 members elected by the General Meeting of shareholders, as

¹ *Op. cit.*, pp. 60-1.

in Belgium,¹ or of seven members, four elected by the General Meeting and three nominated by the State, as in Roumania; a Committee of Control in France, which is composed of councillors chosen by the General Council for the purpose of verifying the "notes, cash, books, portfolios and securities"; Audit Committees in Czechoslovakia,² Poland and Russia; an Advisory Committee in Holland, which consists of five members elected by shareholders from two candidates for each vacancy nominated by the Board of Commissaries, and which is to meet the Management Board at fixed periods, to be consulted on important matters; a Supervisory Committee in Yugoslavia, which consists of seven members elected by the General Meeting for the purpose of supervising the operations of the Bank and examining the annual balance sheet and reports; and Discount Committees in Argentina, Belgium, Bulgaria, Czechoslovakia, Estonia, France, Greece, Japan, Yugoslavia, Latvia, Lithuania, Poland, Roumania, Russia and Salvador.

The duty of such a discount committee is usually, as provided for in Argentina, "to pass upon all documents offered for rediscount, purchase, or collateral on advances", or, as in Belgium, "to examine the securities offered and advise the administration thereon". In practically all cases the discount committee is to be appointed by the Board of Directors, sometimes with the proviso that the members shall be familiar or conversant with the commercial, industrial and agricultural conditions of the country, as in Argentina, Estonia, Greece and Poland, or that all or some of the members shall be chosen from a list of names submitted by the Chambers of Commerce, as in Bulgaria and Roumania.

¹ The Board of Censors has the right to supervise all the operations of the Bank, to examine all the books, and to approve the balance sheet.

² The Audit Committee, consisting of five members elected by the General Meeting, examines the condition of the Bank's business and investigates the assets of the Bank from time to time.

CHAPTER XVI

RECENT TRENDS IN CENTRAL BANKING

(1) THE TREND TOWARDS GREATER STATE PARTICIPATION AND CONTROL

IN sharp contrast with the situation which prevailed for a number of years after the Great War, the State has in several countries manifested a strong tendency in recent years to claim a larger extent of participation in the ownership and administration of the central bank.

In Denmark and New Zealand the former privately-owned central banks were converted into entirely State-owned central banks in 1936. In Paraguay a privately-owned commercial bank, the Bank of the Republic of Paraguay, was converted into a State-owned central bank in 1936. In Italy the central bank, whose capital was owned entirely by private shareholders, was transformed into an "institution under public law" in 1936, when the old capital and part of the reserves were repaid to the private shareholders and the new capital was subscribed by "public law" banks and credit institutions, savings banks, insurance companies and provident societies; and as the State already had a large share in the ownership and control of many of these institutions, it acquired an indirect participation in the ownership and administration of the Bank of Italy. In the same year the Government of Canada took steps to acquire a controlling interest in the capital of the Bank of Canada; and the process of conversion into a State-owned institution was completed in 1938 when the Government paid out all the private shareholders.

With regard to administration, in New Zealand the State now has the power to appoint all the directors of the Reserve Bank, whereas formerly it was to nominate only three out of the seven directors (exclusive of the Governor, Deputy-Governor and Secretary of the Treasury); and the Secretary of the Treasury is now a member of the Board with voting power, which he did not have prior to 1936. In addition, it was laid down in the new law that the Reserve Bank "is to give effect as far as may be to the monetary policy of the government as com-

municated to it from time to time by the Minister of Finance." In Canada the State now has the right to appoint all the directors (exclusive of the Governor and Deputy-Governor), as compared with three out of the nine under the original statute. In Denmark the Chairman of the Board of three Governors is now to be nominated by the King, and eight of the 25 directors are to be elected by the Riksdag from among its own members, two by the Minister of Trade, Industry and Shipping, and the remaining 15 by the Board of Directors, whereas formerly all the directors, except two who were appointed by the Minister of Trade, were elected by the General Meeting of private shareholders, and the Board of Directors appointed two or three out of the four or five managers of the Bank.

Furthermore, while in the United States, Germany, France and Greece no change was made in the ownership of the capital, the State acquired a bigger share in the administration and control of the central bank.

In the United States the appointments of the Presidents and Vice-Presidents of the Federal Reserve Banks, which were formerly made quite independently by the respective Boards of Directors, are now subject to the approval of the Board of Governors of the Federal Reserve System, consisting of seven members all of whom are appointed by the President of the United States. The Board of Governors has also been vested with wider powers in matters of central banking policy than those enjoyed by the old Federal Reserve Board. For example, the Board of Governors has not only the right of declining to sanction proposed changes in the discount rates of the Federal Reserve Banks, but also the power to revise periodically their rates, to control open-market operations through the Federal Open Market Committee on which it has seven out of the 12 members, to change the legal reserve requirements of member banks, and to lay down margin requirements for security loans by banks and brokers. In other words, the centralisation which the regional system of Reserve Banks obtaining in the United States formerly lacked has now been effected at the cost of much of the independence of the individual Reserve Banks.

In Germany the provision in the Bank Law of 1924 that "the Reichsbank is a bank independent of Government control" was repealed by an amending law in 1937,

and the Reichsbank-Direktorium was placed directly under the Führer and Chancellor. Under the Law of 1924 the President of the Reichsbank was appointed by the General Council of the Bank with the countersignature of the Reichspräsident, and when the General Council was eliminated it was provided that the President of the Reichsbank was to be appointed by the Reichspräsident on the advice of the Direktorium (Management Board), and the other members of the Direktorium by the Reichspräsident on the nomination of the President of the Reichsbank; but under the 1937 amendment the President and other members of the Direktorium are to be appointed by the Führer and to be directly responsible to him.

In France, where formerly the General Council of the Bank of France consisted of 15 regents elected by the 200 largest shareholders, the composition of the Council was radically changed in 1936, and provision was made for a large measure of direct and indirect State participation in appointments to the Council. In the first place, nine out of the 20 members of the Council are to represent "the collective interests of the nation", three representing the Ministries of Finance, National Economy and Colonies while the other six are *ex-officio* members holding specified positions in State financial institutions. In addition, six members are to be appointed by the Minister of Finance from a list of three names submitted by each of six commercial, industrial, agricultural and labour organisations, while three are to be nominated or elected by the National Economic Council, the Central Committee of the savings banks, and the staff of the Bank of France, leaving only two to be elected by the General Meeting of shareholders.

In Greece the Governor, Deputy-Governor and Sub-Governor are now to be appointed by the Cabinet of Ministers on the proposal of the Board of Directors, whereas prior to 1932 they were elected by the General Meeting of shareholders subject to the approval of the Government.

In Argentina, on the other hand, where prior to 1935 some central banking functions were performed by a State-owned bank, the Bank of the Argentine Nation, the commercial banks now have an equal share with the State in the capital of the new Central Bank; and not only do the shareholding banks nominate six of the 12 directors from among their own representatives, and another four on the

proposal of the Board of Directors and after consultation between the Board and certain representative organisations, but the President and Vice-President of the Bank are to be designated by the Chief Executive of the Argentine Nation in agreement with the Senate from among the three candidates for each post elected by the meeting of shareholding banks.

In China, also, where the Central Bank is a State-owned institution, it was provided in the Monetary Reform Programme announced by the Minister of Finance in November, 1935, that the

Central Bank is to be reorganised as the Central Reserve Bank of China and shall be owned principally by banks and the general public, thus becoming an independent institution, devoting itself chiefly to maintaining the stability of the nation's currency.

Owing to strong opposition from certain circles both within and outside the Government, this part of the Monetary Reform Programme was, however, not carried into effect.

Moreover, in Salvador the capital of the Central Bank, which was established in 1934, was not only subscribed by the commercial banks and the public, but the Governor and Deputy-Governor are to be elected by the General Meeting of shareholders subject to the approval of the Government.

With these exceptions, a definite trend in the direction of greater State participation in ownership and administration of central banks is to be observed in recent changes in central banking statutes. It is significant that such changes were made in the statutes of two newly-established central banks, the Reserve Bank of New Zealand and the Bank of Canada, within two years from their inception, as well as in the statute of one of the oldest central banks, the National Bank of Denmark.

The Economic Intelligence Service of the League of Nations ¹ has also seen fit to draw attention to the fact that "in the statutes as drawn up or amended in recent years, the State has generally assumed a more important rôle both in respect of the ownership and management of central banks", and that

this tendency stands in contrast with that of the pre-war period, and early post-war years in particular, when stress was laid on the

¹ *Monetary Review*, 1937-38, p. 81.

desirability of preserving or increasing the independence of central banks from the State,

even to the extent of inserting in the statutes of new or reorganised central banks " a clause or a sentence emphasising this independence either as regards ownership or management ".

The trend towards greater State participation and control is, however, to be observed not only from the statutes of many central banks, but also from increased State intervention in matters of monetary and banking policy and increased State pressure on central banks for direct and indirect accommodation. This trend towards increased State intervention and pressure commenced in 1930 under the stress of the world-wide depression and its aggravation by the financial crisis in Central Europe in the middle of 1931, and was accentuated by the suspension of the gold standard over almost the entire globe. In many cases central banks were virtually obliged to provide the financial facilities demanded by the State, and a perusal of the balance sheets of many central banks to-day reveals the existence not only of direct State debts, but also of large holdings of Government securities and Treasury bills as investments and collateral for advances.

It appears to be no mere coincidence that the degree of State intervention and of State pressure and reliance on the central bank during the past hundred years has varied more or less in accordance with the maintenance of the gold standard. Whereas the gold standard automatically imposes a large measure of discipline on the economic life of a nation and demands the liberation of the central bank from political expediency, during periods of suspension of the gold standard the State is not subject to the same necessity of exerting itself to make ends meet. The State is then subject to the temptation of resorting to the central bank as a ready and convenient means of obtaining almost unlimited credit, which would enable the State to take the line of least resistance. History is full of examples of inflation and currency depreciation resulting from credit creation on behalf of the State, and it is also not just a coincidence that the degree of expansion of central bank credit directly or indirectly for Government purposes has had some relationship with the extent of currency depreciation.

In discussing the dangers of State control, Kiddy ¹ has rightly asked :

In the first place, and with all respect to our Statesmen and politicians, and with all respect also to the principles of democratic Government, has not past experience demonstrated the danger of sound principles of finance being subordinated by Government to the demands of political expediency ?

A further danger arising from the growth of Government control over monetary policy is, as Kiddy has said, " the fact that it leaves the individual engaged in business or finance without the necessary guides for conducting his operations ", as

instead of the foreign exchanges affording a reliable indication of the state of international trade balances, they now constitute very largely the mere reflection of Government operations through the respective Exchange Equalisation Accounts, while the future movements of the exchanges and the course of money rates are more likely to be determined, for some time to come, by Government policies than by the ordinary working of natural laws.

It is to be hoped that the process will soon be reversed again in the direction of less State intervention and control. This is important as history has demonstrated on various occasions the need for political independence on the part of the central bank in order that it may be able to offer strong resistance to unsound demands of the State. While the central bank should always be prepared to give sympathetic consideration to the requests and needs of the Government, it should be placed, by law or tradition, in a position where it considers itself free to treat all requests and representations of the Government on their merits and from the standpoint of the national economic interest.

In general, however, mere statutory provision for the independence of the central bank has not proved to be sufficient. There are examples of State-owned central banks which are operated as autonomous institutions and are known to have suffered less intervention and pressure from the State in difficult times than some central banks in whose capital or management the State has a minority share if at all. In other words, the particular constitution of the central bank is not the only important matter to be con-

¹ *London Bankers' Magazine*, May, 1938.

sidered. Another and more important matter is the attitude of the Government towards the central bank, irrespective of the constitution of the former or the latter. On the Government, therefore, falls the onus of establishing or maintaining the tradition of political independence on the part of the central bank.

Nevertheless, although private ownership of the capital of the central bank affords no automatic guarantee against State intervention and pressure, it has been found in practice to be of considerable assistance not only in strengthening the hands of the central bank *vis-à-vis* the general public, but also in facilitating the Government's task of maintaining political independence for the central bank if it is desirous of doing so.

(2) THE TREND TOWARDS A RESTRICTION OF DIRECT DEALINGS WITH THE PUBLIC

In recent years a number of central banks which used to conduct a large commercial banking business in addition to performing their central banking functions have tended to curtail the former and to concentrate more and more upon the latter.

When the Bank of Italy was transformed into a " public law " institution in 1936 and its ownership was transferred to " public law " banks and credit institutions, savings banks and insurance companies, it was also provided that the Bank should confine its discount business to rediscounts for banks and credit institutions, and that its discounts for private persons should be completely liquidated within a certain period. Advances against securities, however, could be made to private persons as well as to banks ; and the Bank was authorised, for a maximum period of three years and as a special measure, to carry out discount operations for the purpose of meeting the extraordinary credit needs of certain branches of national production.

In China the Monetary Reform Programme of November, 1935, which contemplated the reorganisation of the State-owned Central Bank as the Central Reserve Bank of China, to be owned principally by the banks and the general public, also laid down that " the Central Bank of China will be reorganised to function as a bankers' bank ", and that the Central Reserve Bank " will provide centralised redis-

count facilities for the other banks ” and “ will not undertake general commercial business.”¹

In Mexico the central bank, the Bank of Mexico, was authorised by the Banking Law of 1936 to deal only with member banks and not with the general public, but it was subsequently permitted to disregard this and certain other stipulations of that Law until August, 1938, provided that at the end of the period “ its general condition is such that it could once again comply fully with that law ”.²

In Australia, where the Commonwealth Bank had developed a large commercial banking business during the War and post-War periods and continued to do so after its official assumption of central banking functions in 1924, the Monetary and Banking Commission³ reported in 1937 as follows :

The Commonwealth Bank has taken the view that its central bank activities are of paramount importance, and that its development as a central bank should go hand in hand with some limitation of its trading activities. Since 1930, at least, it has not been a serious competitor of the trading banks. Neither has the Bank made much use of its trading activities for the purpose of expanding or contracting credit. . . . The quarterly average figures of private advances before 1931 cannot be separated from advances to governments, but since that date they bear out the contention that the Commonwealth Bank has not pressed its trading activities. . . . The Bank has not refused credit accounts, but it has not sought clients from a trading bank where it considered that the latter was giving satisfactory service.

The Bank of France, which had for many years been an active competitor of the commercial banks in the discounting of bills and the making of advances against securities, is now also reported to be less active in its competition with the other banks and to have virtually ceased competing with them for new business.

In Greece, where the former central bank, the National Bank of Greece, had dealt directly with the public on a large scale, it was decided in 1928 to create a new central bank, the Bank of Greece, rather than that the National Bank should “ discontinue its commercial activities to the detri-

¹ *Central Bank of China Bulletin*, March, 1936.

² *Commercial and Central Banks (League of Nations)*, 1936-37 and 1937-38.

³ Pages 69 and 215-16 of Report.

ment of the national economy", owing to "the exceedingly important rôle played by the National Bank as a commercial and deposit credit institution".¹

In Argentina and India, where the Bank of the Argentine Nation and the Imperial Bank of India respectively had operated as commercial banks in addition to performing some central banking functions, it was likewise decided to establish special central banks whose dealings with the public should be restricted. The Reserve Bank of India Act, for example, stipulated that the powers of direct discounts and advances should be used only when a special occasion has arisen making it necessary or expedient that such action should be taken for the purpose of regulating credit in the interests of Indian trade, commerce, industry and agriculture.

This method of establishing an entirely new central bank instead of converting an existing commercial bank into one has proved to be by far the better way. In some countries, such as Australia, Mexico, Bolivia and Paraguay, the existence of a commercial bank occupying a special position by virtue of its relationship with the State and its performance of certain central banking functions has induced the State, when considering the advisability of a real central bank, to convert such a commercial bank for that purpose. In practice, however, the position has been, as the Central Bank of Bolivia² admitted, that

to manage a Central Bank, like our own, which before its reorganisation was operated as a Commercial Bank and which even now has in its portfolio many obligations of slow liquidation, is much more difficult than managing an entirely new Central Bank, which has no operations or obligations on its books which do not correspond strictly and legally to the functions of a real Central Bank.

In general, the central banks which still conduct a substantial commercial banking business justify such action on the ground of some special need or circumstance. The Bank of Latvia has said that it "had to grant short-term credits to commerce, industry and agriculture owing to the lack of such facilities", and that it "cannot refuse to accommodate private enterprise with direct credits, as the issue of loans only through private credit institutions would

¹ Protecnicos, *London Bankers' Magazine*, July, 1938.

² *Annual Report for 1930*, pp. 15-16.

make credits more expensive.”¹ The Commonwealth Bank of Australia expressed the view to the Monetary and Banking Commission that its trading bank activities are

a favourable adjunct to central bank control in the power they confer to influence interest rates, to expand advances, if necessary, and to provide facilities which the trading banks may refuse or may not be in a position to supply.²

Of the Bank of France it has also been said that its dealings with the public form part of its technique of credit control, and that this is important in France because of the lack of control of the money market by automatic means as in England. There is no organised discount market, and several State financial organisations, such as the Caisse Autonome d'Amortissement, Caisse des Dépôts et Consignations and the Rentes Stabilisation Fund, operate independently of the Bank of France.

Furthermore, in France, as in Australia, Latvia and several other countries, it has been generally expected of the central bank that it should actively contribute not only towards ensuring the maintenance of adequate banking facilities and moderate rates of interest, but also towards spreading the benefits of such rates throughout the country. Myers³ has pointed out that

not only in Paris, where the surplus funds tend to be concentrated, but also in the small towns at the very periphery, the Bank of France rediscounted all three-name commercial paper at the same rate,

and that “for the outlying towns and villages of France, it is undoubtedly true that the Bank brought a much lower rate of interest than would otherwise have prevailed.” On every renewal of its charter the Bank of France had to undertake to open new branches.

With regard to the Bank of Latvia, its statement that at the beginning of its activities, the Bank granted most of the credits to separate enterprises direct, but in later years private credit institutions acquired greater importance as intermediaries in distributing the Bank's loans,

and that “this development changed in keeping with the Bank's credit policy”,⁴ shows that the Bank considers it

¹ *Activities of Latvijas Banka (1922-32)*, p. 50.

² *Report of Commission*, p. 216.

³ *Paris as a Financial Centre*, p. 21.

⁴ *Activities of Latvijas Banka*, p. 47.

bank, whether forced or voluntary, to the requirements of State finance, as compared with the pre-War period.

While genuine open-market operations are, and can be, undertaken at present on a relatively large scale only by the Bank of England and the Federal Reserve System of the United States, owing to the existence of wide and active markets in short-term and long-term Government securities in London and New York respectively, the central banks of many other countries, old and new, have recently been exerting themselves to establish some or other form of open-market operations as a supplement to discount-rate policy and as an instrument for neutralising seasonal movements or movements of Government funds or for insulating the internal credit structure from sudden and temporary changes in the balance of payments.

A number of the older central banks, however, could not undertake open-market operations until they were specifically empowered by amendments to their statutes to buy and sell Government bonds, Treasury bills and similar securities for their own account. This was done, for example, in Germany in 1933, Holland and Norway in 1936, Belgium in 1937, and France in 1938.

With regard to many of the newer central banks, the scope for open-market policy was limited by the existence not only of relatively narrow markets for Government securities, but also of statutory restrictions on their powers of dealing in such securities. These restrictions had been imposed under the influence of the unfortunate experiences which central banks had with Government paper during the War and post-War periods, and while it is true that, under the pressure of the severe depression, some of these restrictions were relaxed during the period from 1930 to 1933, those relating to the buying of long-term securities have in many cases remained in such a form as practically to limit such securities to ordinary investments which are required as a source of income.

The immediate problems for many of these central banks are, firstly the establishment or development of an open market for Treasury bills, which has been found all the more necessary in the absence of a wide and active market in long-term Government bonds and of wide powers of dealing in such bonds ; and, secondly, the absorption of an excess of liquid funds which has been brought about by

are laid down the commercial banks cannot altogether be blamed for resenting what they consider to be the central bank's use of their own funds against them in competition for business ; and

- (e) that for the successful performance of some of its functions the central bank depends largely upon the whole-hearted support and co-operation of the commercial banks, and that such co-operation can be effectively obtained only if the central bank refrains from competing directly with the commercial banks in their ordinary banking business, except when compelled to do so in the national economic interest.

(3) THE TREND TOWARDS THE MORE EXTENSIVE ADOPTION OF OPEN-MARKET OPERATIONS

It is only in recent years that the question of open-market operations in Government securities as a measure of credit control has attained some prominence in countries outside Great Britain and the United States ; and in these two countries they have come to assume a position of much greater importance during the past 10 years. Instead of being employed merely as a subsidiary and complementary instrument with the object of making Bank rate effective, open-market operations have been adopted on various occasions as the principal method of credit control, and sometimes independently of changes in official discount rates. In fact, in recent years there has been manifested in Great Britain and the United States an increasing tendency to employ them as an independent instrument.

The increased importance of open-market operations may be attributed to, firstly, the decline of the discount rate as an instrument of credit control owing to the changes in money-market conditions, the increased rigidity of the economic structure, the growth of State control and intervention, the suspension of the gold standard, and the adoption of managed money ; secondly, the wider scope for open-market operations arising out of the considerably increased volume and variety of Government securities outstanding, particularly short-term securities such as Treasury bills ; and thirdly, the increased needs of the State and its increased influence over the money market, resulting in a larger measure of subservience on the part of the central

the revaluation of gold stocks or inflow of capital or favourable balances of payments on current account.

With regard to the former, a great deal has already been done in such countries as Canada, India and Argentina to develop a money market based on the Treasury bill¹ as the staple medium and on the active co-operation and support of the central bank. The central bank can serve a very useful purpose by declaring itself ready at all times to buy Treasury bills from third parties at a moderate rate. In fact, such support from the central bank has been found to be essential for the establishment and maintenance of an open market for Treasury bills.

As regards the absorption of an excess of liquid funds, some of the central banks which have been faced with such a situation have been handicapped by the fact that they did not have at their disposal any Treasury bills or other Government securities over and above what they consider to be their minimum holdings as a source of income, and that even if they were prepared to sacrifice the income by selling these securities, they could only absorb a part of the liquid funds with their small holdings.

In general, while the extensive experience which the central banks of such countries as Great Britain and the United States have had in recent years with open-market operations as a means of credit adjustment for neutralising purposes has proved that they can be made to serve as a very useful instrument of credit control, it has also revealed their limitations and their practicability only under certain circumstances. The limits within which and the circumstances under which credit can be effectively adjusted for specific purposes cannot be reduced to a rigid formula and must be left to the discretion of central banks under the guidance of past experience and current observation. In any particular country the extent to which open-market operations can be successfully employed at any particular time will depend upon such factors as the prevailing economic, political and social conditions; the temperament of the people; the make-up of the banking structure; the experience, skill and prestige of the central bank; the state of public finance; the degree of co-operation between the central bank on the one hand, and the commercial banks

¹ In Argentina there is, in addition to the Treasury bill, the Certificate of Participation in the Consolidated Treasury Bonds held by the Central Bank.

and the Government, on the other ; the volume of securities available for purchase or sale by the central bank ; and the extent and activity of the security markets.

(4) THE TREND TOWARDS STATUTORY CENTRALISATION OF CASH RESERVES

The principle of statutory centralisation of cash reserves, which was first introduced in the United States under the Federal Reserve Act of 1913 in the form of minimum balances to be maintained with the central bank by the commercial banks, has been adopted by several countries which have established new central banks since the Great War.

In South Africa, New Zealand, India and Argentina, statutory provision has been made, as in the United States, for minimum reserves to be kept with the central bank by the commercial banks, the ratios ranging from 2 per cent. of their time liabilities and 5 per cent. of their demand liabilities in India to $5\frac{1}{3}$ and $10\frac{2}{3}$ per cent. respectively in Argentina. In such countries as Bolivia, Canada, Chile, Colombia, Greece and Switzerland, however, while minimum cash-reserve ratios have also been laid down by law for commercial banks in respect of both their time and demand liabilities, no provision has as yet been made for minimum balances to be maintained with the central bank. Their cash reserves may be held in the form of notes, coin and balances with the central bank, and their general practice is to keep a substantial proportion thereof on deposit with the central bank. Moreover, in Sweden, Norway, and Finland the commercial banks are required to maintain minimum liquid reserves instead of minimum cash reserves, and the liquid reserves may consist of such general items as "rediscountable paper", "easily realisable assets" and "liquid foreign assets", as well as notes, coin and balances with the central bank.

In Sweden, however, legislation was introduced in 1937, under which the Government could for a limited period authorise the Riksbank, at the latter's request, to require all joint-stock banks with funds in excess of 5,000,000 kronor to hold their legal reserve of 25 per cent. against sight liabilities only in the form of till money, balances with the Riksbank, and sight claims on foreign banks, and to prescribe at will the minimum proportion of such legal reserve

which they should keep with the Riksbank. The fact that statutory provision for such powers, which had formerly been granted only to new central banks, was now also made in the case of one of the oldest central banks must be regarded as of great importance.

Furthermore, in Australia the Royal Monetary and Banking Commission recommended in 1937 that legislation be passed empowering the Commonwealth Bank Board, with the consent of the Treasurer, to require the trading banks to keep for a period of six months deposits with the Commonwealth Bank of not less than a stated percentage of their total deposit liabilities in Australia, and to extend the period for a further 12 months, subject to this power not being exercised for more than 18 months during any period of two years.

The trend towards the statutory centralisation of cash reserves is based on the following facts :

- (a) that when bank reserves are pooled in one unit instead of being spread over many units and their use is safeguarded by reasonable and elastic restrictions, such reserves may be put to work to the fullest extent possible during periods of seasonal strain and in emergencies in the interests of banking and business as a whole ;
- (b) that, in conjunction with the rediscount facilities afforded by the central bank, the centralisation of cash reserves not only promotes economy in their use generally, but also serves to increase the liquidity of the banks ;
- (c) that statutory centralisation at least guarantees to the banking system a minimum of the above-mentioned advantages ; and
- (d) that statutory centralisation assures the central bank of a minimum of funds with which it can operate, and not only strengthens its financial position but also gives it at least some means of control over the banking and credit situation.

A new development in connection with the statutory centralisation of cash reserves is that of giving the central banking authorities the power to decrease or increase the minimum cash reserves to be kept with the central bank by the commercial banks. It was first introduced in the United

States in 1933 and amended in 1935, when legislation was passed empowering the Board of Governors of the Federal Reserve System to change the member banks' reserve requirements by regulation "in order to prevent injurious credit expansion or contraction", the minimum reserve percentages not to be less than those existing at the time nor more than twice such percentages. It was brought into use for the first time in August, 1936, when the reserve requirements were raised by one-half, and again in the beginning of 1937 when it was decided to make a further increase in two stages up to the limit allowed by the law. In April, 1938, however, "as a part of the Government's program for encouragement of business recovery", the minimum reserves were reduced by $12\frac{1}{2}$ per cent. from their new high level.

New Zealand followed suit in 1936 when the Governor of the Reserve Bank, acting with the authority of the Minister of Finance, was empowered to vary the percentages of balances to be maintained by trading banks with the Reserve Bank, subject to such balances not being at any time less than those provided for in the original statute; and in Australia the Monetary and Banking Commission recommended in 1937 that the Commonwealth Bank Board be empowered, subject to the consent of the Treasurer, not only to require trading banks to hold minimum balances with the Commonwealth Bank for limited periods, but also to vary the reserve percentages within the limit fixed by the consent of the Treasurer.

This method of changes in reserve requirements will probably tend to be more widely adopted and further developed, either as an alternative to open-market operations where they cannot be undertaken extensively or effectively or as a supplement to them, in order to strengthen the technique of central banking control under highly liquid monetary conditions or, conversely, under conditions of severe credit stringency. In some countries it is also considered that the mere possession of the power of making changes in reserve requirements would considerably strengthen the hands of the central bank *vis-à-vis* the commercial banks and increase its capacity for moral suasion, and, consequently, that it might never be necessary actually to use this power.

It must be emphasised, however, that while in theory it is a very prompt and effective method of bringing about the

desired changes in the available supply of bank cash, in practice it has some technical and psychological limitations which tend to reduce its value as an instrument of control, and which prescribe that it should be used with great moderation and discretion and only under obviously abnormal conditions.

(5) THE TREND TOWARDS GREATER CO-OPERATION AMONG CENTRAL BANKS

The need for greater co-operation among central banks and the advantages to be derived therefrom have been emphasised by the Brussels Conference in 1920, the Genoa Conference in 1922, the Macmillan Committee in 1931, the League of Nations Gold Delegation Committee in 1932, and the World Economic Conference in 1933. The Financial Commission of the Genoa Conference, for example, adopted a resolution to the effect that "measures of currency reform will be facilitated if the practice of continuous co-operation among central banks of issue or banks regulating credit policy in the several countries can be developed", and that "such co-operation of central banks, not necessarily confined to Europe, would provide opportunities of co-ordinating their policy, without hampering the freedom of the several banks"; and the Monetary and Financial Commission of the World Economic Conference passed a resolution to the effect that

there should be continuous co-operation between Central Banks, and the Bank for International Settlements should be regarded as an essential agency for Central Bank action designed to harmonize conflicting views and for joint consultation.

Such co-operation has been hailed by many responsible persons as the best available means of facilitating world co-operation, and the Bank for International Settlements has been used since its establishment in 1930 as a valuable medium for improving and facilitating co-operation among central banks.

After the Great War a series of reconstruction loans were made to Austria, Hungary and Danzig, under the auspices of the League of Nations and with the assistance of the Bank of England. Then between 1925 and 1929 some central banks also assisted others to reorganise their

monetary systems and stabilise their currencies in relation to gold.

In 1925, when Great Britain returned to the gold standard, the Bank of England arranged a revolving credit of \$200,000,000 with the Federal Reserve Bank of New York. This credit, which was granted by the latter for a period of two years, took the form of an undertaking on its part to sell gold against a deposit credit in the Bank of England whenever it was called upon to do so, subject to a maximum of \$200,000,000 at any one time. The Bank of England, however, did not find it necessary to draw upon this credit.

In 1926, in connection with the Belgian stabilisation programme, an agreement was concluded between the National Bank of Belgium and a group of central banks,¹ in accordance with which the latter agreed to place at the disposal of the former a credit to be drawn upon in case of need. This credit, which was to be in the form of an advance or rediscount as required, was arranged by these central banks owing to the fact that the private bankers of London, New York, Amsterdam, etc., who agreed to underwrite the issue of the Stabilisation Loan of £20,000,000 to Belgium, had announced that it would facilitate their undertaking and carrying out such a contract with the Belgian Government. This was indicative of the importance which these bankers attached to co-operation among central banks.

Similar credits were arranged by groups of central banks for stabilisation purposes in Italy and Poland in 1927, and Roumania in 1929. In Roumania and Belgium, as in Great Britain, the central banks did not find it necessary actually to make use of any of the credits placed at their disposal by the other central banks, but it was appreciated that the availability of these credits was a factor of great importance in enabling them to proceed with and complete their schemes of monetary reform and currency stabilisation.

Further assistance was given by some central banks to others which suffered particularly from the emergency conditions of 1931-2 resulting from the failure of the Credit Anstalt in Austria in the middle of 1931 and the large-scale withdrawal of foreign short-term credits from certain

¹ Consisting of the Bank of England, Bank of France, Reichsbank, Federal Reserve Bank of New York, Netherlands Bank, Riksbank of Sweden, Swiss National Bank, Bank of Japan, etc.

countries. The Bank of England made a loan of £5,000,000 to the National Bank of Austria. Then, in rapid succession, the Bank for International Settlements granted emergency credits to the National Bank of Hungary, the National Bank of Austria, the Reichsbank, and the National Bank of Yugoslavia, and a temporary advance to the Bank of Danzig.

To amplify its possibilities of material aid and in close collaboration with central banks, the Bank for International Settlements organised syndicates of central banks which contributed funds to the common constructive cause.¹

Thus the Bank of England, the Bank of France and the Federal Reserve Bank of New York² participated with the Bank for International Settlements to the extent of \$25,000,000 each, in the credit of \$100,000,000 to the Reichsbank, and 12 central banks, besides the Bank for International Settlements, participated in the credits of approximately \$26,000,000 to the National Bank of Hungary.³ A little later, when foreign balances were also withdrawn from London, credits were arranged by the Bank of France and the Federal Reserve Bank of New York in support of the Bank of England. Both these banks agreed to place a credit of £25,000,000 in their respective currencies at the disposal of the Bank of England, i.e. a total of £50,000,000, the whole of which was utilised.

Apart from the granting of credits for stabilisation or other purposes, central banks co-operate in other ways. They act, for example, as agents for one another in their respective territories. The Bank of England and the Federal Reserve Bank of New York,⁴ operating in international money markets, keep accounts for almost all the central banks of the world, as well as the Bank for International Settlements, and undertake the investment of their surplus funds in Treasury bills and bankers' acceptances, the earmarking of gold, and the performance of the usual banking services which such banks require in London and New York, such as the collection of bills and drafts, the

¹ *Annual Report of Bank for International Settlements for 1931-32.*

² The participation of the Federal Reserve Bank of New York was, as in previous cases, shared *pro rata* by the other Federal Reserve Banks.

³ The credits to the National Bank of Hungary were renewed for the third time in July, 1937, for a further period of three years.

⁴ According to its report for 1937, the Federal Reserve Bank of New York maintained accounts for 42 central banks, whose balances with it amounted to \$171,750,000 at the end of 1937.

payment of cheques, transfers of funds, safe-keeping of securities, etc. There is also an understanding among central banks that they will not operate in any country except through the agency or with the knowledge and consent of the central bank of that country ; and the Bank for International Settlements likewise operates only through the central banks concerned.

Furthermore, central banks have come to exchange information and views more regularly through the media of cables, letters, reports, visits and conferences. To the principal central banks which are shareholders of the Bank for International Settlements and which are represented on its Board of Directors, this institution affords an excellent opportunity through its Board meetings of bringing the responsible heads of those banks together. As Kisch and Elkin¹ have said,

with the creation of the proposed Bank for International Settlements, provision has been made not only for regular and automatic meetings between the heads of leading Central Banks or their representatives, but there are also frequent opportunities for informal discussions and the development of personal contacts, the value of which in international relations can scarcely be overrated.

¹ *Central Banks* (Fourth Edition), p. 163.

INDEX

- Addis, Sir Charles, 184
- Administration of Central Banks, 265-83
- Advances by Central Banks—
 to banks, 94, 95, 100, 102, 103, 164 f.n., 165
 to discount market, 94, 103, 104, 108 f.n., 109, 160
 to public, 101, 103, 109
 to State, 37-55
 ways and means advances, 39, 42, 44, 108 f.n.
- Aldrich, W. W., 122
- Anderson, B. M., 127, 137
- Andradès, A., 16, 58 f.n., 156 f.n.
- Australia, Royal Monetary Commission of, 24, 69, 186, 217 f.n., 220, 281, 293
- Ayres, Leonard, 196 f.n.
- Bagehot, W., 3, 91
- Bank cash, 41, 44, 45, 92, 94, 193, 234, 237, 238, 253
- Bank credit, 45, 66, 71, 109, 126, 129, 131, 132, 133, 175, 196, 197, 209, 229, 230, 247, 248, 249, 253
- Bank for International Settlements, 15, 147, 301, 303, 304
- Bank of Canada—
 administration of, 273, 276, 280, 281, 282, 285
 as bank of issue, 18
 as custodian of cash reserves of banks, 66
 as custodian of metallic reserves, 79
 constitution of, 265, 284
 distribution of profits, 269, 271
 establishment of, 12
 open-market operations, 218-9
 preamble to Act, 14
 provision for suspension of reserve requirements, 83
 relations with State, 51, 54, 57
- Bank of Danzig—
 as custodian of metallic and foreign exchange reserves, 79, 80, 81
 constitution of, 266
 establishment of, 11
- Bank of England—
 administration of, 273, 275, 276, 277
 advances to Government, 37-9, 44
 as bank of central clearance and settlement, 112, 115
 as bank of issue, 2, 17, 21-2, 33
 as bank of rediscount, 90, 91, 93, 94, 97, 108-9, 159-60
 as custodian of cash reserves of banks, 2, 61, 70, 71
 as custodian of metallic reserves, 75, 85
 as Government's agent and adviser, 58, 82
 as Government's banker, 2, 37-9
 as lender of last resort, 3, 89-91, 97
 bank-rate policy of, 3, 85, 148-53, 156-7
 constitution of, 9, 266
 co-operation with other central banks, 301, 302, 303
 evolution of, 1-4
 issue department, 35, 58, 269
 moral suasion, 233
 open-market operations, 44, 161, 189-92, 193, 200-6
 rationing of credit, 148, 149, 225, 226
 relations with public, 108 f.n., 109
- Bank of Estonia—
 administration of, 272, 275, 276, 277, 283
 as custodian of metallic and exchange reserves, 79, 81
 constitution of, 267
 conversion into central bank, 11
 distribution of profits, 35, 270

- Bank of Finland—**
 administration of, 273, 275, 276 f.n.
 as holder of foreign exchange, 81
 constitution of, 265
 dealings with the public, 14, 103
 discount rate, 169
 distribution of profits, 268
- Bank of France—**
 administration of, 272, 275, 276, 276 f.n., 277, 277 f.n., 278, 281, 282, 283, 286
 advances to Government, 39, 45-8
 as bank of central clearance and transfer, 116
 as bank of rediscount, 97-8, 102 f.n.
 as custodian of metallic reserves, 76, 79
 as Government's agent and adviser, 59, 82
 charging of premium on gold, 155, 163
 commercial customers of, 5, 14, 99, 162
 co-operation with other central banks, 302 f.n., 303
 dealings with public, 103, 291, 293
 discount-rate policy, 153-6
 establishment of, 5
 note issue, 23, 26, 46 f.n.
 open-market operations, 214-5
- Bank of Greece—**
 administration of, 273, 275, 276, 277, 278, 280, 283, 286
 as custodian of cash reserves, 65
 as custodian of metallic and exchange reserves, 79, 81
 constitution of, 267
 distribution of profits, 303 f.n.
 establishment of, 291-2
 relations with State, 51
- Bank of Italy—**
 administration of, 284
 as custodian of metallic and exchange reserves, 76, 79, 81
 commercial customers of, 99, 162
 constitution of, 266, 284
 note issue, 23, 26, 76
 restriction of dealing with public, 99 f.n., 290
- Bank of Japan—**
 administration of, 8, 272, 275, 280, 283
 as bank of rediscount, 98-9
 commercial customers of, 14, 98, 117
 constitution of, 8, 266
 co-operation with other central banks, 302 f.n.
 establishment of, 8
 note issue, 23, 76
- Bank of Latvia—**
 administration of, 275, 276, 277, 281, 283
 as bank of rediscount, 92 f.n.
 as custodian of metallic and exchange reserves, 80
 constitution of, 265
 dealings with the public, 292, 293
 distribution of profits, 268
 establishment of, 11
- Bank of Lithuania—**
 administration of, 276, 277, 283
 as bank of rediscount, 92 f.n.
 constitution of, 266
 distribution of profits, 35, 270
 establishment of, 11
- Bank of Mexico—**
 as custodian of metallic and exchange reserves, 80, 81
 constitution of, 267
 conversion into central bank, 12
 dealings with public, 291
 provision for suspension of reserve requirements, 83
- Bank of Norway—**
 administration of, 272, 275, 276, 277
 attitude towards public-works planning, 261
 constitution of, 6, 266
 distribution of profits, 35, 269
 establishment of, 6
 note issue, 23, 76
 open-market operations, 216, 217
- Bank of Poland—**
 administration of, 275, 276, 277, 281, 283
 as custodian of metallic and exchange reserves, 79, 79 f.n., 81
 constitution of, 266, 267, 267 f.n.
 distribution of profits, 35, 270

- Bank of Poland—
 establishment of, 11
 note issue, 23
 relations with State, 51
- Bank of Portugal—
 administration of, 272, 275, 276,
 277
 constitution of, 266
 distribution of profits, 35, 270,
 271
- Bank of Republic of Colombia—
 administration of, 273, 276, 277,
 278, 279
 as bank of central clearance, 112
 as custodian of cash reserves of
 banks, 65
 as custodian of metallic and ex-
 change reserves, 78, 80, 81,
 86
 constitution of, 267
 discount-rate policy, 182 f.n., 183
 f.n.
 distribution of profits, 35, 270
 establishment of, 11
 relations with State, 50, 51
- Bank of Republic of Paraguay—
 constitution of, 265, 284
 conversion into central bank, 12
- Bank of Republic of Uruguay—
 constitution of, 265
 conversion into central bank, 11
 issue department, 35
- Bank of Spain—
 administration of, 276, 277, 278
 constitution of, 7, 266
 distribution of profits, 269 f.n.
 establishment of, 7
- Bank rate, 3, 148-53, 157, 159, 160,
 177, 179, 184, 189, 201, 202
- Banks of issue, 1, 17
- Beckhart, B. H., 16, 23 f.n., 40 f.n.,
 116 f.n., 163 f.n., 167, 227 f.n.
- Book credits, 126, 127, 128, 129, 248
- Brazil—
 Bank of, 12 f.n.
 central bank under consideration,
 12
- Brussels Conference, 11, 301
- Burgess, W. R., 24, 27, 32, 45, 60,
 63, 104, 110, 119, 141, 165,
 167 f.n., 168, 185, 208, 230,
 231, 237, 239, 240
- Business cycles, 125, 128, 139, 143,
 210, 242-64
- Cash reserves, 41, 61-74, 94, 95,
 194, 195, 196, 200, 211, 234-8,
 294, 298-301
- Cassel, G., 197
- Central-bank credit, 41, 44, 45, 54,
 72, 93, 100, 109, 130, 172, 183,
 199, 210, 288
- Central banking—
 as separate branch of banking,
 13
 clearly defined concept of, 13, 15
 recent trends in, 284-304
 the rise of, 1-16
- Central Bank of Argentina—
 administration of, 273, 276, 277,
 277 f.n., 278, 279, 283, 286
 as custodian of cash reserves of
 banks, 65
 as custodian of metallic and ex-
 change reserves, 79, 81, 85, 87
 constitution of, 268, 286
 distribution of profits, 35, 270,
 271
 establishment of, 12
 open-market operations, 221-2,
 223
 relations with State, 52
- Central Bank of Bolivia—
 as custodian of cash reserves of
 banks, 65, 66
 as custodian of metallic and ex-
 change reserves, 78, 80, 81
 dealings with public, 292
 establishment of, 12
 relations with State, 51
- Central Bank of Chile—
 administration of, 273, 275, 276,
 277, 278, 279
 as bank of central clearance, 112
 as custodian of cash reserves of
 banks, 65
 as custodian of metallic and ex-
 change reserves, 78, 80, 81
 constitution of, 267
 distribution of profits, 35, 270
 establishment of, 11
 provision of rediscount rate, 183
 f.n.
 relations with State, 50, 51

- Central Bank of China—
 constitution of, 265, 287
 dealings with public, 287, 290
 establishment of, 11
 issue department, 35
 note issue, 19, 19 f.n.
- Central Bank of Ecuador—
 as custodian of cash reserves of
 banks, 65
 as custodian of metallic and ex-
 change reserves, 78, 80, 81
 establishment of, 11
 relations with State, 51
- Central Bank of Guatemala, estab-
 lishment of, 11
- Central Bank of Turkish Republic,
 establishment of, 12
- Central Banks—
 administration and constitution
 of, 265-83
 advances to State, 37-55
 attitude towards commercial
 banking transactions, 13, 72,
 110, 182, 290-5
 as bankers' banks, 9-10, 89, 290,
 294
 as banks of central clearance
 and transfer, 13, 112-21
 as banks of issue, 13, 17-36
 as banks of rediscount, 13, 89-
 111, 290, 294
 as bankers to the State, 13, 37-57
 as controllers of credit, 13, 122-
 47, 249-50
 as custodians of cash reserves of
 banks, 13, 61-74, 234-8, 294,
 298-301
 as custodians of metallic re-
 serves, 13, 75-88
 as the Government's agents and
 advisers, 37, 57-60
 as holders of and dealers in ex-
 change, 80-2
 as lenders of last resort, 13, 89-
 92, 96, 103
 business cycles and, 242-64
 competition with commercial
 banks, 13, 14, 72, 73, 294
 co-operation among central
 banks, 301-4
 co-operation, with capital market,
 257-8
- Central Banks—
 co-operation with commercial
 banks, 14, 74, 109, 130, 136,
 143, 144, 185, 186, 200, 231,
 234, 255-7, 295
 co-operation with Treasury, 205,
 222, 258
 discount-rate policy, 148-88
 distribution of profits, 35-6,
 268-71
 functions of, 13, 16
 methods of, 125-6
 open-market operations, 189-252,
 295-8
 public welfare, 14, 16, 27, 55,
 249, 265
 relations with public, 5, 14,
 99, 101, 102, 103, 110, 182,
 290-5
 relations with State, 40, 49-55
 trend towards greater State con-
 trol, 284-90
 trend towards restriction of deal-
 ings with public, 290-5
 without regard to profit, 16, 36,
 263
- Central Reserve Bank of Peru—
 administration of, 273, 275, 276,
 277, 278, 279, 281
 as custodian of metallic and ex-
 change reserves, 78, 80, 81
 constitution of, 267
 establishment of, 11
 provision for rediscount rate,
 183 f.n.
 relations with State, 51
- Central Reserve Bank of Salvador—
 administration of, 273, 283, 287
 as custodian of metallic and ex-
 change reserves, 79, 81, 87
 constitution of, 268, 287
 establishment of, 12
 relations with State, 52
- Clark, L. E., 210, 232
- Clearance—
 functions and operations of cen-
 tral, 112-21
 meaning and significance of cen-
 tral, 114-5
- Cole, G. D. H., 260
- Commercial Banks—
 advances to, 93, 100, 102, 103

- Commercial Banks—
 cash reserves of, 2, 41, 61-74, 193, 194, 195, 196, 234-8, 294, 298-301
 competition between central banks and, 14, 72, 73, 294
 co-operation between central banks and, 14, 74, 109-10, 130, 136, 143, 144, 185, 186, 200, 231, 234, 257-8, 295
 rediscounts for, 89, 93, 94, 95, 100, 104
- Commonwealth Bank of Australia—
 administration of, 272, 274, 276, 279, 280, 281
 as bank of central clearance, 112, 113
 as custodian of cash reserves, 69, 69 f.n., 236
 as holder of exchange, 81, 82
 attitude towards public-works planning, 262
 constitution of, 265
 conversion into central bank, 11
 dealings with public, 14, 103, 291, 293
 distribution of profits, 268-71
 issue department, 35
 operations in Treasury bills, 220
- Conant, C. A., 16, 38, 40, 155, 191 f.n.
- Constitution of Central Banks, 265-83
- Copland, D. B., 186
- Credit base, 22, 41, 193, 194, 196, 197, 202, 205, 245, 264
- Credit control, 13, 20, 29, 34, 69, 109, 122-47, 148, 157, 163, 184, 189, 233, 295
- Credit policy, 88, 143, 148, 149, 151, 177, 235, 243, 244, 249, 251-5
- Credit structure, 8-9, 41, 62, 75, 91, 93, 94, 144, 159, 179, 184, 202, 294
- Crick, W. F., 200, 256, 258
- Crises, 3, 4, 149, 150, 151, 152, 153, 154
- Currency—
 deposit, 27, 83, 131 f.n., 197
 depreciation of, 29, 30, 46, 54, 175
- Currency—
 issue of note, 13, 17-36
 metallic, 17, 28
- De Jong, A. M., 163
- Direct action, 126, 167 f.n., 210, 228-31, 233
- Discount market, 162, 163, 170, 171, 206
- Discount-rate policy—
 decline in significance of, 169-72
 evolution of, 148-53
 in countries without organised money markets, 181-8
 in England, 85, 148-53, 156-7, 169
 in France, 153-6
 in Germany, 154, 156
 in Holland, 154, 163, 169
 in United States, 163-8, 169
 necessary functions of, 172-7
 since the War, 169-72
 theory underlying, 157-9
- Discount rates, 3, 16, 26, 78, 82, 87, 88, 126, 148-88
- Dunbar, C. F., 16, 20 f.n., 27 f.n., 155
- Dunkman, W. E., 128, 135 f.n.
- Einzig, P., 170, 170 f.n.
- Eire, recommendation for central bank, 12
- Elkin, W. A., 15, 34, 97 f.n., 113, 265 f.n., 280, 282, 304
- Exchange Equalisation or Stabilisation Accounts, 22, 22 f.n., 60, 82, 85, 145-6, 203, 203 f.n., 204 f.n., 205, 207, 289
- Exchange rates, stabilisation of, 122, 124-5, 139-41, 147
- Federal Reserve Banks of United States—
 administration of, 10, 273, 274, 275, 276, 277, 279, 282, 285
 as banks of central clearance, 117-9
 as banks of issue, 10, 18, 26-7, 32, 77, 78
 as banks of rediscount, 10, 44, 92, 92 f.n., 96, 99-102, 104, 110

- Federal Reserve Banks of United States—
 as custodians of cash reserves of banks, 62, 63-4, 66-9, 234-6
 as custodians of metallic reserves, 77, 77 f.n., 78
 as Government's agent and adviser, 59-60, 82
 as Government's banker, 42-3, 44, 45
 as lenders of last resort, 10, 91
 constitution of, 10, 266
 co-operation with other central banks, 301, 303, 303 f.n.
 direct action and moral suasion, 167 f.n., 210, 229-30, 231, 232
 discount-rate policy, 163-8, 181, 184, 185
 distribution of profits, 35, 269, 270, 271
 establishment of, 10
 open-market operations, 44, 45, 191, 192, 193, 206-12
 provision for suspension of reserve requirements, 25-6, 77
 publicity, 240
- Federal Reserve Board—
 appointment of, 10-11
 on bank reserves, 67-8
 on credit control, 130, 136
 on direct action, 167 f.n., 229
 on open-market operations, 206-7
- Federal Reserve System—
 Board of Governors of, 68, 101, 118, 167, 206 f.n., 212, 230, 234, 235, 238, 260, 273, 274, 275, 282, 285
 committee of officers of, on bank reserves, 66-8, 71
 establishment of, 10
 member banks of, 10, 61, 64, 64 f.n., 66, 67, 96, 100, 110, 119, 119 f.n., 129, 238, 266, 266 f.n.
- Finland, Budget Equalisation Fund, 261
- Foreign exchange, use of as reserve of central banks, 77, 78, 80-2
- Genoa Conference, 301
- Gibson, A. H., 142, 184
- Gilbart, J. W., 39 f.n., 58 f.n.
- Gold exchange standard, 80-1
- Gold reserves—
 holdings of, by Bank of England, 156, 157, 201, 204, 205, 205 f.n.
 holdings of, by Federal Reserve System, 85, 166, 167, 207
 protection of, 3, 85, 163, 173
 ratio of, 76-9, 163, 166, 177, 198, 207
- Gold standard, 53, 73, 139-43, 144, 146, 147, 157
- Government securities—
 advances against, 44, 46, 50, 51, 52, 93, 97-8, 101, 102, 166, 182
 holdings of, by Bank of Canada, 218-9
 holdings of, by Bank of England, 204, 205, 205 f.n.
 holdings of, by Federal Reserve System, 44, 212, 212 f.n.
 holdings of, by Reichsbank, 213
 markets in, 163-4, 199, 216, 217, 218
 purchases and sales of, 44, 126, 189, 192, 193, 207, 208, 209, 211, 213, 215, 216
- Gregory, T. E., 71, 138, 142, 167, 184, 281
- Greidanus, T., 138
- Harris, S. E., 211
- Hawtrey, R. G., 15, 19, 89, 91 f.n., 149, 150 f.n., 173, 176, 197, 198
- Hayek, F. A., 138, 244 f.n., 254
- Henderson, H. D., 260
- Inflation, 30, 41, 46, 47, 48, 54, 144, 175, 198
- Interest rates, 145, 160, 162, 172, 174, 175, 176, 177
- Investment—
 rate of, 173
 relation between saving and, 173, 245, 246, 259
 State organisation of, 174, 174 f.n., 199
- Jauncey, L. C., 15, 113
- Jenny, F., 138
- Katzenellenbaum, S. S., 227

- Kemmerer, E. W., 24
 Keynes, J. M., 173, 174 f.n., 176, 199, 257, 259
 Kiddy, A. W., 289
 King, W. T. C., 39 f.n., 149 f.n., 150 f.n., 152, 152 f.n., 189 f.n., 223 f.n.
 Kisch, C. H., 15, 34, 97 f.n., 113, 263 f.n., 280, 282, 304
- Leaf, W., 127
 Lemoine, R. J., 23, 116
 Lender of last resort, 13, 89-91, 96, 103
 Lewinski, J. S., 34, 127, 132, 137, 251
 London Economic Conference, 79, 255, 301
 Loubet, P., 156
- MacGregor, D. H., 260
 Mackenzie, K., 16
 Macmillan Committee, 22, 23, 70, 71, 86, 250, 256, 301
 Managed money, 141-2, 143, 172
 McLaughlin, G. V., 131
 McManus, T. F., 254 f.n.
 Midland Bank *Monthly Review*, 72
 Mill, J. S., 127
 Mitchell, W. C., 242
 Money Market—
 control or regulation of, 41, 43, 68, 81, 134, 152, 159, 162, 163, 213, 214
 general, 13, 41, 85, 93, 143, 155, 159, 161, 163, 164, 169, 170, 181, 184, 187, 193, 218, 236
 Money rates, 157, 158, 159, 160, 162, 164, 189, 193, 194, 196
 Moral suasion, 126, 210, 228, 229, 231-4, 237
 Myers, Margaret, 47, 47 f.n., 214, 293
- National Bank in Copenhagen—
 as custodian of metallic and exchange reserves, 76, 77, 80, 80 f.n., 163
 establishment of, 6
 National Bank of Austria—
 as bank of central clearance, 112
- National Bank of Austria—
 as custodian of metallic and exchange reserves, 79, 81
 establishment of, 6
 relations with State, 50, 51
 National Bank of Belgium—
 administration of, 272, 275, 276, 277, 278, 280, 283
 as bank of central clearance, 117
 as custodian of metallic and exchange reserves, 76, 80, 163
 constitution of, 7, 266
 discount rate, 154
 distribution of profits, 35, 269
 establishment of, 6
 open-market operations, 216
 National Bank of Bulgaria—
 administration of, 276, 277, 279, 282, 283
 as custodian of metallic and exchange reserves, 79, 81
 constitution of, 265
 distribution of, 268
 provision for suspension of reserve requirements, 83
 relations with State, 51
 National Bank of Costa Rica—
 constitution of, 265
 issue department, 35
 National Bank of Czechoslovakia—
 administration of, 272, 275, 277, 278, 280, 282, 283
 as custodian of metallic and exchange reserves, 79, 79 f.n.
 constitution of, 267
 discount rate, 169
 distribution of profits, 35, 269
 establishment of, 11
 relations with State, 50
 National Bank of Denmark—
 administration of, 275, 276, 279, 282, 285
 constitution of, 265, 266, 284
 discount rate, 169
 National Bank of Egypt—
 establishment of, 8
 relations with public, 14, 103
 National Bank of Hungary—
 administration of, 275, 276, 277, 279, 282
 as bank of central clearance, 112, 117

- National Bank of Hungary—
 as custodian of metallic and exchange reserves, 79, 81
 constitution of, 266
 discount rate, 169
 distribution of profits, 35, 270
 establishment of, 11
 relations with State, 50, 51
- National Bank of Roumania—
 administration of, 272, 275, 276, 277, 278, 280, 281, 282, 283
 constitution of, 267
 distribution of profits, 35, 270
- National Bank of Yugoslavia—
 administration of, 275, 276, 277, 279, 283
 as custodian of metallic and exchange reserves, 80
 constitution of, 267
 distribution of profits, 35, 270, 271
- National banks—
 central banks as, 1
 of the United States, 9, 18, 24, 266
- National Swiss Bank—
 administration of, 272, 276, 277, 278, 282
 as custodian of cash reserves of banks, 65
 constitution of, 266
 co-operation with other central banks, 302 f.n.
 discount rate, 169
 distribution of profits, 35, 270
- Nelson, R. W., 254 f.n.
- Netherlands Bank—
 administration of, 5, 272, 275, 276, 277, 283
 advances to Government, 40
 as bank of central clearance, 117
 as bank of rediscount, 98
 as custodian of metallic and exchange reserves, 76, 80, 163
 constitution of, 5, 266
 co-operation with other central banks, 302 f.n.
 discount-rate policy, 154, 163
 distribution of profits, 35, 269
 establishment of, 5
 moral suasion, 233
 note issue, 27, 76
 open-market operations, 215
- Non-monetary factors, 133, 198, 199, 250, 253
- Northrop, Mildred, 213 f.n., 226, 233, 241
- Note issue—
 automatic regulation of, 29
 elasticity and security in, 21-2, 77, 84
 evolution of function of, 17-18
 Government's share in profits of, 34-5
 monopoly of, 17-20
 provisions for cover against, 21-7, 75-80
 uniformity in, 17
- Ohlin, B., 138
- Open-market operations—
 evolution of, 189-92
 in England, 189-90, 191
 in United States, 191
 in other countries, 185 f.n., 213-24, 295-7
 meaning of, 192-3
 significance of, 193-200
 theory underlying, 194
- Palgrave, R. H., 154
- Parchmann, A., 48
- Phillips, C. A., 254
- Price level—
 control of, 131-7
 effects of changes in, 123, 125, 137-8
 stabilisation of, 122, 125, 131-7, 139, 194
- Psychological factors, 133-4, 135, 137, 142, 162, 174, 175, 184, 198, 211, 231, 238, 243, 264
- Publicity, 126
- Public works, planning of, 174, 199, 258-64
- Qualitative credit control, 96 f.n., 135, 135 f.n., 136, 139, 229, 230-1, 257
- Quantitative credit control, 131, 135, 136, 229, 257
- Quantity of money, 42, 131, 132, 133, 134, 139, 172, 173, 194, 200, 253, 264
- Quantity theory of money, 133

- Rationing of credit, 126, 148, 225-8
- Rediscount—
 definition of, 92-4
 evolution of, 89-92
 general, 13, 109-11, 211, 228
 powers of, 97-103
 scope and extent of, 103-9
 significance of, 62, 70, 94-7
- Reichsbank of Germany—
 administration of, 7, 272, 275, 285
 advances to Government, 40, 48-9
 as bank of central clearance and transfer, 112, 116-7
 as bank of issue, 7, 18, 25, 26, 48, 48 f.n., 76, 77
 as bank of rediscount, 98, 105-6
 as custodian of metallic and exchange reserves, 76, 77, 79, 80
 constitution of, 8, 266
 co-operation with other central banks, 302 f.n.
 discount-rate policy, 8, 154, 156, 169, 213 f.n.
 distribution of profits, 35, 270
 establishment of, 7
 moral suasion, 233-4
 open-market operations, 190, 213-4
 publicity, 240
 rationing of credit, 226-7, 227 f.n.
 rediscount of Sonderwechsel, 49 f.n.
- Reserve Bank of India—
 administration of, 273, 275, 276, 277, 278, 279, 280, 281
 as bank of rediscount, 109
 as custodian of cash reserves of banks, 65
 as custodian of metallic and exchange reserves, 79, 81, 82
 constitution of, 266
 establishment of, 12
 issue department, 35
 open-market operations, 219
 preamble to Act, 14
 relations with public, 109, 292
 relations with State, 52
- Reserve Bank of New Zealand—
 administration of, 272, 275, 276, 281, 284
- Reserve Bank of New Zealand—
 as custodian of cash reserves of banks, 64, 69, 236
 as custodian of metallic and exchange reserves, 79, 81, 82
 constitution of, 265, 266, 284
 discount-rate policy, 183 f.n.
 establishment of, 12
 provision for suspension of reserve requirements, 83
 relations with State, 52, 57
- Riksbank of Sweden—
 administration of, 273, 275, 277, 280
 as bank of rediscount, 98
 as custodian of cash reserves of banks, 70, 70 f.n., 237
 constitution of, 4, 265
 co-operation with other central banks, 302 f.n.
 discount rate, 169
 discount-rate policy, 154
 distribution of profits, 268
 establishment of, 4
 moral suasion, 233
 note issue, 4, 23, 76
 open-market operations, 216, 223
- Robbins, L., 176, 260, 263
- Salter, Sir Arthur, 260
- Sarow, F., 213-4
- Sayers, R. S., 179, 179 f.n., 190
- Shaw, W. A., 15, 28, 113, 177
- Smith, Vera, 15, 17, 90
- South African Reserve Bank—
 administration of, 272, 275, 276, 277, 278, 279, 280
 as bank of central clearance, 121
 as bank of issue, 27, 30-2, 78
 as bank of rediscount, 102, 106-7
 as controller of Exchange Stabilisation Account, 146
 as custodian of cash reserves of banks, 64
 as custodian of metallic and exchange reserves, 78, 80, 82
 as lender of last resort, 91
 constitution of, 268, 269
 discount-rate policy, 186-7
 distribution of profits, 35, 269
 establishment of, 11

- South African Reserve Bank—
 operations in Treasury bills, 219–
 20
 provision for suspension of re-
 serve requirements, 79, 83
 relations with State, 50, 51
- Spahr, W. E., 210–1
- Spalding, W. F., 178, 178 f.n.,
 184 f.n.
- Sprague, O. M. W., 27, 112, 115,
 254
- Stamp, Sir Josiah, 109, 262
- State Bank of Russia—
 administration of, 7, 283
 constitution of, 7, 9, 265
 establishment of, 7
 rationing of credit, 227
- State notes, 27–30, 34
- Sweden, business cycle policy of,
 260–1, 260–1 f.n.
- Szymczak, M. S., 136
- Tooke, T., 127, 154
- Treasury bills—
 introduction of, 39
- Treasury bills—
 open market for, 171, 199, 216,
 217, 219, 222
 provisions for discount or redis-
 count of, by central banks, 40,
 48, 49, 50, 51, 52, 93, 98, 102
 purchases and sales of, 190–1,
 192, 213, 214, 215, 216
- Treasury certificates or notes, 40,
 43, 45, 49
- Valk, W. L., 243
- Van Nierop, N. A., 255
- Velocity of circulation, 42, 133, 194,
 197, 209, 264
- Venezuela, central bank under con-
 sideration, 12
- Wagemann, E., 172, 176, 204 f.n.,
 226, 227
- Whitmore, F., 160 f.n.
- Willis, H. P., 16, 21, 23 f.n.,
 40 f.n., 92, 113, 115, 116 f.n.,
 163 f.n., 210, 227 f.n.
- World Economic Conference, 79,
 255, 301

POST-WAR
RECONSTRUCTION
CONFERENCES

THE TECHNICAL ORGANISATION OF
INTERNATIONAL CONFERENCES

BY

WILLIAM O'DAVOREN

7s. 6d. net

"A book which will certainly be of the greatest assistance to all who may be called upon to organise international conferences in the future. . . ."—*from the preface by Professor Antoine Velleman, M.A., Ph.D.*

"There will be plenty of international conferences after the war—indeed, they have begun already, so this book about how to organise them by one who was a League of Nations official, comes at the right moment and should be found useful."—*Reynolds News.*

A publication of the
GENEVA SCHOOL OF INTERPRETERS

P. S. KING & STAPLES LIMITED

P. S. KING
&
STAPLES LIMITED

are

Publishers for the

London County Council

International Labour Office

Manchester Corporation Rivers Department

Chinese Maritime Customs

Columbia University, New York

Food Research Institute, Stanford University,
California

Empire Cotton Growing Review

American Review of Political and Social
Science

South African Journal of Economics

Sankhya, Indian Journal of Economics

The Historical Association

PUBLISHERS
IN WESTMINSTER
SINCE 1819