CONTROL OF CREDIT

AS A REMEDY FOR UNEMPLOYMENT

INTERNATIONAL ASSOCIATION
ON UNEMPLOYMENT

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By

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PREFACE

If the science of economics is discredited in the eyes of the lay reader, it is because he can discover so little apparent agreement amongst economists on the essential problems of industrial life. In the present report, which is hereby submitted to the International Association on Unemployment, an attempt is made to show that almost unanimity of agreement is to be found on certain conclusions of vital interest for the solution of unemployment.

J. R. Bellerby.

The International Association on Unemployment welcomes the opportunity of publishing the following study which has been submitted by one of its members, Mr. J. R. Bellerby, on the "Control of Credit as a Remedy for Unemployment". Whilst the publication of such a study under the auspices of the Association may not be considered as engaging its collective attitude to the problem involved, it is felt that the evidence collected forms a valuable contribution to the study of the relation between currency policy and employment, and that its presentation in this manner may serve to stimulate further research and fruitful effort along the lines of the subject treated. Since the aim of the Association is to secure the greater co-ordination of all efforts made in different countries for combatting unemployment, the Secretary-General of the Association *(1, chemin de l'Escalade, Genève)* would appreciate the communication of any observations to which the present publication might give rise.

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INTRODUCTION.

All the history of social effort from 1920 to 1923 has evidenced the complete failure of conventional or 'recognised' remedies to strike at the root of the evil of unemployment. A mere study of past attempts would reveal little of value to the ultimate solution of the essential problem of preventing unemployment; rather is it necessary to consider proposals which are as yet untried and which must accordingly be classed as theoretical.

If, as seems probable, the solution is to be found in some alteration in the method of employing one of the factors in industrial production, those to whom recourse should naturally be made for suggested modifications are the professional experts, men who have specialised in securing a wide and deep comprehension of all the forces, controls, actions and reactions involved in the vast mechanism of trade. It has therefore been considered expedient to undertake what might be termed a theoretical enquiry with a view to discovering whether, from the mass of economic literature recently accumulated around the problem of unemployment, some new suggestion or development may not be found which has gained a large measure of support from competent authorities.

The preliminary examination of the works of the most eminent writers on unemployment and the trade cycle showed that the field of finance was the one in which many hoped to find the most effective solution. In particular, the regulation of the issue of credit and currency in such a way as to stabilise industrial conditions was a suggestion very prominently advanced. Accordingly, this phase of the question has been made

the subject of more thorough examination with a view to discovering the extent to which there was general agreement on the theoretical basis of the proposals. Since this study began to reveal certain points of theory and conclusions which secured very wide acceptance, it was felt desirable to classify the evidence in such a way as to present if possible a corporate thesis.

Although such a procedure involved no small measure of difficulty, it has happily been possible to marshal the various opinions into an orthodox argument comprising four clearly-defined stages. The final step in the reasoning yields a theoretical conclusion which is so widely advocated that it seemed desirable to continue a stage further and define the practical issues arising out of the conclusion. Some suggestions for rendering it effective have also been recorded.

The various links in the chain of reasoning are as follows. Unemployment will be reduced if industry can be stabilised at a comparatively high level of activity (Chapter I). Greater stability in industry can be secured by greater stability of the price level (Chapter II). The movement of the price level is determined largely by the volume of money or "purchasing power" made available to the community (Chapter III). Control over the expansion or contraction of the purchasing power of the community rests partly with the banks (Chapter IV).

By virtue of their possessing some degree of control over the means whereby the community makes its purchases, the banks are to that extent responsible for one of the vital factors in industrial activity. By assisting the expansion of this purchasing power at one moment they can facilitate a boom in prices ; by contracting it they can intensify depression. If they were in a position to regulate its issue in such a way as to minimise price fluctuations, they could thereby secure greater equilibrium in production, thus leading to a reduction in the average of unemployment (1).

In the opinion of a considerable number of eminent economists, the most efficient method of influencing the expansion or contraction of credit would be by means of the rate of discount demanded by banks in extending loans to their customers.

(1) The argument is here expressed in its broadest lines, a more accurate development being reserved for the report itself.

In point of fact, the volume of credit has in the past been restrained within elastic limits in certain countries by the raising or lowering of the discount rate, and it is considered that this method of restricting fluctuations might be adopted more extensively.

Potentially, the power of the banks in general to influence industrial conditions is perhaps unequalled by that of any other single section of the community. Individual banks have, however, little influence when acting alone. If a new policy is to be developed in the regulation of credit, closer co-operation between banks will be essential. Moreover, just as the action of one bank alone would be without effect on general conditions, so the combined action of the banks of but one nation would in most cases be of little account. Not only national but international uniformity would seem essential before adequate results could be obtained.

The practical issues thus all centre on the problem of securing unity amongst banks for giving effect to whatever policy may seem in the best interests of industry and employment.

Certain difficulties encountered in the preparation of the report should be noted. The preliminary examination of the most popular explanations of the trade cycle showed the widest divergencies of opinion as to the fundamental causes of fluctuations. It was considered inexpedient, therefore, to make a summary of these theories with a view to showing both differences and similarities. Only such points of agreement as relate to the subject under discussion have been recorded, and these, coupled with corroborative evidence from the literature of allied subjects, have formed the basis of the line of argument followed in this report. It is felt, however, that the thesis put forward here involves neither the acceptance nor the rejection of any theory of cycles ; and there are hardly any explanations with which it is entirely incompatible.

A report of this nature gives rise to a further problem : the necessity of ensuring that when quotations are removed from their contexts they retain precisely the same significance as in the original. It may be felt that to isolate extracts in this way would result frequently in giving greater emphasis than was intended to the argument contained. As against this, it should be noted that very often considerable force is lost through the impossibility of showing the reasoning at full length ; further that, in order to minimise the possibility of misinterpretation,

the author's own words are almost invariably given, rather than a summary of his argument.

The spirit of the report is, it is hoped, constructive, yet without prejudice to the full appreciation of certain difficulties of real significance. If any appeal is made it is for greater effort on lines already proved and the acceptance of responsibility where power lies.

PART I.

THE THEORETICAL BASIS.

CHAPTER I.

The Losses caused by Fluctuations in Industry.

A study of the means whereby industry and employment may be stabilised should of necessity be preceded by some statement showing the extent to which stability may be desirable in the interests of human welfare. There are doubtless many who will contend that progress is impossible without some acceleration and recoil; and, undeniably, a fluctuating regime does possess advantages of which account should be taken in weighing loss and gain.

Perhaps the most valuable single evidence on this subject is that of Professor Wesley C. Mitchell, Director of the United States National Bureau of Economic Research, whose work on *Business Cycles* is outstanding for its wealth of statistical detail, its comprehensive scope, and considered economic analysis. Professor Mitchell deals with the phenomenon phase by phase, showing the loss and gain at each stage. The summarised results are given in a concluding section.

"The precarious plight of the wage-earner's family in the money economy consists largely in the shrinkage of employment caused by business depression. The physical privations, the anxieties, and the humiliation forced upon this class by inability to find work are not only themselves a grievous evil, but they are also prolific sources of further evils — intemperance, prostitution, chronic idleness, the desertion of families, and the stunting of children. Profits doubtless shrink in larger proportion than wages, and many families who draw their incomes from

this source are forced to adopt painful economies and to endure much anxiety, though they seldom suffer such extreme hardships as those of wage-earners out of work. On the other hand, the relatively small class of persons whose incomes really do remain fixed during depression, profit by the reduced cost of living; but for this material advantage they pay a heavy price in uncertainty and in sympathetic participation in the sufferings of others.

"Business cycles also affect material well-being by influencing the selection of business leaders, the centralisation of economic power, and the progress of industrial technique.

"Prosperity stimulates enterprise and encourages business men to set up for themselves. But by making it easier for the unfit managers to survive for a time, it reduces somewhat the community's economic efficiency. Even the abler business men, under the press of hurry, relax somewhat their precautions against waste. Meanwhile investors become more inclined toward rash ventures, and an increasing proportion of society's energy is thrown away in unprofitable undertakings. Crisis and depression, on the contrary, serve at least to weed out the less competent managers, to enforce vigilant attention to detail upon all, and to make investors cautious.

"The foreclosure sales and reorganisations to which depression gives rise afford the best opportunity for the increase of fortunes already large, and for the rise of business magnates already powerful (1). In this way depression promotes the centralisation of control in the world of business. But, on the contrary, it often weakens or destroys loosely cemented alliances or pools for the regulation of competition. And the promotion of great combinations among business enterprises formerly independent is usually undertaken in the middle stages of prosperity, when investors are optimistically inclined and before the money and bond markets have become stringent.

"For the progress of industrial technique, in the sense of the practical application of improvements already invented, the most favourable phase of the business cycle is the period of revival of activity. Depression forces men to cast about for any feasible method of reducing cost; but it offers little inducement for the immediate expenditure of large sums upon improvements.

(1) See *Anna Youngman, The Economic Causes of Great Fortunes* (New York, 1909).

It is the season when alterations are planned ; that of revival is the season when they are executed on the largest scale. Prosperity is less favourable, not for lack of funds, but for lack of time and attention.'

"In general, prosperity is a season of strenuous activity, recompensed by material comfort and enlivened by high hopes. Its chief social drawbacks are the waste incidental to hurry, the extravagance bred by affluence and optimism, the obsession of attention by business interests, and the anxieties which cloud its later days. A crisis intensifies these anxieties, particularly for business men and investors. The turmoil subsides in depression ; but the subsidence brings despondency upon those whose fears have been realised, and leaves others with a dull outlook at best. To working men it is the season of most suffering — of over-driving when at work, and of privation when on the street. For these disadvantages its repression of waste, stimulation of plans for technical improvements, and enforcement of caution regarding investments are but partial compensation." (1)

A statement of this character is the more valuable in that it draws its inspiration from pre-war conditions. Corroberative evidence of a similar character may be found in the Report of the French Commission on Economic Crises (1908-1911) and in the comprehensive study of industrial fluctuations made by Professor A. Aftalion, of the University of Paris (2).

In forming a rough estimate of the gains and losses resulting from trade cycles, the general observer is fully prepared to look upon the period of depression as being socially disastrous, but he none the less retains the impression that this is largely compensated by the period of intense activity preceding it. It would be premature at this stage to attempt an explanation of certain erroneous ideas which are at the basis of this conception. Much evidence will be given later in the report (3) to show that the prosperity which is thought to accompany a boom in prices is of a very illusory character, and that not only does a rapid rise in prices constitute a source of much immediate wastefulness and declining economy, but that it gives rise at the same time to the accumulation of many factors

(1) *Business Cycles*, pp. 597-599. University of California Press, 1913.
(2) *Crises périodiques de surproduction*, Marcelle Rivière & C^ie^, 1913.
(3) See, in particular, pp. 70-76.

which ultimately react and intensify the depression. As regards the influence which fluctuating prices have on the actual volume of production, Professor Aftalion gives useful statistical evidence to show that "cyclical movements in production per head of worker follow inversely those of prices ; productivity tends to decline during the boom and to increase during times of depression." (1)

Post-war experience has added force to the conviction that the business cycle leads to industrial waste and social injustice. The description given by Professor E.R.A. Seligman, of Columbia University, expresses well the impression left by the recent upheaval.

"During the period of rapidly rising prices we have all the appearances of a phenomenal prosperity. Not only, however, is this prosperity illusory, but it creates its own nemesis in the inevitable reaction that is sure to ensue.

"The prosperity, we have said, is illusory. With the rapid rise of prices, those who have no commodities to dispose of suffer severely. The creditor is in an unhappy position and the recipients of fixed incomes are compelled to resort to all manner of unworthy expedients in order to make both ends meet. The continual fluctuations of price introduce an uncertainty in business which is only temporarily masked by the advance. The opportunities of a sellers' market irresistibly lead to profiteering and its attendant evils. The sudden increase of the paper income produces private extravagance, and public prodigality. The extravagant rise of wages, even though it lags behind the general rise of prices, coupled with the unceasing demand for labour, engenders a demoralisation, which soon returns to plague the industry. The habits of thrift, painfully built up during a lifetime, are abruptly discarded. The kaleidoscopic mutations of paper fortunes, amassed almost over night, beget a spirit of speculation and of peculation. The feverish activity of the market destroys the habits of orderliness and sobriety, and the brilliant prospects of suddenly acquired wealth create in the public a delirium of improvidence and the sense of living in a veritable golden age.

"The day of reckoning, however, soon follows. When the wave rises to a crest, it breaks with an overwhelming force ;

(1) *Crises périodiques de surproduction*, p. 215. Marcel Rivière & Cie, 1913.

when the fever subsides, the resulting weakness is intense. As the paper finally loses its value, fortunes are now suddenly wiped out, and many of the supposedly wealthy find themselves beggared. With the collapse of demand, unsalable stocks deplete the business inventory and failures are the order of the day. Those who have habituated themselves to an extravagant mode of life are faced with the grim necessity of immediate retrenchment. The labourer resists to the uttermost any lowering of his wages, however necessary it may be to the re-establishment of the new equilibrium. The Government finds itself embarrassed by the drying up of the sources of its revenue. The prudent and the patriotic, who have undergone sacrifices in order to invest in government paper, suffer for their patriotism. The splendours of the former prospects are now seen to have been only a mirage. The golden age of inflation turns out to have been after all nothing but a gilt-paper age." (1)

The measurement of the economic losses accruing from trade cycles is rendered extremely difficult by various considerations. In attempting to compare the fluctuating regime with that of maximum stability, the latter side of the comparison represents a purely hypothetical case. It would be necessary to know at what pitch of activity it may be possible permanently to stabilise industry before bieng able to show the advantage of such a regime over the existing state of affairs. In the second place, the losses are largely of a psychological and moral character which admit of no measurement. It is thus that we find some inevitable vagueness in the conclusions of an enquiry even as extensive and elaborate as that recently carried out by the Committee of the President's Conference on Unemployment (U.S.A) with regard to "The Economic Losses caused by Business Cycles." Dealing with the effect of fluctuations in trade on the national income, it states : "The broad result is that the worst years run something like 15 to 20 per cent behind the best, and something like 8 to 12 per cent behind the moderately good years. Even 10 per cent of the national income represents several billions of dollars.

"Whether these figures indicate the order of magnitude of material losses imposed on the country by business depressions

(1) *Currency Inflation and Public Debts. An Historical Sketch* New York, 1921, pp 59-60.

is open to argument. Quite apart from objections based upon the imperfections of the statistical data that must be used in any estimate, it may be contended that a reduction of economic uncertainty would lead to a decline of efficiency. It may also be contended that both the strains of booms and the sufferings of depressions impair efficiency more than uncertainty stimulates it. The latter is probably the commoner opinion. Those who accept this view will regard even the higher of the estimates here presented as understating the losses which plans for stabilizing production aim to check.

'Finally, it is obvious that certain intangibles of grave concern to social welfare are omitted from our estimates and cannot be inserted later by any process of correction. Privation, anxiety, loss of self respect — the concomitants of unemployment — are evils not measurable in dollars or percentage of physical production.'' (1)

It would seem that the soundest method of estimating the losses would be to consider separately each phase of the trade cycle, noting both its effects on physical production and the strain it imposes on human resources; then to consider the extent to which greater stability would increase the gains and eliminate the stresses. If, for instance, it were found that a rapid fall in prices produces a general collapse in industry, the immediate suggestion which would occur to the mind would be that, by all means possible, this rate of fall should be restrained. It would then be necessary to consider whether the application of the means would be detrimental or beneficial in *all* its possible economic effects. Again, if it were found that the period of trade cycle immediately preceding the inception of a marked rise in prices were the healthiest phase of all, one would naturally be induced to consider whether suitable means were available for perpetuating the conditions which obtain during that period.

Whereas this is the obvious practical method of attacking the problem, and will form the line of approach to be adopted in the pages which follow, it does seem possible, however, in the case of unemployment, to show by almost mathematical reasoning that fluctuations in trade lead to greater total distress than would a condition of stability. Unemployment

(1) *Business Cycles and Unemployment*, pp. 39-40. McGraw-Hill Book Company, 1923.

itself is measurable. The distress caused may not be so; but it is frequently possible to say under what conditions the distress increases or decreases in proportion to the absolute volume of unemployment, and to draw certain conclusions therefrom.

It is considered almost axiomatic by Professor Pigou, of the University of Cambridge that "the average volume of unemployment in any country is likely to be greater the greater is the amount of fluctuating character in the demand for labour there" (1) and that "whatever, therefore, tends to diminish industrial fluctuations tends also, in the end, to lessen the volume of unemployment." (2) This conclusion might be illustrated by showing that since there is a limit below which unemployment cannot be reduced, i.e. 0 per cent, the wider the fluctuation of unemployment from this point, the greater will be the average for the whole period. For instance, if perfectly stable conditions resulted in a permanent unemployment situation of 4 per cent, the average caused by fluctuations between 2 per cent and 7 per cent would tend to be slightly more (depending on the length of the boom and depression respectively); that caused by fluctuations between 1 ½ per cent and 10 per cent would be greater still; and that caused by fluctuations from 1 per cent to 15 per cent, would be even greater. These illustrations assume, of course, that the nearer unemployment is pressed towards 0 per cent *as a result of a price boom*, the greater is the reaction in the depression which follows. Historical evidence gives much confirmation for this view; and provided it can be considered as broadly correct, there would be sufficient justification for saying that the average of unemployment tends to grow as the fluctuations increase in amplitude.

It may be shown also that by diminishing the size of these fluctuations the *effects* of unemployment would be reduced even more than the absolute average of unemployment Alternating periods of severe and comparatively light unemployment may be worse in their total effects than an unvarying level of unemployment yielding the same average. For, as Professor Pigou states in another passage, "the evil suffered in any country in consequence of unemployment depends, not only on the volume of unemployment which, over an average of good and bad

(1) *Unemployment*, p. 99. Home University Library. 1913.
(2) *Ibid*, p. 244.

years, prevails there, but also on the way in which this volume is distributed among people and..... through time." (1) In illustration of this, he shows that "when unemployment comes about in such a way that certain individuals are rendered definitely 'unemployed' for several weeks, or even months, at a time there emerges a further very important element. This form of unemployment threatens to inflict permanent injury on the industrial character of those on whom it falls. It is not merely that technical skill is injured through lack of practice, though this, in some instances, may be a matter of real significance. The main point is that the habit of regular work may be lost, and self-respect and self-confidence destroyed, so that, when opportunity for work does come, the man, once merely unemployed, may be found to have become unemployable...

"Yet another element of evil remains. Unemployment varies in amount from time to time in ways that are uncertain, in the sense that they cannot be foretold. And the uncertainty that attaches to unemployment in the aggregate attaches, of course, in still stronger measure, to its incidence in respect of particular individuals. There necessarily results, among those poor persons whose reserve fund is small, a haunting sense of insecurity and danger, which is in itself a serious evil." (2)

These effects, both psychological and physical, become more intense for each individual affected as the total of unemployment grows. For the increase of unemployment from 5 per cent to 10 per cent. per annum does not necessarily mean that twice the number of men are unemployed during the year; it may, and usually does, mean that those included in the returns are out of work for a longer period. In consequence, the burden of unemployment is borne by proportionately fewer shoulders. Through this concentration on the few, its results are more serious and lasting.

Again, Professor Pigou shows that short-time is not truly compensated by overtime; a period of low wages is not duly counterbalanced by a similar period of high wages. "Unusually large expenditure in prosperous times does not compensate for unusually small expenditure in seasons of depression, either as regards immediate enjoyment or as regards indirect and ultimate consequences to health. In extreme cases this is obvious;

(1) *Unemployment*, pp 34-35. Home University Library, 1913.
(2) *Ibid.*, pp. 32-34.

a week of starvation followed by a week's debauch is not equivalent to a fortnight of moderate subsistence." (1)

Finally, the more extensive unemployment becomes, the less is the ability of State and social organisations to cope with it, and the distress increases more than proportionately. "Periodical crises in industry present an unemployment situation of particular severity..... The means employed for combatting or alleviating unemployment in ordinary times: relief works, subventions to insurance funds, unemployment doles, etc. are of little avail in times of crisis." (2)

There are many grounds, therefore, for believing that, as the absolute volume of unemployment increases, the distress arising from it increases *more than proportionately*; the situation caused by 15 per cent. of unemployment is considerably more than 3 times as disastrous in its effects, physical and moral, as that resulting from 5 per cent of unemployment.

For these reasons, it would seem that to rule out the extremes of depression, almost regardless of the possible effect of this action on the average of unemployment, would be highly beneficial; but since it is probable that, in the process of diminishing these fluctuations, the average of unemployment would also be decreased, the argument in favour of stabilisation seems unassailable.

(1) *Unemployment*, pp. 31-32 Home University Library, 1913.
(2) *Report of the French Commission on Economic Crises*, (1908-1911), p. 4.

CHAPTER II.

Greater Stability of Trade and Employment through the Reduction of Rate of Price Movements.

If it may be accepted that it is desirable, at least in the interests of employment, that greater stability in industrial conditions should be secured, the next step is to discover the means for attaining this end, and to examine whether the application of the means would in itself be generally beneficial. In other words, does the end justify the means; or perhaps, in this case, are the means such that they require justifying?

To anticipate in some measure the argument running through this report, one of the generally recognised means for securing greater stability in industry is to *restrain the rate of price movement*. This can be effected most satisfactorily by regulating the issue of credit and currency. In turn, the issue of credit and currency is considered to be best controlled through the manipulation of the discount rate of banks. The question therefore arises whether the actual process of stabilising trade by means of the discount rate would in any way be detrimental to industry.

In order to answer this question, and also to support the argument thus baldly expressed in the foregoing paragraph, it would be well to give some account of the opinions of economists with regard, first, to the stabilisation of prices, secondly, the regulation of the issue of credit and currency, and, thirdly, the use of the discount rate.

The manner in which stability of the price level leads to stability in industry.

Perhaps the most convincing way of showing that a stable price level would reduce trade fluctuations would be to point out the manner in which the rise and fall of prices respectively stimulate and depress trade. Different authors give prominence to different arguments, but the conclusions reached are invariably the same, i e., that a fluctuating price level leads to a corresponding irregularity in trade.

Professor Charles Gide, of the Collège de France, lays stress more particularly on the bonus which rising prices confer on the manufacturer and retailer as a result of the lapse of time between purchase and sale, the reverse effect being operative during a fall in prices. "The function of every merchant, and indeed of every manufacturer, is to purchase raw materials or wholesale stocks at a certain price and then sell them again in the form of manufactured goods or articles of consumption. If there is a rise of prices in the interval between the two operations, this is all profit.

"This is why rising prices have always been considered by all producers — the entire active section of the community — as a stimulant, a tonic, or a rise in temperature, as it were, which speeds up activity ; whereas a fall in prices acts as a refrigerator : it depresses trade. Those who have bought goods to be sold at the end of three months find, if prices have fallen during this period, that all their profit has thereby been swallowed up or that loss has even been sustained." (1)

Professor Gide goes on to illustrate from the actual experience of France from 1915 to 1922 the manner in which these forces operate, the period of rising prices being one of "astonishing prosperity", that of falling prices being marked by bankruptcies, unemployment and the general paralysis of all effort for economic reconstruction.

Mr. J. M Keynes summarises as follows the manner in which price fluctuations may be considered to affect trade. "Ultimately we make goods to exchange them for other goods ; but immediately we make them for money. An interval of

(1) *Les Mouvements des Prix et leurs Causes*, p. 22. Association pour l'Enseignement de la Coopération, 1922.

time elapses between production and sale. If therefore there is an expectation that the money-price prevailing at the date of sale will be lower than the money-cost during the period of production, obviously no one will produce. Since some of the money-costs of production are fixed for long periods and others, particularly wages, cannot be changed without a struggle, the productive process is bound to be brought to a standstill whenever a fall of prices is widely anticipated amongst merchants. If the anticipation is correct, everyone who is able to put off giving an order will profit by doing so. When prices are expected to rise, the opposite is the case ; everyone whose credit permits him to place his order in advance will profit by doing so. In both cases the action of individuals endeavouring to take advantage of the anticipated movement is cumulative, and tends in itself to turn the anticipation into a fact." (1)

Professor Irving Fisher, of Yale University, considers that the manner in which trade fluctuations are intensified by price movements is this : "when prices rise, great profits are made because, as we have seen, the 'profiteer' or stockholder wins without effort from the bondholder and from the employees on salary or wages. His easy profits lead him to 'extend himself' until, when interest charges, rents, salaries, and wages do catch up, his prosperity ceases, he gets caught in debt, becomes a bankrupt, and involves others in a chain of bankrupcies..." (2)

"The wage-earner also is involved in the catastrophe. Primarily a gainer when prices are falling, because his wages fall more slowly than prices, he nevertheless suffers more unemployment during this lowered cost of living than during rising prices, and in the mismanagement, at the end, he suffers with the rest." (3)

Mr. F. Lavington, of the University of Cambridge, emphasises the effect of the movement of prices on the spirit of confidence in business. "Rising prices, by conferring a bounty on the entrepreneur, react upon and reinforce the rise in business confidence. In this way there is generated a powerful cumulative stimulus to trade activity. But within this movement are causes tending to destroy the confidence on which it is based ; for on the one hand rising prices are sapping bank reserves and, on the other, the artificial profitableness of bus-

(1) *Reconstruction in Europe*, 18 May 1922, p. 66.
(2) *Stabilising the Dollar*, p. 66. The Macmillan Company, 1920.
(3) *Ibid.*, p. 77.

iness and the excessive confidence accompanying it, leads to errors in business forecasts which sooner or later must be exposed." (1)

Professor Aftalion also accepts the theory that the movement of prices may react cumulatively on the state of business confidence. "A rise in prices conduces to a spirit of optimism which in turn exaggerates the upward movement. A fall in prices may give rise to excessive pessimism which further aggravates the fall." (2) He also shows that there is usually a lag between cost of production and selling prices, and that in this way rising prices confer a bounty on producers and falling prices reduce their profits, in the former case stimulating, in the latter case depressing trade. (3)

Professor Pigou draws attention to the relation between prices and the fund available for the payment of wages, showing that "the liability of general prices to vary, or, in other words, the instability of the standard of purchasing power, is a cause tending to expand the range of the movements that occur in the aggregate wage-fund. Consequently, the introduction of any arrangement capable of counteracting this cause would, *pro tanto* lessen the fluctuating character of the demand for labour and, therewith, the average volume of unemployment." (4)

Professor F. W. Taussig, of Harvard University, gives particular emphasis also to the effect of price movements on speculative buying. "A curious part, and one too much neglected in discussions about the course of crises, is played by the distributing middlemen. — the wholesalers and jobbers and retailers. These constitute the immediate purchasing public for the 'producers'. When they buy freely, business is brisk ; when they hold off, business is dull. They are not only subject to the psychological contagion ; they are also moved by very simple calculations of profit and loss. Their operations are almost exclusively in the simple purchase and sale of goods, and their success depends almost solely on prices. They buy

(1) *The Trade Cycle*, p. 51. P. S. King & Son, Ltd., 1922.

(2) *Crises périodiques de Surproduction*, Vol. I, p. 294. M. Rivière & Cie., 1913.

(3) In quoting the opinion of Professor Aftalion, it is felt necessary to note that the theory he has developed is based on the conception that the fundamental causes of trade cycles are other than monetary in character. He considers that the judicious use of the discount rate to avoid the abuse of credit facilities would be a valuable measure against the evils of cyclical fluctuations, but that it would not have more than a palliative influence.

(4) *Unemployment*, p 122. Home University Library, 1913.

freely when they think that prices will rise, and cut down purchases when they think that prices will fall. The very fact that they so think, and accordingly act, accelerates the rise of prices in the one case, and accelerates the fall in the other. During an up-swing period, they add to their stocks, thinking to sell them at an advance, or at least to protect themselves against a later rise in the prices of what they buy. Then comes the shock, — a bad failure, a financial panic. They jump to the conclusion that 'things are going down', countermand old orders as far as possible, give no new ones, live from hand to mouth in their purchases and sales, and wait until they think that prices have touched bottom." (1)

It will be noted that, in a large number of the above quotations, the authors consider that the depression can be attributed to the rapid rise in prices preceding it as much as to the fall of prices which accompanies it. The case of Austria, where there has been no fall of the general price level during the first nine months of the process of stabilisation, but merely a restraint of the rate of rise, provides useful corroboration for this opinion. The following figures are given in the *International Labour Review* for July 1923 (pp. 58 and 75), showing the index number for the cost of living in Austria and the number of persons in receipt of unemployment benefit:

	Number in receipt of unemployment benefit.	Cost of Living index number[2].
1920		
July		5,100
1921		
March	9,790	
June	11,035	
July		9,970
September	10,594	
December	16,713	
1922		
March	42,231	
June	33,393	
July		264,500
September	38,000	
December	117,891	
1923		
January	161,360	946,875
February	169,075	965,812
March	155,652	1,051,100
April	132,000	1,089,700

(1) *Principles of Economics*, pp. 405-406. The Macmillan Company, 1921.
(2) Base, July 1914 = 100.

It will be seen from these figures that the severest unemployment occurred from December, 1922, to April, 1923, the period when prices were comparatively stable. Now, since it is impossible to attribute such a degree of unemployment to the policy of stabilisation itself, it must be considered due to the conditions which were created during the preceding period of rapidly rising prices; it must be attributed to some such factors as the piling up of stocks by merchants and retailers, and the over-extension of enterprise during this earlier period of activity, all of which had their nemesis when prices were stabilised From this reasoning it would therefore seem almost as important to prevent prices from rising rapidly, as to restrain their fall.

As far as the fall in prices is concerned, the graphs given on page 78, showing unemployment in comparison with wholesale prices in Great Britain, provide very clear evidence that rapidly falling prices are invariably accompanied by heavy unemployment. It would be possible to give similar evidence for every other industrial country of importance (1). The coincidence between unemployment and falling prices is, however, so well known that there seems little need to illustrate it further. What is of real importance is to show that there are sound reasons for considering that the unemployment is actually accentuated by the fall of prices.

The evidence which may be drawn from Scandinavian countries is particularly significant in this connection. The fall in prices in Denmark, Norway and Sweden was very precipitous from July 1920 to July 1922. In Denmark the wholesale price index number fell during this period from 382 to 179; in Sweden the fall was from 359 to 173; in Norway prices declined from 377 in December 1920 to 233 in December 1922 (2). Such a fall in prices was of unprecedented violence and its disastrous effects will be seen reflected in the following figures for unemployment. In March 1922, the returns of the trade unions of these countries showed 33.0 per cent. of unemployed in Denmark, 25.4 per cent. in Norway and 30.6 per cent. in Sweden. At the end of March 1923, the figures still stood as high as 16 per cent. for Denmark, 14.5 per cent. for Norway and 19.9 per cent. for Sweden.

(1) See *Enquête sur la Production*, Vol. I. Publication of the International Labour Office, Geneva.

(2) In all cases the base used is 1913 = 100.

In Finland, on the other hand, in spite of the fact that industrial conditions are similar in many respects to those of the other Scandinavian countries, unemployment has been comparatively light throughout. This is a fact of significant importance when it is known that there was also comparatively little change in the price level during this period. No figures for wholesale prices are available, but the cost of living index number shows a rise from 931 in July 1920 to 1214 in July 1921, and a decline to 1142 in July 1922, since when it has hardly varied. There seems good reason to infer, therefore, that this relatively gentle change from rising to falling prices and the subsequent stability were largely responsible for relieving Finland of the severity of the slump experienced elsewhere.

Speaking of Sweden in particular, and of international conditions in general, Professor Cassel, of the University of Stockholm, describes as follows the effect of declining prices. "The depressing influence which a continued reduction of the price level must be expected to exercise over enterprise has not failed to show itself. Dealers have to the utmost possible extent refrained from activity in anticipation of prices reaching their bottom level, and consumers have likewise postponed their purchases as long as possible in the expectation of being able to buy at cheaper prices. Unemployment on an appalling scale has been the result. In actual fact unemployment, both in the United States and in Europe, has certainly assumed far more serious dimensions than ever before. Each country has suffered not only through its own deflationist policy, but also through that of other countries. As the deflationist policy has naturally to a very great extent paralysed such forms of production as are required for constructional and building purposes, Swedish industry in particular, which happens to be very largely based on supplying material for such purposes to other countries, has been most seriously affected by the depression caused in those countries by the deflationist policy" (1).

The account which is given of Finnish industrial conditions in the *Monthly Bulletin* of the Bank of Finland (February 1922) is of a very different tone. "Contrary to what has been the case in other Scandinavian lands, labour conditions have been specially peaceful in Finland during the first months of the year.

(1) *Money and Foreign Exchange after* 1914, pp. 240-241. Constable and Company, 1922.

No strikes or lockouts of any size worth mentioning have occurred. Unemployment has continuously been of fairly small extent". Comparing the situation of Finnish banks with those of other countries, the same publication of April 1922 states: " The consequences of the general world crisis have not proved as disastrous to the banks in Finland as they have been in many other countries. Chiefly, this depended on the fact that the extraordinary fall in prices, which in other lands caused such numerous bankruptcies and losses to banks, did not occur in this country. On the opposite, prices averaged pretty much the same throughout the year. The index number for the cost of living was almost exactly the same at the end of the year as it had been at the beginning. The number of bankruptcies in 1921 was only 358, the corresponding number in 1913 being 762. This explains why the losses suffered by the banks from inland loans, with the exception of the one instance mentioned, have not in general been greater than usual".

In *Great Britain*, the index number for wholesale prices showed a fall from 307 in July 1920 to 158 in July 1922. The widespread unemployment and unprecedented economic collapse which accompanied this movement has attracted attention from all parts of the world.

Deputy Louis Loucheur, Ex-Minister of Reconstruction in France, speaking at a meeting of the French Industrial and Commercial Federation, stated: " The recovery of the pound produced the obvious and certain result, that of creating unemployment..." (1)

Professor Maurice Ansiaux, of the University of Brussels, appears to hold the same opinion. " In England the stoppage of industry assumed ever increasing proportions as the persevering efforts of the Government to restore the pound sterling were crowned with success. Whilst the latter recovered point by point, unemployment continued to develop in severity. Supported by aspirations of finance and the demands of national pride, this process of deflation appeared to be, for British industry, but a march to destruction " (2).

Mr. C. J. Gignoux, in the French *Revue d'Economie politique* of September-October 1922, also adds his criticism of the deflationary policy of 1921. " This policy of 'deflation' had in view

(1) *L'Economie nouvelle*, May 1923, p. 283.
(2) *Revue économique internationale*, December 1922, p. 450.

the very questionable purpose of securing a return to gold parity and to the pre-war level of prices, customarily considered as 'normal'. It may be noted, however, that such a purpose was far from having been achieved. From the point of view of international prosperity, the consequences of these misguided efforts appear to be diametrically the opposite of what had been hoped ; the continued fall in the price level was responsible for a crisis in production and unemployment, whilst the deflationary policy followed by different countries at various times and with varying degrees of success served merely to accentuate the general condition of economic instability " (1).

As regards the future monetary policy of Great Britain, the Committee of the British Association for the Advancement of Science says in its report : " There seems no good ground for disputing the *prima facie* view that falling prices discourage the placing of contracts and the expansion of manufacturing capacity, depress the energies of business leadership, restrict the field for the employment of labour, and precipitate the occurrence of wage conflicts. Nor do these direct and immediate effects complete the indictment : for public opinion is probably substantially right in fastening upon the insecurity of employment as one, and perhaps the most important, of the root causes of the deep-seated maladies commonly described as 'restriction of output' and 'labour unrest'. If economic stability can possibly be attained in any other way, he must be a bold man who, in view of the dislocation and distress of the past twelve months, still advocates its attainment for choice by the method of a contrived fall in the price level. Business fluctuations are not wholly monetary in origin, and are not therefore susceptible of a purely monetary cure : but a monetary policy which aims at deliberately aggravating a business depression, even with the best of ends in view, is open to grave suspicion "(2).

In prefacing a letter which Mr. St. Loe Strachey published in the *Spectator* of 20 October 1923, the Right Hon. Reginald McKenna, Ex-Chancellor of the Exchequer and Chairman of the London Joint City and Midland Bank, has added considerable weight to this evidence.

"I think you are profoundly right in speaking of unemployment as the overwhelming problem, and further that your

(1) « Le Problème monétaire mondial et la Théorie du Professeur Cassel », *Revue d'Economie politique*, September-October 1922, p. 603.

(2) *Monetary Policy*, pp 70-71. P. S. King and Son, Ltd., 1921.

analysis of the financial side of the question is correct. Falling prices, not due to an increase of output, but to restriction of credit and purchasing power, must cause loss in trade and unemployment. I am glad that you do not minimise the evils of inflation, but there can be no question that deflation is not less injurious. A policy either of inflation or of deflation should never be adopted, as you justly say, except as a corrective, and the degree of unemployment at any given time will always furnish a test of the right medicine to be applied."

Numerous other quotations (1) might be given to show that rising prices increase trade activity whilst falling prices cause depression, and that the combined effect is, therefore, irregularity in trade. In general, the argument on which greatest emphasis is laid appears to be that, during the boom, rapidly rising prices, whilst acting as a very strong stimulus to trade, give rise at the same time to certain conditions which cause the reaction during the depression to be more intense. The principal ways in which this operates may be summarily stated as follows.

In the first place, rising prices, by rendering profit-making exceptionally easy, provide a powerful inducement for all business men to extend their enterprises and so take still further advantage of the rise. Almost any scheme, no matter how expensive or how mismanaged, can flourish in a boom. Projects launched under such conditions frequently collapse when

(1) Cf. *Cycles of Prosperity and Depression in the United States, Grea Britain and Germany*, pp. 104-109. A. H. Hansen, University of Wisconsin Studies, 1921, No. 5. *The Riddle of Unemployment*, pp. 19-29. Charles E. Pell, London, Cecil Palmer, 1922. *Money and Foreign Exchange after* 1914, pp. 19-62, 203-241. Gustav Cassel, Constable and Co., London, 1922. *Stabilisation*, pp. 36-51. E. M. H. Lloyd, London, George Allen and Unwin Ltd., 1923. *Unemployment*, pp. 15 and 54. F. W. Pethick Lawrence, Oxford University Press, 1922. *Economics of Welfare*, pp. 849-864, A. C. Pigou, Macmillan and Co. *Out of Work*, p. 50. G. D. H. Cole, The Labour Publishing Company, 1923. *Money*, Foster and Catchings, Houghton Mifflin Company, 1923. *Stabilising the Dollar*, pp 53-78. Irving Fisher, The Macmillan Co., 1920. *The Trade Cycle*, pp. 57, 58 and 82. F. Lavington, P. S. King and Son, Ltd., 1922. *Monetary Policy*, p. 42 (A report of a sub-committee appointed by the British Association for the Advancement of Science), P. S. King and Son, Ltd , 1921. *Principles of Economics*, pp. 303-309. F. W. Taussig, The Macmillan Company, 1921. *The Stabilisation of Business*, pp. 15-34, edited by Lionel D. Edie, The Macmillan Co., 1923. *Currency Inflation and Public Debts. An Historical Sketch.* E. R A. Seligman, New-York, 1921. *Monetary Reconstruction*, published by the author, Carl Strover, Chicago, 1922. Perhaps the most complete description of the effect which the movement of prices has on profits, wages, costs, money, credit, speculation, business confidence and all the various other factors which combine their influence towards activity or decline, is to be found in the extensive work on *Business Cycles* by Professor Wesley C. Mitchell, California University Press, 1923.

normal times approach, and with their fall they press down others. Again, from the very nature of the rise in prices, gradual in the beginning and slowly developing greater and greater rapidity, it contains psychological elements capable of producing a spirit of business optimism far in excess of what is justifiable. The business prophet can only judge the future by past and current events. Thus, if the rise of prices and the ease of profit-making have been continuing for years in an ascending scale, the average producer naturally concludes that even better times are ahead. But when the break in prices does come, it comes suddenly, taking many unawares ; and all those who have laid plans for a continued rising market and have unduly extended their enterprise and purchases will suffer heavily.

Secondly, a continuous rise in prices acts as a stimulus to purchasing for stock in anticipation of higher prices. When the rate of rise becomes appreciable, speculative purchasing is also encouraged thereby. The resultant accumulation of stocks intensifies the depression in various ways. By immediately exaggerating and falsifying the real demand of the final consumer during the boom, it induces manufacturers to extend their business on an excessive scale, thus tending to increase the number of subsequent failures in the slump. Again, the ultimate liquidation of the large reserves of finished goods accumulated in this manner serves to force down prices and intensify the depression.

Thirdly, the rise in prices and costs, once started, becomes cumulative in effect and, as the boom advances, causes a serious strain on the resources of banks. The latter, in order to protect their reserves, raise the rate of discount and maintain it at a high figure until the danger is over. The strain on credit is invariably the worst immediately after the turn in prices and, as a result, the discount rate is always highest and borrowing most difficult at a point when the depression is most serious. In order to secure liquid capital and ready cash for current needs, firms are forced to liquidate their stocks "at any price". The rush to sell, coupled with the "buyers' strike", both of which are largely the results of contracting credit, constitute a source of serious aggravation in an already stagnating market.

The rapid fall in prices during the depression may thus be considered to be a direct consequence of the rise of prices preceding it ; but, in so far as this fall may be accentuated by the

maintenance of a high discount rate or any other controllable factor, account should be taken of the widely expressed opinion that the slump in prices is one of the most serious of all the factors to be considered.

From the above summary, the conclusion of outstanding importance is that, in order to secure stable conditions of industry and employment, it will be necessary to prevent both a rapid fall in prices, and also a rapid rise.

Other economic advantages accruing from stability in the level of prices.

For many years economists have advocated greater stability of the price level for reasons not immediately connected with its relation to employment. The evidence on this question accumulates rapidly. Some extracts from recent publications might be of interest here.

The Report of the Financial Commission of the Genoa Economic Conference opens in the following manner.

"The essential requisite for the economic reconstruction of Europe is the achievement by each country of stability in the value of its currency".

Resolution 11, paragraph 7, of the same Report, speaks in the following terms of the need for stabilising the purchasing power of gold, which would be equivalent in gold-using countries to the stabilisation of prices.

"Credit will be regulated, not only with a view to maintaining the currencies at par with one another, but also with a view to preventing undue fluctuations in the purchasing power of gold." (1)

In reply to a question by Mr. Hilton Young in the British House of Commons on 4 July 1923, the Prime Minister made the following statement. "I think the right policy for this country at the present moment is to do all in our power to keep prices steady and on a level. One of the chief causes of unsettlement in industry, whether it be on the part of those who are trying to get orders for business or whether it be on the part of those who work for a weekly wage, has arisen fundamentally from

(1) Extract from a proposed international draft convention for the establishment of a gold standard or a gold exchange standard and for preventing wide fluctuations in the value of gold.

the fact that we have been living in a world of constantly shifting values One of the things that has contributed most to the steadier feeling which is more prevalent now than it has been in this country, is that people feel that they are getting down more or less to a stabilised basis of prices. I should set myself strongly against any policy that would tend to disturb that feeling " (1).

The serious impediment to trade which arises from fluctuations in the price level is given special prominence also by Professor Charles Gide. "This regime of rise and fall — this 'wave' movement — is bad. It has turned the whole world sea-sick. When prices rise incessantly and then fall, no true forecast can be made ; the morrow is uncertain When a manufacturer purchases raw material during the upward trend of prices, on what basis can he work if, within three months — within a year in the case of operations requiring a longer period — prices are again on the wane ? Of all scourges it is uncertainty which industry fears the most " (2).

The particular disadvantage accruing to co-operative societies as a result of fluctuating prices is also noted. For, whereas these societies endeavour to maintain low prices and profits during periods of boom, they suffer equally with other firms during the slump.

Dr. Henry A. E. Chandler, Economist of the National Bank of Commerce, New York, shows the deleterious effects of a rise in prices (i. e. a fall in the value of money), particularly with regard to its influence on saving and the injustice done to investors. Emphasis is also laid on the impossibility of avoiding continuous wage disputes so long as the price level is permitted to fluctuate. As regards the possible benefits to industry, he says : "To business in general much of the apparent prosperity accompanying a rapidly falling value of money is often little more than a paper prosperity. The large profits and surpluses which are apparently being accumulated often shrink into nothing during the exaggerated reaction that inevitable follows a period of feverish activity" (3). A fall in prices is undesirable in the same way as a rise in prices. It adds to the difficulty of maintaining solvency and constitutes injustice to those who have

(1) *Parliamentary Debates*, 4 July 1923, column 578.
(2) *Les Mouvements des Prix et leurs Causes*, p. 24. Association pour l'Enseignement de la Coopération, 1922.
(3) *The Economic World*, p. 475, 7 April 1923.

borrowed and are required to repay when the nominal amount of the debt represents a greater real value.

Perhaps one of the gravest disadvantages arising out of variations between the movements of prices in different countries is the disturbing influence which this exerts on the rates of exchange between these countries. Professor Cassel, of the University of Stockholm, states : "The rates of exchange that are to be stabilised and kept stable must naturally correspond to the purchasing power par. A stable price level at home is thus an essential condition for stable rates of exchange." (1)

Mr. C. J. Gignoux also points to the disturbing effect of price fluctuations on the rate of exchange. "The present stage in the economic crisis is marked by a constant lowering of international exchanges, attributable, on the one hand, to excessively nationalist economic policy, which is, however, a secondary consideration ; and, on the other hand, — the more important — to the constant variation in the purchasing power of most currencies, which is reflected in their exchange value, that is to say, the expression of the amount we are willing to offer in exchange for this purchasing power. These variations, known more commonly under the term 'instability of the exchanges', militate against a serious economic or business forecast, discourage exports from producing countries owing to the insecurity of transacting business on credit, lead to the adoption of questionable protectionist measures and, in general, imperil the economic life of an ever-increasing section of the world." (2)

Attention is also called in the same article to the manner in which falling prices add to the burden of national debt. "Moreover, a point which is of particular importance in the case of France is that deflation, as was pointed out by Professor Cassel and many others, considerably affects the burden of State debt. These debts, contracted during a period when money is depreciated, become heavier by virtue alone of the recovery of the value of money ; in such cases excessive deflation can only result in financial collapse and public bankruptcy." (3)

(1) *Quarterly Report issued by the Swedish Statistical Department*, April 1923, p. 18

(2) « Le Problème monétaire mondial et la Théorie du Professeur Cassel », *Revue d'Economie politique*, September-October 1922, p. 600.

(3) *Ibid.*, p. 607.

Deputy Louis Loucheur also gives considerable weight to the danger incurred of increasing the burden of public debt. "What then are the advantages one may hope to secure through restoring the franc to its gold parity ? Certainly, the moral situation on the day of such recovery will be excellent ; but if we are unable at the same time to reduce the interest on internal loans to 2 ½ or 3 per cent., how, I wonder, will it be possible to balance the budget in France ?

"The thing which arrests my attention also is the social problem. You have been induced to raise wages in certain parts of France to 15, 18 and 20 francs per day. Do you think that, as the franc recovers its gold value, you will be able to bring back wages to 4.50, 5 and 6 francs per day, which was the level at which they stood before the war ? Even allowing an increase corresponding to that in England and assuming that a labourer is to receive 8 or 9 francs, may I put the question to the manufacturers here and point out that this presents a social problem of greatest difficulty. He would indeed be clever who could volunteer a final judgment in the matter. The effort of this country should, I think, be directed towards restoring healthy currency. The whole problem is, however, to define what this may mean." (1)

The situation in *Germany* is described by Mr. J. F. Coar, writing in the *Independent* of 23 December 1922. "There are two chief reasons for the continuance of the fictitious prosperity. The first is, of course, the *continual* depreciation of the mark and the consequent ability of industrialists to take their paper profits and to keep the wheels of industry a-turning. The second is the hectic demand for *goods* that necessarily follows in the wake of the kind of currency depreciation going on in Germany. All incentive to thrift, and unhappily also to conscientious and thorough work, disappears when, as was the case last summer, the purchasing power of the mark is reduced ten times within four months. No German in his senses keeps mere money any longer than it takes to transform it into something concrete. If a German cannot buy goods, he buys pleasure unless, indeed, he can buy dollars, a procedure ruinous to the country. The result is a feverish demand on industry, and the further result — a fearful waste of the country's resources and the people's productive energy. To make matters

(1) *L'Economie nouvelle*, May 1923, p. 287.

worse, the normal necessities of life (such as foodstuffs, coal, clothing) are difficult to obtain, and this fact leads to an increasing expenditure for more or less useless luxuries. Innumerable enterprises have come into being in response to this demand and these contribute to the apparent prosperity of industry, but in reality waste a vast amount of raw material which should enter into the manufacture of useful and needful articles." It would seem that the "fictitious prosperity" described by Mr. Coar would be more clearly revealed when ultimately inflation is checked.

The evidence which can be secured from Germany as to the catastrophic effects of rising prices when extreme limits are reached may have little bearing on the general problem which arises under the more stable conditions of other countries. However, it does tend to show that the surface prosperity which marks a period of booming prices may conceal a menacing undercurrent of economic disintegration.

Discussing the post-war monetary policy adopted by the Government of *India*, Mr. J. M. Keynes shows that the internal stability of prices, secured as the outcome of this policy, was highly desirable in spite of the fact that it gave rise to wide fluctuations in the rate of exchange with all other countries where the price level was not so stable. "By allowing exchange to rise somewhat precipitately during the time when sterling prices were rising furiously, India was spared the extremity of rise which took place elsewhere; and by allowing exchange to fall during the acute period of the depression from April 1920 to April 1921 India was also spared the full fury of the collapse of prices. If the rupee exchange against sterling had been stabilised through the whole of the last three years at any level you choose to mention, India would presumably have felt the full fury of the price fluctuation in Great Britain. Stability in the internal price level is so superlatively desirable in such a country as India, that the fact of her having got through the recent cycle with so small a fluctuation of internal prices is a great deal to be set against the inconvenience to merchants engaged in foreign trade from the fluctuations in exchange." (1)

A number of economic studies have been devoted entirely to exposing the serious economic drawbacks of fluctuating price levels and to the discovery of a means of securing greater

(1) *The Economic Journal*, March 1923, p. 63.

stability. Most prominent amongst these are perhaps the writings of Professor Irving Fisher (1).

In his recent book on "Stabilising the Dollar", he gives a categorical review of "The Evils". Whilst explaining how a fall in the value of the dollar causes injustice to lenders, and how a rise unfairly increases the burden on borrowers, Professor Fisher shows that these fluctuations cause not only injustice but, in many cases, serious hardship. When the burden of repayment becomes heavier, bankruptcies are more general. In private life, those with fixed incomes lose their means of sustenance in proportion as these incomes are reduced in purchasing power. The liability of prices to vary is the cause of constant anxiety. Wages are slow to be adjusted and in the adjustment give rise to friction and discontent. The reassessment of wages and costs frequently upsets contracts. All business and private livelihood thus assumes an aspect of grave uncertainty.

In the summer of 1911, Professor Irving Fisher addressed a circular to a large number of the most prominent economists in different countries, inviting their opinions as to the desirability of securing the appointment of an international commission to consider the means for stabilising the cost of living, (i. e. the average price level of commodities in general use). Twenty-four replies were received, all supporting the proposal for an international enquiry. Amongst those who expressed the opinion in their letters that changes in the cost of living were a source of serious distress or of industrial friction were : Mr. A. M. Ackworth ; Mr. Ernest Aves ; Professor S. J. Chapman, Manchester University ; Professor J. B. Clark, Columbia University ; Professor E. C. K. Gonner, Liverpool University ; Mr. J. R. Hobson ; Deputy A. Landry, Directeur d'études à l'école des Hautes Etudes (Sorbonne) ; Professor A. C. Pigou, Cambridge University ; Professor L. L. Price, Oxford University.

The movement for stabilising prices and the cost of living has grown, especially since the violent fluctuations arising out of war and post war conditions. The following bibliography given by Professor Fisher in *Stabilising the Dollar*, published in 1920, shows the extent to which the movement

(1) See also, for a comprehensive review of the evils arising from price fluctuations, *Monetary Reconstruction*, published by the author, Carl Strover, Chicago, 1922.

had become nationally and internationally propagated up to that time. (1)

RECENT WRITINGS ON STABILISING THE DOLLAR.

(Omitting most newspaper and minor publications, numbering about a thousand).

IRVING FISHER. *The Purchasing Power of Money.* New-York, Macmillan 1911, Ch. 13.

O. M. W. SPRAGUE. *Fisher's Purchasing Power of Money.* Quarterly Journal of Economics, Nov. 1911, pp. 148-151.

IRVING FISHER. *International Conference regarding the Cost of Living.* Report before Congress of Chambers of Commerce. Boston, Sept. 1912, reprinted in Independent, Sept. 26, 1912, pp. 700-706.

COMMERCIAL AND FINANCIAL CHRONICLE, Editorial, Oct. 5, 1912. Replies by Irving Fisher and further discussion. Oct. 26, and Nov. 16, 1912.

IRVING FISHER. *Standardizing the Dollar* (replies to objections). New York Times, Dec. 22, 1912.

IRVING FISHER. *A More Stable Gold Standard.* Economic Journal (London), Dec. 1912, pp. 570-576.

WILLIAM F BLACKMAN. *The Increasing Cost of Living ; Its Cause and Cure.* Rollins College Bulletin, Dec. 1912.

LUCIEN MARCH. *Un Projet de Stabilisation des Prix. Communication à la Société de Statistique de Paris, le 15 janvier* 1913, reprinted from its journal, pp. 10-24 Discussion by Edmond Théry, G. Roulleau, Aug. Deschamps, Adolphe Landry, Lucien March, Irving Fisher.

IRVING FISHER. *A Compensated Dollar.* Quarterly Journal of Economics, Feb. 1913, pp. 213-235. Appendices, pp. 385-397.

IRVING FISHER. *Standardizing the Dollar.* American Economic Review Supplement, March 1913, pp. 20-28 Discussion by Nat. C. Murray, Albert C. Whitaker, Willard C. Fisher, O. M. W. Sprague, B. M. Anderson, Jr., R. R. Bowker, E. W. Kemmerer, and Irving Fisher, *ibid.*, pp. 29-51.

DAVID KINLEY. *Objections to a Monetary Standard Based on Index Numbers.* American Economic Review, March 1913, pp. 1-19.

AUGUSTO GRAZIANI. *Di una nuova Proposta per rendere più stabile il valore della moneta.* Reale Instituto d'Incoraggiamento di Napoli. Nota letta nella tornata del 6 marzo 1913. (Napoli, Cooperative Tipografica, 1913).

PEYTON R. ANNESS. *The Compensated Dollar.* Yale Scientific Monthly, March 1913.

CORRADO GINI. *L'equazione dello scambio e il potere di acquisito della moneta.* Revista Italiana di Sociologia, Rome, Anno XVII, Fasc. II (March-April 1913).

E. B. WILSON. *Review of the Purchasing Power of Money.* Science, May 16, 1913, pp. 761-763.

F. W. TAUSSIG. *The Plan for a Compensated Dollar.* Quarterly Journal of Economics, May 1913, pp. 401-416.

F. ZEUTHEN. *Irving Fisher's Forslag til prisniveauets Stabilisering.* Nationalokonomisk Tidskrift (Copenhagen), Hefte 4 (July-Aug., 1913) pp. 350-364.

IRVING FISHER. *What an International Conference on the High Cost of Living Could Do.* Institut International de Statistique, Vienna, XIVe Session, Rapports, No. 25, Sept. 1913.

(1) *Stabilising the Dollar*, pp. 294-296. The Macmillan Co., 1920.

J. M. Clark. *Possible Complications of the Compensated Dollar.* American Economic Review, Sept. 1913, pp. 576-588.

E. M. Patterson. *Objections to a Compensated Dollar.* American Economic Review, Sept. 1913, pp. 863-875.

Irving Fisher. *La hausse actuelle de la monnaie, du crédit et des prix ; Comment y remédier.* Revue d'Economie Politique. Paris, 1913, pp. 419-434.

Irving Fisher. *De la nécessité d'une Conférence internationale sur le coût de la vie.* La Vie Internationale, Brussels, Tome III, Fasc. 12 (1913), pp. 295-311.

G. M. Boissevain. *Een Ideale Waarde-Standaard ?* De Economist, The Hague, 1913, pp. 441-473.

David Davidson. *Irving Fisher's forslag att reglera penningens kopkraft.* Economisk Tidskrift (Stockholm), Haft 3, 1913, pp. 88-107.

W. Eggenschwyler. Review of article in American Economic Review Supplement, March 1913. Archiv fur Sozialwissenschaft und Sozialpolitik, Tubingen, Germany, Band 37, Heft I, July 1913, pp. 258-264.

Irving Fisher. *Objections to a Compensated Dollar Answered.* American Economic Review, Dec. 1914, pp. 818-839.

D. J. Tinnes. *Tinnes' Market Gage Dollar an Ideal Measure of Value.* Leaflets 1-4, Privately published, 1917.

Irving Fisher. *Standardizing the Dollar.* University of California Chronicle, October 1917, pp. 347-363.

D. J. Tinnes. *The Market Gage Dollar (An Ideal Measure of Value).* The Quarterly Journal of the University of North Dakota, Jan. 1918, pp. 187-192.

Irving Fisher. *Stabilizing the Dollar in Purchasing Power.* (In American Problems of Reconstruction, Elisha Friedman, Editor, New York, Dutton, 1918, pp 361-390).

D. J. Tinnes. *The Market Gage Dollar.* American Economic Review, September 1918, pp. 579-584.

Irving Fisher. *Stabilizing the Dollar.* American Economic Review Supplement, March 1919, pp. 156-160.

G. H. Knibbs. *Consideration of the Proposal to Stabilize the Unit of Money.* American Economic Review, June 1919, pp. 244-255. Rejoinder by Irving Fisher, pp. 256-262.

D. J. Tinnes. *An American Standard of Value.* American Economic Review, June 1919, pp. 263-266.

Edward T. Peters. *On Stabilising the Dollar.* Quarterly Journal of Economics, Aug 1919, pp 652-671.

The above extracts which represent merely a sample from a large mass of literature on the question show clearly that there is a very considerable weight of qualified opinion supporting the argument for greater stability in the price level. Not only would such a condition, in the opinion of the majority, tend to reduce unemployment by stabilising the demand for labour, but at the same time it would eliminate many other hardships, injustices and causes of industrial friction.

The question may perhaps be asked whether it would not be advisable, in view of the stimulus which rising prices give to trade, to secure if possible a very gradual but continuous rise in the level of prices. It may be that such a process is

considered practically or politically impossible ; for no specific argument in its favour, except as a temporary expedient, has been noted during the preparatory study for this report. On the other hand, a very gradual decline in the level of prices has frequently been advocated.

Professor J.H. Jones, of the University of Leeds, considers that it would be desirable to secure a stable level of wages and that this would bring in its train a gradual reduction in the cost of living, that is, of the price level of commodities in general use. "There is one sure method of securing for the representative worker a rise in the standard of living, and that is by increasing production, and the production of the right things. That end can best be secured by stabilising wages for a long period — even 5 years — on a uniform level above the 1914 basis, allowing adjustments where necessary. Provided wages rates remain constant, workers of all categories, including myself, would secure the benefit of increased production through the steady fall in the cost of living and relative fall in the share going to capital." (1)

Some corroboration for this opinion is to be found in Mr. D.H. Robertson's "Study of Industrial Fluctuation." He considers that "the falling price level immediately consequent on the crisis gives a bonus to the working — at the expense of the employing — class, which is prima facie desirable in the interests of society." (2)

Mr. F. François-Marsal, ex-Minister of Finance of France, whilst considering that the gradual recovery of the French franc to its pre-war gold parity is desirable, states his opinion that "there can be no question of bringing the franc abruptly back to par, thus causing a collapse of prices and innumerable financial catastrophes. Deflation can hardly be effected other than gradually and progressively." (3)

The Brussels Financial Conference of 1920, whilst emphasising the necessity for carrying out any policy of deflation gradually, did implicitly envisage such deflation and the consequent fall of prices. "The reversion to, or establishment of, an effective gold standard by any means other than devaluation would in many cases demand enormous deflation, and it is

(1) *Christian Order of Industry Series*, No. 1, p. 54.

(2) *A Study of Industrial Fluctuation*, p. 248, P. S. King & Son, Ltd., 1915.

(3) *Revue économique internationale*, 25 July 1922, p. 22.

certain that such deflation, if and when undertaken, must be carried out gradually and with great caution. Otherwise the disturbance to trade and credit might prove disastrous." (1)

Whilst it would seem premature to say that there is general agreement on the desirability of every country attempting to secure an absolutely unvarying level of prices, there seems no question that the great consensus of opinion is in favour of the slowest possible rate of movement.

Some consideration will be given later in this report to the point at which it would be most suitable to put into operation any policy for securing greater stability. Apart from this question, a point of very general agreement from which it will be possible to proceed to the next stage of the discussion is that, by whatever means may be considered practicable, it would be desirable to prevent the rate of rise or fall of the average price level from attaining any degree of rapidity. (2)

(1) *Report of the Conference*, p. 9.

(2) This conclusion is inevitably a little vague in that it represents an attempt to estimate the general trend of informed opinion, and to extract one point of agreement out of a literature which contains many conflicting conceptions.

CHAPTER III

The Stabilisation of the Price Level through the Control of Credit and Currency.

If greater stability of the average price level is to be secured, what may be considered the most suitable means for achieving this end ?

It is the relation between *money* and *prices* which gives the clue to this problem. Doubtless, such a suggestion is very obvious from the history of currencies for the last six years, since it has been patent to all that the increase of credit and of paper money in European countries, rather than adding to the wealth of those countries, has merely served to inflate prices. However, it might be well to examine in rather more detail the manner in which the volume of money or *purchasing power* affects the course of prices ; then to determine also what constitutes purchasing power and the manner in which it may be regulated.

The British *Interim Report on Money and Prices*, published in August, 1920, opens as follows :

"The general level of prices depends upon the relation between money (i.e., purchasing power) and the goods and services available for sale. If the supply of currency is increased, then with a given volume of goods and services for sale, the value of 'money' relatively to goods and services declines, or, in other words, the value of goods and services — i.e., prices — increase. On the other hand, if commodities and services increase relatively to purchasing power their value diminishes and prices

fall..... An expansion of purchasing power, if commodities are not increased, results in increased competition amongst buyers. An expansion of the supply of goods, if purchasing power is not increased, results in increased competition amongst sellers. In the former case prices rise, and in the latter prices fall."

Mr. F. Lavington sums the matter up in the following way : "On what does the level of prices depend ? Suppose that, without any other change, there is created and added to every market in the Kingdom a man with £100 in his pocket. No one is likely to deny that as a result of the presence of one more buyer in each market the average level of prices throughout the markets will be a little higher than it would have been in his absence ; for the same quantity of goods is being offered against an increased quantity of money. Further, no one is likely to reject the inference that the same result would follow if the various sums of £100, instead of being deposited in the hands of additional individuals, are distributed among the parties originally forming the market, always supposing that there is no change in the willingness of those parties to employ the cash resources at their disposal. If the notion of the 'market' is extended to include all retail shops, the only difference is that the resulting change in price is more widespread. And if the notion is extended further to cover every purchase or sale, the same result follows : the increase in the amount of money available to purchase the same quantity of goods results in a lift to prices which is practically universal. Given then that, in the absence of any other change, an increase in the volume of money held by people throughout the country raises the general level of prices, it follows that a decrease in the quantity so held will lower prices. And if, instead of supposing the sole change to be an increase or decrease in the volume of money, we suppose the sole change to be an increase or decrease in the volume of goods offered against money, the two opposite propositions are equally valid. These considerations give us the fragment of monetary theory needed in the following argument : namely, that in the absence of other change, any increase in the volume of money offered against goods, or any decrease in the volume of goods offered against money, raises the general level of prices ; and any decrease in the volume of money offered against goods, or any increase in the volume of goods offered against money, lowers that level." (1)

(1) *The Trade Cycle*, pp. 39-40. P. S. King and Son, Ltd., 1922.

The fundamental relation between money and prices is thus a very simple one. "Double the quantity of money and, *other things being equal*, prices will be twice as high as before and the value of money one half. Halve the quantity of money and, other things being equal, prices will be one half what they were before and the value of money double." (1)

The following table, extracted from the British Board of Trade, *Statements of Currency Expansion, Price Movements and Production in Certain Countries*, 1920, is illustrative of the very close relation between currency expansion and price movements :

COMPARISON OF EXPANSION IN CURRENCY WITH RISE IN PRICES.
ESTIMATED PERCENTAGE OF 1913.

Country	Currency of all kinds 1913 = 100	Wholesale Prices 1913 = 100	Retail Prices[1] of Food 1914 = 100
United States (March 1920) . .	177	253.0	196
United Kingdom (March 1920) .	250 (2)	321.8	235
Switzerland (December 1919) .	253	—	237
Denmark (January 1920) . . .	255	—	251
Japan (October 1919)	274	266.3	—
Sweden (March 1920)	275	354.0	291
Netherlands (February 1920) .	290	—	199
Norway (February 1920) . . .	305	—	294
France (February 1920)	400	522 4	297 (Paris)
Italy (December 1919)	565	452.6	252

[1] The fact that retail prices of food have risen less than general wholesale prices is in part attributable to the control of prices by Governments extending, in certain cases, to the maintenance of retail prices below cost of production by means of subsidies.

[2] In the case of the United Kingdom, the circulation at the end of March, 1920, is compared with the circulation at the outbreak of the war

The relation may be expressed perhaps even more closely thus : "The level of prices *is* the value of money. A rise in prices does not cause — it *is* — a fall in the value of money, since it means that a given quantity of money

(1) *Principles of Economics*, p. 236, by Professor F. W. Taussig. The Macmillan Company, 1921. The present author has taken the liberty to italicise the reservation *other things being equal*, since Professor Taussig has devoted much space to its development.

By way of illustrating statistically the relation between currency and prices, Professor Charles Gide gives the following table showing the volume

will exchange for a smaller quantity than before of other things." (1)

Thus, if it is possible to control the quantity of money, it is possible to control one of the principal factors affecting the price level. Another main factor, which necessitated the insertion in the quotation above of the precautionary phrase "other things being equal", is the volume of goods available against the money. If money is expanded more rapidly than the goods available to meet it, there will be a tendency for prices to rise, and *vice versa* when money is withdrawn. *In any attempt to secure a stable price level, therefore, the principal aim should be to cause the quantity of money in circulation to grow exactly in the same proportion as the volume of goods coming on the market.*

When the term "money" is used in this sense it is intended to cover every instrument whereby a person is enabled to purchase goods. Hence, instruments of credit of all kinds are included. The power of the community to purchase may be expanded in a number of different ways (2), and every expansion,

of bank notes issued in France as compared with the price index number (*Les mouvements des prix et leurs causes*, p. 17, L'Association pour l'Enseignement de la Coopération, 1922) :

Dates	*Volume of note issue*	*Index number of note issue*	*Index number of prices*
July 1914	6,000 millions of francs	100	100
» 1915	12,000 » » »	200	143
» 1916	16,000 » » »	266	188
» 1917	20,000 » » »	333	273
» 1918	29,000 » » »	483	314
» 1919	35,000 » » »	583	356
» 1920	39,000 » » »	650	506
» 1921	37,000 » » »	617	337

Professor Gide considers that the rise in prices which marked the post-war period must have been due in large part to the over-issue of notes and their consequent depreciation in value.

(1) *Economics for the General Reader*, p. 215, by Professor Henry Clay. Macmillan and Company, Ltd., 1920.

A further careful account of the relation between money and prices is given in the *Revue économique internationale* of 25 August 1922, from the pen of Professor Laurent Dechesnes of the *Ecole des Hautes Etudes à Liège*. "Prices express this exchange relation between money and goods. It follows that a low price signifies a high value of money in terms of goods and services, whilst a rise in prices merely indicates a reduction in the value of money."

(2) Mr. F. Lavington points out that purchasing power may be expanded through greater efficiency and increased use of the existing instruments of exchange, or through the transference of balances from deposit to current accounts, or through an increase in book transfers, a kind of invisible medium of exchange common to highly organised goods markets (see *The Trade Cycle*, pp. 39-48). It seems that purchasing power might also be increased by the general lengthening of the period recognised for private credit between traders.

None of these influences are, however, considered as important as the increase of bank loans.

no matter how produced, will tend to raise prices unless it is accompanied by a corresponding increase in the volume of goods available to meet it.

By common agreement it is considered that the expansion of the community's fund of purchasing power is effected mainly through the banks (1); and this is done through the issue of additional loans, either in the form of coin and notes, or by means of accounts against which cheques may be drawn (2). In almost every country the business community thus receives its influx of purchasing power through the medium of the banks; and it is this method of increasing the circulation which is implied below when mention is made of the issue of *credit* (accounts against which cheques may be drawn) and *currency* (notes and coin). In either case the issue represents loans by banks. These loans are only made at a price, the price being generally termed the "discount rate."

At this stage it might be well to pick up again the threads of the general argument running through this report. In the earlier chapters it was seen that greater stability of the price level would be in the interest of the community from many points of view, notably that of stabilising and increasing employment. In the present chapter evidence has been given to show that this price level is determined largely by the volume of money or purchassing power in use. This, in turn, is subject to influence by the banks, in that the most important forms of purchasing power find their way to and from the community *via* the banks. The point in the argument is thus reached at which it is possible to signal out the banks as the agency through which reform may be

(1) The issue of legal tender notes and coin, in many countries, is still controlled by the State. This issue is, however, almost invariably made through the intermediary of banks, which in turn are largely responsible for the superstructure of credit built on the basis of legal tender. To the extent that the State controls the issue of legal tender or obliges banks to extend loans for public purposes, it shares the responsibility for any monetary policy which may be adopted. This report is written largely with a view to anticipating the situation which will arise when political difficulties play a less important part and when banks will once more secure their independence in the control of the monetary policy of their country. The question of State responsibility, although set aside for the moment, will be taken up again in Part II: *The Practical Issues.*

(2) For further illustration of the manner in which the extension of bank credit leads to a rise in prices, reference might suitably be made to *Cycles of Prosperity and Depression in the United States, Great Britain and Germany*, University of Wisconsin Studies, 1921, pp. 104-107, by A. H. Hansen; or *Money*, by Foster and Catchings, Houghton Mifflin Co., 1923.

expected in the regulation of the community's monetary supply. Some evidence will be given in the pages which follow to show that in the opinion of many writers there has been a failure on the part of banking institutions in the past to exercise control over the credit issued, and that this has led to price fluctuations producing the severest unemployment and distress.

The Resolutions of the Brussels Conference contain an account of the relation between currencies and prices, which seems particularly pertinent to the present discussion. (1)

"The currency of a country, in the sense of the immediate purchasing power of the community, includes (a) the actual legal tender money in existence, and (b) any promises to pay legal tender, e.g. as Bank balances — which are available for ordinary daily transactions.

"The currencies of all belligerent, and of many other, countries, though in greatly varying degrees, have since the beginning of the war been expanded artificially, regardless of the usual restraints upon such expansion (to which we refer later) and without any corresponding increase in the real wealth upon which their purchasing power was based; indeed in most cases in spite of a serious reduction in such wealth.

"It should be clearly understood that this artificial and unrestrained expansion, or 'inflation' as it is called, of the currency or of the titles to immediate purchasing power, does not and cannot add to the total real purchasing power in existence, so that its effect must be to reduce the purchasing power of each unit of the currency. It is, in fact, a form of debasing the currency.

"The effect of it has been to intensify, in terms of the *inflated* currencies, the general rise in prices, so that a greater amount of such currency is needed to procure the accustomed supply of goods and services. Where this additional currency was procured by further 'inflation' (i. e. by printing more paper money or creating fresh credit) there arose what has been called a 'vicious spiral' of constantly rising prices and wages and constantly increasing inflation, with the resulting disorganisation of all business, dislocation of the exchanges, a progressive increase in the cost of living, and consequent labour unrest."

(1) See p. 17 of the official text of the resolutions.

As early as 1919 the danger of the over-extension of credit was observed by the Federal Reserve Board of the United States: "The expansion of credit set in motion by the war must be checked. Credit must be brought under effective control and its flow be once more regulated and governed with careful regard to the economic welfare of the country and the needs of its producing industries." (1)

Mr. A. C. Miller of the Federal Reserve Board, in an article on "Federal Reserve Policy" in the *American Economic Review* of June 1921, states that "the credit and business situation in the United States in 1919 was one that needed restraint... It would have been of the greatest advantage to the country if such restraint had been exercised by the Federal Reserve system in the year 1919, and the development of the runaway and speculative markets, which developed in the second half of the year, been measurably prevented."

Professor O. M. W. Sprague, speaking of the period before the crisis of 1920, says: "Liberal credit was no longer, as at the beginning of a period of activity, serving to stimulate production and direct industry into promising channels. It was rather tending to disorganise industry, subjecting it to an increasing extent to speculative influences, to wage disputes and to numberless other strains... A check on further credit expansion followed by some contraction was the one sure remedy..." (2)

A valuable account of the difficulties which impeded the earlier application by the Federal Reserve Board of a more restrictive policy is to be found in *Monetary Reconstruction*, pp. 93-130, by R. G. Hawtrey, Longmans, Green & Co. (3)

In proceeding to a general discussion of the effect of the growth of credit in excess of production, Mr. Hawtrey shows that "an expansion of credit and therefore of purchasing power stimulates sales, depletes stocks of commodities, increases orders to producers, raises prices, and altogether makes business at every stage more active and more profitable. Thereby the demand for bank credit is again intensified and a vicious circle of inflation is set up." (4)

(1) *Annual Report for* 1919, p. 71.
(2) *The American Economic Review*, March 1921, pp. 16-29.
(3) A very full account is also given in the United States' Agricultural Enquiry, the proceedings of 8 August 1921 being of particular interest.
(4) *Monetary Reconstruction*, p. 107. Longmans, Green and Co., 1923.

Mr. F François-Marsal, speaking of the post-war period of inflation, says : "Merchants and manufacturers are now aware that the issue of paper money unsecured has been one of the principal, if not actually the principal cause of the present crisis. In 1920 arose the phenomenon which inevitably appears when there is an excessive increase in monetary circulation : cessation of production as a result of the restriction of consumption, a rising rate of interest, contraction of credit, and, finally, general crisis.

"In other directions, inflation has produced further disastrous effects which have attracted much comment : social disturbances and, to some extent, the lowering of commercial morality." (1)

In an article contributed to the *New Leader* of 30 July 1923, Mr. Robert Nichol, M. P., shows the close relation between industry and banking : "It would be difficult to say exactly what percentage of industry depends on a ready supply of credit from the banks, but it would probably be true to say that almost every large or even moderate-sized business makes use of credit facilities, and a very large proportion depend normally upon such facilities. Accordingly, the policy of the banks can largely regulate the quantity of credits and therefore control the industrial policy of the nation. The fact that within recent years a virtual monopoly of banking has passed into the hands of five great banking corporations, which together control a sufficiently large proportion of the total financial business of Great Britain to dominate the remainder, facilitates such financial control."

There is a large and growing school of economists, comprising amongst their number Professors Fisher, Hansen and Mitchell of the United States and Mr. R. G. Hawtrey of Great Britain, who regard the trade cycle as essentially a monetary phenomenon and, in consequence, expect to find the most efficient remedy in some modification of banking and currency policy. Typical of this group, Professor A. H. Hansen, of the University of Minnesota, having made a study of the monthly data for twenty different indexes of trade covering the complete cycle from 1902-1908 in the United States, Great Britain and Germany, reaches the conclusion that "the cycle of prosperity and depression is at bottom a question of money, credit and

(1) *Revue économique internationale*, 25 July 1922, p. 8.

prices". He shows that this contention "is also supported by the historical fact that during the long period of declining prices from 1873 to 1897 depression was chronic both in the United States and Great Britain, and to some extent in all countries. Continued depression was broken only by two brief periods of prosperity. Since 1897 prosperity has been chronic, so to speak, broken only by temporary periods of depression. The reason lies in the fact that the period from 1873 to 1897 was a period of falling prices broken only at short intervals by temporarily rising prices. The period from 1897 to the present has been a period of continually rising prices, broken by short intervals of falling prices. Falling and rising prices are generally conceded to be mainly monetary and credit phenomena." (1)

Professor A. C. Pigou also considers the stabilisation of prices and industry by various monetary methods to be of value in reducing unemployment. "Whatever therefore, tends to diminish industrial fluctuations tends also, in the end, to lessen the volume of unemployment. Among the many remedies which this consideration suggests, attention was called in particular to the shortening of commercial credits, the more widespread adoption among bankers of an enlightened policy in the matter of loans, the modification of the currency system in such a way as to render prices more stable..." (2)

In the United States of America, a Bill was introduced into Congress on 23 May 1923 by Representative Goldsborough for stabilising "average wholesale prices by controlling the quantity of money and credits in relation to the volume of trade by increasing or diminishing that quantity as the average price level goes down or up." (3)

So urgently has the need been felt in the United States for securing stability in the purchasing power of money, that an organisation, known as the "Stable Money League", has been established with a view to carrying out research into the means for securing the monetary reform necessary to stability. The principles of this league are as follows.

"We hold it fundamental that a sound currency must be a stable currency, and that its exchange value or purchasing

(1) *Cycles of Prosperity and Depression*, p. 110. University of Wisconsin Studies, No. 5, 1921.

(2) *Unemployment*, p. 244. Home University Library, 1913.

(3) *Congressional Record of the U.S.A.*, 23 May 1922, Vol. 62, p. 8149.

power must not be subject to violent fluctuations which disrupt the whole order of business and industry, take away the strongest incentives of human labor, thrift and efficiency, and work injustice to debtor and creditor alike.

Since the close of the war the chief commercial nations have been prey to precisely such gross alternations of currency values, with all the disorders attendant thereon. The gold standard has practically been abandoned by many countries for the issue of an irredeemable paper currency, with a consequent utter demoralization of prices, exchanges and trade. We believe it of the utmost importance that thinking men and women shall join in the consideration of this problem, so vital to the social order and peace and happiness of mankind." (1)

It is of interest to Members of the International Labour Organisation to know that Mr. Samuel Gompers, President of the American Federation of Labour and Chairman of the Commission on International Labour Legislation of the Peace Conference, is one of the honorary Vice-Presidents of the Stable Money League. On its Research Council are included the following prominent American economists :

Dr. Wm. T. Foster, Director of the Francis E. Pollak Foundation for Economic Research, Newton, Mass.

Dr. David Friday, President-Elect of the Michigan Agricultural College, Lansing, Mich. ; Professor of Economics, University of Michigan.

Dr. E. W. Kemmerer, Princeton University ; Economist and Financial Advisor to the U S. and foreign governments.

Dr. Wesley Clair Mitchell, Director of National Bureau of Economic Research, New York, N. Y.

Mr. John E Rovensky, Vice-President, National Bank of Commerce, New York.

Mr. Carl Snyder, Statistician, Federal Reserve Bank of New York City.

Dr. H. Parker Willis, Professor of Banking, Columbia University ; Director of Analysis and Research, Federal Reserve Board.

The motives which inspire the action of the Stable Money League, and indeed any other attempt to secure greater stability in prices, are well expressed in the following words of Professor Wesley C. Mitchell : "One cannot conclude a survey of the violent changes in prices during the war and of the grave uncertainties of the near future without reflecting upon the badness of the best existing monetary systems.

(1) *Stable Money Graphic*, published under the direction of the Executive Committee, Stable Money League, 2, Rector Street, New York.

"The United States has maintained the gold standard without serious limitation and has reorganized its banking system on approved lines. Nevertheless we have had price fluctuations almost as violent as those of the greenback period. These fluctuations have caused unmerited suffering to millions of families and have heaped unearned riches upon thousands. They have caused wasteful struggles, encouraged extravagance among some, and created the class of 'new poor.' They have promoted speculation and reduced the efficiency of management and labor. We are poorer in goods, more quarrelsome in spirit, less ready to work because of these fluctuations. All this has happened and is irretrievable. But within a few years fresh changes may happen just as evil in their consequences.

"This wretched record and this wretched prospect are a grave indictment of our present form of economic organization. Have we not sufficient constructive imagination and practical sagacity to develop a better monetary system." (1)

(1) Speech before the American Economic Association, Richmond, 1919.

CHAPTER IV

The Use of the Discount Rate for Regulating the Expansion of Credit and Currency.

Taking as the point of departure that the desired stability of the price level is most naturally secured through regulating the volume of credit and currency available to the community, the next step is to determine by what means this volume may most satisfactorily be expanded or contracted.

It was explained a little earlier in the report that the issue of credit and currency is effected almost invariably through the banks and that it is always made to borrowers at a price. This price is usually termed the discount rate, and means the percentage of the future (1) capital value of the loan demanded by way of payment for its use.

Obviously one way of dissuading borrowers from applying for accomodation is to increase its price, that is, to raise the discount rate. Conversely, the lowering of the rate will induce a number of the hesitant to increase their borrowing. This, then, the manipulation of the bank rate, is one of the recognised means whereby the purchasing power of the business community may be influenced towards expansion or contraction, and the way in which prices, and thereby trade, may to some extent be stabilised.

As will be explained later, opinions differ very widely as to the extent to which the discount rate may be employed in

(1) i.e. The capital value of the loan at the date of its expiry.

this way and the influence which it is likely to exert on the movement of the price level. The price of borrowed money enters into the costs of production as one factor alone, and under certain circumstances it may therefore fail to make any decisive impression on the development of industry and the trend of prices. Yet, however variable the power it may exert, this price is always a factor for consideration and, as such, it should be exercised judiciously.

Some opinions and explanations with regard to the use of the discount rate are given below.

Professor Irving Fisher considers that: "Under almost any sensible banking system the rate of discount is one of the regulators of the volume of credit relatively to reserve. If there is undue expansion of credit relatively to the reserve, the rate of discount is raised to curb it. If, on the other hand, there is a plethora of reserve, the rate of discount is lowered to stimulate an increase of credit. As the expansion and contraction of credit are directly related to the price level, the rate of bank discount is thus concerned very vitally with the price level.

"The report, after the Armistice, of the Lord Cunliffe Committee on Currency, Banking and Foreign Exchange shows clearly how the bank rate keeps the English price level in tune with world price levels. Speaking of this long established system the report says:

> When apart from a foreign drain of gold, credit at home threatened to become unduly expanded, the old currency system tended to restrain the expansion and to prevent the consequent rise in domestic prices which ultimately causes such a drain. The expansion of credit, by forcing up prices, involves an increased demand for legal tender currency both from the banks in order to maintain their normal proportion of cash to liabilities and from the general public for the payment of wages and for retail transactions. In this case also the demand for such currency fell upon the reserve of the Bank of England, and the bank was thereupon obliged to raise its rate of discount in order to prevent the fall in the proportion of that reserve to its liabilities. The same chain of consequences as we have just described followed and speculative trade activity was similarly restrained. There was, therefore, an automatic machinery by which the volume of purchasing power in

this country was continuously adjusted to world prices of commodities in general. Domestic prices were automatically regulated so as to prevent excessive import.

"Professor Knut Wicksell of Sweden has, for many years, advocated a more extensive use of this regulative function of the rate of bank discount as a means of preventing cycles of credit and prices. Mr. Paul Warburg, formerly of the Federal Reserve Board, has suggested that the index number of prices should be one of the data scrutinized by the Federal Reserve Board to help guide it in fixing the rate of discount. Senator Shafroth proposed that the Federal Reserve Board should fix discount rates in such a manner as to regulate credit with the object of stabilizing the level of prices." (1)

Professor Gustav Cassel expressed the following opinion in a speech before the International Chamber of Commerce at Rome in March 1923. "The technical means for carrying through a stabilisation is a discount policy aiming at a suitable restriction of the demands of the market for credit accomodation..... It was only in this way that the different currencies and the exchanges between them could be established in the pre-war system of gold standards. The existence of a gold fund has no other importance than that of securing the finest stabilisation of the exchanges where a general stabilisation has already been attained as a result of the stabilisation of the internal values of the currencies by the aid of the discount policy."

Mr. R.G. Hawtrey shows that rises in the price level due to credit expansion tend to become cumulative and to get out of control and that the reverse effect caused by the "vicious circle of deflation" is equally violent. The deterring effect of the discount rate should be used at an early stage in either movement in order that it may become most effective.

"Credit is inherently unstable, and it can only be successfully controlled by perpetual vigilance and prompt action. Every disturbance from the normal, whether towards expansion or towards contraction, tends to magnify itself unless quickly checked by the appropriate rise or fall in the discount rate.

(1) *Stabilising the Dollar*, pp. 171-172, The Macmillan Co., 1920. Professor Fisher considers that this adjustment "would not of itself, however, be sufficient to control credit". Whilst it may be considered to control the superstructure of credit, it does so, under existing banking conditions, only relatively to the basis of legal tender reserves. This is a limitation to the use of the discount rate which must be discussed later (see p. 95).

Traders and bankers often deprecate rapid changes in the discount rate as being unsettling to business. But what is unsettling is the alteration between expanding and contracting credit. If credit, and therefore the flow of purchasing power, are kept approximately steady, the short-period changes in the rate of discount cause no trouble except in the highly specialised calculations of the discount market itself." (1)

Discussing the relative advantages of metallic and non-metallic standards, Professor Verrijn Stuart, of the University of Utrecht, recommends that the use of gold as a basis for currency should be abandoned, and that the regulation of a country's purchasing power should be effected by means of the bank rate. "Under a system of this kind, money is created by agencies which are capable of making the supply adapt itself to the demand, and thus of keeping the value of the money unit constant. This is done by variations in the rate of interest. The demand for money is, of course, beyond the control of these agencies, depending as it does on the interplay of the forces of commercial life. But the supply of money can be regulated by these means at will, and quite independently of what may be happening elsewhere." (2)

It is to be noted that, in all the more important financial countries, there is a central banking institution which holds a portion of the cash reserves of the other banks and lends them further cash when necessary. The central institution charges a certain rate for its loans to dependent banks and this rate is usually different from that charged by the latter in lending to their own clients. When reference is made, for instance, to the Bank Rate in England, the term ordinarily means the rate at which the Bank of England lends to the Joint Stock Banks by discounting their bills. The corresponding term in the United States is the Rediscount Rate, since this is the rate at which the Federal Reserve Banks, i.e. the central institutions, will rediscount bills originally discounted by the member banks for their own clients. The central rate regulates in some measure the rate demanded by dependent banks and at certain periods the power of control is almost complete. For this reason, emphasis is frequently laid on the need for controlling the Bank Rate or the Rediscount Rate in view of their influence over the market

(1) *Monetary Reconstruction*, pp. 123-124. Longmans, Green and Co., 1923.

(2) *Economic Journal*, June 1923, p. 150.

rate of discount and their consequent effect on the movement of prices.

Speaking of the rate of the Bank of England, Mr. H.N. Brailsford says : "It is, of course, the rate at which the Bank will advance money to customers (usually the Joint Stock Banks) who have bills to discount. *It also governs automatically the rate at which the less august and venerable banks lend money to their customers. It is, in short, the rate or the basis for reckoning the various rates at which credit is sold o industry.* When it is low, credit is plentiful ; industry goes ahead : trade booms. The effect of lowering it is, on a small scale, like the first effects of printing money. 'Purchasing power', as economists say, is increased. Prices rise, and, though the housewife may grumble, wages (somewhat later and with much trouble) can be forced up for a time, and there is work at last for the reserve army of the unemployed. Reverse the process, raise the Bank Rate, restrict credit, and a chill creeps over industry ; prices fall..." (1)

Professor C.A. Phillips, of Dartmouth College, considers that : "A change in the rate of rediscount tends to be reflected in changes in the price level and, generally, in the physical volume of trade, a rise in the rediscount rate curtailing trade and industry and a reduction having the opposite effect.

"But the controlling influence of the rate of rediscount of the Federal Reserve banks is founded on the close relation of that rate to the rate of discount of the commercial or member banks." (2)

Messrs. Foster and Catchings, of the Pollak Foundation for Economic Research, consider that the Rediscount Rate is but a "tardy regulator" and in many ways an inefficient means of controlling the market rate of discount. "Nevertheless, the rediscount rate can always be used as a moderating influence. If employed promptly enough, it could have prevented the greater part of the rise of prices during 1919. The rediscount rate can curb inflation, however, only if it has the effect of curbing the expansion of currency and credit, and to be most effective the rate must be higher than the rates of the banks that do the largest business with the Reserve Banks. In other words, the rate must be such that there is no profit in borrowing

(1) *The New Leader*, 13 June 1923. The present writer has taken the liberty to put the two sentences above into italics as they are particularly germane to the discussion.

(2) *Bank Credit*, p. 118, The Macmillan Company, 1921.

from the Reserve Bank. On the other hand, if the rediscount rate is to curb deflation, the rate must be an adequate incentive to borrowers. As soon as prices begin to fall, therefore, the rediscount rate should fall below the bank rate. However, the question to what extent and under what conditions the rediscount rate can curb *deflation* requires further study. We can only say that if we had the most accurate and up-to-date index of prices that it is now possible to construct, and if, as the price index changed, changes in the rediscount rates were made *promptly enough*, most of the *extreme cyclical* movements of the price-level could be prevented. If changes in rediscount rates were thus made strictly in accordance with changes in the price-level, business men would know what to expect and could make future commitments with greater assurance. They would welcome such a definite and easily understood policy." (1)

Mr. Carl Snyder, General Statistician of the Federal Reserve Bank of New York, has proposed a scheme for the regulation of currency and credit one of the principal features of which is : "Control of the note issue to be through the medium of the Federal Reserve Banks, which should be required by law, on a change in the price level of, let us say, 3 per cent. (or whatever figure might be decided upon) to raise or lower the rate of rediscount by 1 per cent., or in the same way to raise or to lower their holdings of securities and of acceptances by, let us say, some conventional figure like 100 million dollars, as might be agreed upon ; or both." (2)

In the Resolutions of the Commission on Currency and Exchange of the Brussels Conference, it is stated that: "In normal times the natural and most effective regulator of the volume and distribution of credit is the rate of interest which the Central Banks of Issue are compelled, in self-preservation and in duty to the community, to raise when credit is unduly expanding."(3)

However limited may be the influence of the central rate of discount on the market rate, and thus on the movement of prices, the belief that it is an agent of vital importance gains much support from the fact that the actual policy of the Federal Reserve Board in the years 1919-1921 has formed the subject of most widespread criticism. The opinion has been generally

(1) *Money*, p. 359, Houghton Mifflin Company, 1923.
(2) *American Economic Review*, June 1923, p. 284.
(3) *Report of the Conference*, p. 18

expressed that the action of the Federal Reserve Board during this period was under the circumstances almost unavoidable and that the responsibility must therefore rest elsewhere. Nevertheless, the hardships experienced in the depression of 1920-21 were largely attributed to this inability of the Board to raise the Rediscount Rate early in 1919 with a view to checking the inflationist boom, and the hope was expressed that the experience gained during this period would induce the Board to act otherwise in the future when it would be free to pursue whatever policy seemed desirable. Mr. A.C. Miller, a member of the Federal Reserve Board, states in this connection : "How much of the business distress and economic hardship experienced by the country during the past year would have been avoided, had the Federal Reserve system been in a position to pursue a discount policy in the second half of the year 1919 such as the trend of developments clearly indicated to be necessary, cannot of course be determined. Much of the hardship suffered by the country in 1920 might, however, have been avoided by the adoption in 1919 of an effective precautionary policy of credit control. That such a precautionary discount policy would have been adopted by the Federal Reserve system, had it felt free to act, will not be doubted by anyone acquainted with the attitude of the Federal Reserve Board and the federal reserve banks at this time. As early as June, 1919, after the close of the Victory Liberty Loan campaign, which, it will be remembered, was announced to be the last of the war loans, the Federal Reserve Board expressed its concern over the unhealthful tendencies which were in process. Counsel and warnings of similar purport were subsequently repeated. The necessity of restraint upon the borrowings of member banks for speculative purposes by other means than advances in discount rates ([1]) was pointed out, and such restraint was urged. Here and there, for a while, there were some slight evidences that the situation was being controlled, but no large results were achieved, and speculative tendencies of a dangerous character and large dimensions, involving speculation in land and commodities as well as in securities, gained increasing momentum through the autumn of 1919.

([1]) "The Federal Reserve Board is concerned over the existing tendency towards excessive speculation, and while ordinarily this could be corrected by an advance in discount rates at the Federal Reserve Banks, it is not practicable to apply this check at this time because of Government financing." (From a letter sent by the Federal Reserve Board to the chairmen of the Federal Reserve Banks, June 10, 1919).

'Direct action,' so-called, as a method of credit control was not succeeding. (1) The expansion of credit and the rise of prices went on apace. Speculation flourished. It could no longer be doubted that the federal reserve system must undertake the regulation of credit by means of discount rates. A beginning was made by the slight advance in discount rates on war loan paper on December 11, 1919, with every expectation and intention on the part of the federal reserve system of assuming full control of its discount policy with the advent of the year 1920." (2)

The Report of the Joint Commission of Agricultural Enquiry deals in some detail with the discount policy of the Federal Reserve Board and is perhaps more critical than many independent economists in the United States. "It is the opinion of the commission that a policy of restriction of loans and discounts by advances in the discount rates of the Federal reserve banks could and should have been adopted in the early part of 1919, notwithstanding the difficulties which the Treasury Department anticipated in floating the Victory loan if such a policy were adopted.

"It is also the opinion of the commission that had this policy been adopted in the early part of 1919 much of the expansion, speculation, and extravagance which characterized the postwar period could have been avoided.

"The commission also believes that had such a policy been adopted in 1919 the difficulties, hardships, and losses which occurred in 1920-21 as a result of the process of deflation and liquidation would have been diminished." (3)

The policy of the Federal Reserve Banks in maintaining high rates of discount until the depression and liquidation were well advanced was also discredited by the Commission. "The exhaustion of credit and capital, coupled with the decline in exports, gave the first impetus to the decline in prices. With the beginning of this decline the forces of reaction and depression began to operate. Goods were thrown on the market, orders were cancelled, the buyers' strike developed,

(1) "These warnings, however, were only a transitory expedient and were given only momentary attention by many banks. The Board was prepared, as soon as Treasury exigencies permitted, to resort to the well-known method of advancing the rate of discount." *Annual Report* for 1920, p. 12

(2) *The American Economic Review*, June 1921, pp. 188-189.

(3) *Credit*, p. 12. Washington Government Printing Office, 1922.

unemployment ensued, and complete industrial depression followed.

"As the purchasing power of the domestic population diminished and unemployment began, more and more goods began to congest the channels of commerce and more and more credit was required to carry these goods until they could be marketed. It was necessary, by a high level of discount rates, to keep these credit requirements in such a relation to the prices of goods that bank failures would not result and a financial crash increase the inevitable industrial depression resulting from declining prices.

"As the pressure of liquidation developed there began to be demands on the part of the public for amelioration of the policy of the Federal reserve banks with respect to discount rates, based upon the assumption that lower discount rates and freer money would arrest the tide of liquidation and reduce the hardships of those who are compelled to sell in a declining market. The commission believes that a policy of lower discount rates and greater liberality in extending credits could have been adopted in the latter part of 1920 and the early months of 1921, and that such a policy would have retarded the process of liquidation and thus spread the losses incident to the inevitable decline of prices to a lower level over a longer period, and that the adoption of such a policy at that time would have been advisable.....

"It seems probable that a change in the policy of the Federal reserve system with reference to discount rates would have accomplished a reversal in part of the psychological and economic factors which at this time were moving in the direction of lower prices, and at the same time would have tended to induce on the part of banks a more liberal attitude toward furnishing additional credit.

"It is without doubt true that the pressure of discount rates and of liquidation in the agricultural sections of the country resulted in great hardship, loss, and sacrifice among the agricultural population of the country. The hardships, sacrifices, and losses of the period, however, were not confined to agricultural sections." (1)

Discussing the same period, Professor Mitchell says : "The central issue in most discussions of what we did amiss in 1919

(1) *Credit*, pp. 13-14 Washington Government Printing Office, 1922.

is the time at which the discount rates of federal reserve banks should have been raised. Most competent judges seem to agree with the 'personal opinion' expressed on this point by Governor Benjamin Strong in his statement of August, 1921, to the Joint Commission of Agricultural Inquiry. 'I believe,' said Governor Strong, 'if it had been possible, it would have been desirable for the Federal Reserve System to have advanced its rates at some point in the period between January and March 1919' (1) — instead of waiting until November.

"Since our concern is with the future we need not stop to discuss Governor Strong's limiting clause — 'if it had been possible'. Perhaps the Treasury's plans for floating the enormous Victory Loan in the spring really did make it impossible, or at least undesirable, to raise the federal reserve rates until that undertaking was accomplished. However that may be, we are justified in hoping that in the future such exigencies will seldom arise to prevent the Federal Reserve Board from adopting the policy which seems wise in the economic interest of the public. What most concerns us is that the Governor of the largest Federal Reserve Bank and many other experts believe after mature consideration that it would have been desirable to raise rates before the boom began. His reason for this conclusion is that an advance of rates would have moderated the expansion of business and thereby diminished the severity of the crisis of 1920. (2)

"If Governor Strong and the men who share his opinion are right about the policy that was desirable in 1919, as I think they are, may we not generalize and say it is desirable to raise discount rates in future periods of expansion, whenever signs appear that production is nearing its limit and that further expansion will consist mainly in bidding up the prices of securities, of industrial equipment, and of the goods in process of production and distribution ?" (3)

Professor O.M.W. Sprague appears to share the opinion that the discount rate is a valuable agent for influencing industrial activity and as such should be used to reduce the intensity of cyclical fluctuations. "The discount rate of Reserve banks

(1) Hearing before the Joint Commission of Agricultural Inquiry, Sixty-Seventh Congress, First Session, Part 13, p. 763.

(2) *Ibid.*, p. 772

(3) *The Stabilisation of Business*, pp. 38-39, The Macmillan Company. 1923.

is clearly an effective means of checking credit expansion, but it is also evident that advancing rates influence the situation rather slowly..." (1)

"Whether at any time it is desirable to impose restraint upon credit depends upon the uses to which credits are being put and upon the effects of these uses. The most definite indication that we possess of excessive credit is found in the decided upward movements of prices extending over a number of years. There is practically universal agreement that prices cannot be held at an absolutely fixed level. Most would agree that advancing prices at the beginning of a period of activity stimulate production in some measure. Few, however, would question that at some stage in every period of business activity rising prices facilitate ill-judged undertakings and fail to increase industrial output. No doubt there would be wide differences of opinion as to just when this stage is reached in any particular business cycle. Even so, it is submitted that the expert judgment of a responsible body like the Federal Reserve Board, enjoying the benefit of general public criticism, provides a far more satisfactory basis for a discount policy than the variations of a reserve ratio.

"The proposal to base the discount rate largely on the observed effects of credit expansion is not designed to secure the stabilisation of prices. Such a policy would not be concerned with permanent changes in prices associated with variations in the world's supply of gold. It would aim merely at lessening price fluctuations within particular business cycles, checking somewhat the upward movement, and thereby lessening the subsequent decline." (2)

There seems to have been some evidence of late that the discount policy of the Federal Reserve Board is now being governed largely by a consideration of the state of industrial activity, rather than by the reserve situation as heretofore. Such a method would appear to be in conformity with the opinion, frequently stated, that the reserve situation must be regarded as entirely misleading, and that other criteria should be evolved for future guidance. In this connection the following extract from an article contributed by Professor Irving

(1) *The American Economic Review*, March 1921, p. 24.
(2) *Ibid.* p. 28.

Fisher to the *Manchester Guardian Commercial* of 8 June 1923 is of particular interest.

"It is a satisfaction to see that the rapid rise of prices has been checked. This was apparently due to a determined effort to check it. The rise of the discount rate by several of the Federal Reserve Banks, the warning of Mr. Hoover against reckless inflation, and the combined efforts of Mr. Franklin Roosevelt and the banks to limit loans for speculative building — the point where inflation was most active — must have tended in this direction.

"This all indicates that inflation and deflation can be controlled, and also that, to control it, the information given by the index number is essential."

A special appeal for a definite statement by the Federal Reserve Board with regard to its future discount policy has been made by Charles J. Bullock, O.M.W. Sprague, and W. B. Donham, writing in common in the *Harvard Business Review* of January 1923. After stating that, as a matter of general policy, "the Board should endeavour to limit the expansion of credit by raising and lowering discount rates in such manner and at such times that the volume of credit is determined by the real needs of the country, whether these needs are seasonal or cyclical in their nature," they go on to show that it is essential to the business community that the discount policy of the Board should be known in advance in order that industry might have a sure basis on which to work. (1)

In addition to the discount rate, there are certain other means whereby business men may be dissuaded or prohibited from having recourse to the banks for extension of credit. Just as, during a period of shortage of food, certain commodities must be rationed, so it sometimes happens that in cases of financial stringency the banks find it necessary to ration their own commodity.

One form of "rationing" is that known as "selective credit control" and infers the restriction of the issue of credit to certain

(1) It might be suggested here that the formulation of a policy should not be undertaken with complete disregard for the interests of other countries. If it may be accepted that the rediscount rate of the Federal Reserve Board will affect prices in America, and therefore the value of gold, the determination of the price of gold in this manner will have a profound influence on the monetary policy of all countries which, rightly or wrongly, are desirous of resuming the gold standard at the pre-war parity It would seem that an international monetary conference should precede the determination of any definite policy

classes of customers alone Professor T. S. Adams of Yale University defines this method very lucidly in his review of financial devices for mitigating the severity of business cycles. "A general elevation of the level of discount rates..... is too indiscriminating to serve as a complete or perfect method of regulation. In boom periods, its blanket quality, or its wet blanket quality, serves properly to discourage or to postpone the financing of many projects which under other conditions would be plainly entitled to credit assistance. But it fails to repress the speculator feverishly bent on anticipating an expected jump in prices. Considerations of these serious limitations upon the rediscount rate as an instrument of control has led naturally to proposals for decentralised control or what has been called above 'selective credit.' " (1)

A further method whereby individual banks may reduce the amount of the loans made is that of increasing the severity of collateral tests ; that is, of making loans only against higher grade security. In America, where the commercial banks make closer investigations into the financial status of their dependent firms, this method finds its counterpart in the insistence by banks on an improving ratio between liquid assets and current liabilities in the firms' balance sheets. (2)

The main point of distinction between the various methods just described and the use of the discount rate is that these methods can only be applied on a wide and uniform scale provided that the whole of the banking system voluntarily co-operates on a national basis for the purpose, whereas the discount rate of the entire system may to some extent be controlled by pressure brought to bear on it by the Central Bank. From the immediate practical point of view, therefore, the method on which it would be most valuable to concentrate attention is that of the use of the discount rate.

The discussion of the use of the discount rate of banks for controlling the expansion and contraction of credit will be taken up again in the second part of this study : "The Practical Issues". It might be well at this stage to recapitulate the argument contained in the preceding chapters with a view to bringing into relief the essential features.

(1) *Business Cycles and Unemployment*, p. 268, McGraw-Hill Book Company, 1923.

(2) See *Report and Recommendations of a Committee of the President's Conference on Unemployment*, p 15, 1923.

In Chapter I evidence was adduced in support of the belief that the reduction of fluctuations in industry would diminish the absolute total of unemployment and its distressful effects. In Chapter II opinions were quoted showing that the stabilisation of the price level would tend to greater stability of industry in general, and thus to a reduction of unemployment; it was also indicated that for many reasons in addition to its effect on employment, greater stability in prices would be eminently desirable. There appeared to be almost unanimity of agreement that at all times the movement of the price level should be prevented from attaining any appreciable degree of rapidity.

In Chapter III is was shown that the level of prices depended very largely upon the 'purchasing power' available against goods for sale. The purchasing power of the community was capable of expansion or contraction through regulating the credit and currency issued in the form of loans by banks. For this issue the banks were in the habit of charging a certain price, known as the discount rate. In Chapter IV some discussion has been given to the use of the discount rate for the purpose of regulating the flow of purchasing power into industry, thereby influencing prices. Certain expert opinions have been quoted in support of the belief that this rate could be made to contribute largely to the factors which determine the movement of the price level.

In this way the discount rate may be considered to have a definite influence on the course of employment. By possessing this instrument of industrial control, the banks are in a position of very heavy responsibility. It would seem to be the duty of these institutions, and of all qualified students of banking, to determine not only the most desirable policy to be adopted in the control of the bank rate but also the manner in which this instrument may be made more effective in carrying out that policy.

Neither of these questions has yet been satisfactorily solved. As regards the former, a large number of competent economists consider that the movement of prices should hold the first place amongst the criteria to be followed. There are, however, other considerations of importance; some examination of these will be made in Chapter V. As regards the question of rendering the rate of discount more effective, this forms the principle theme of Part II.

CHAPTER V.

Criteria for Determining the Discount Policy of Banks.

Before discussing the adoption of new criteria for the use of the discount rate, it would be advisable to give some account of the system in operation before the war. The report of the British Committee on Currency of 1919, presided over by Lord Cunliffe, gives a full explanation of which the following is a brief extract. "The expansion of credit, by forcing up prices, involves an increased demand for legal tender currency both from the banks in order to maintain their normal proportion of cash to liabilities and from the general public for the payment of wages and for retail transactions. In this case also the demand for such currency fell upon the reserve of the Bank of England, and the bank was thereupon obliged to raise its rate of discount in order to prevent the fall in the proportion of that reserve to its liabilities." (1)

The one criterion of outstanding importance was the reserve situation. A plethora of reserve was considered full justification for maintaining a low rate of discount with a view to encouraging further borrowing. If reserves were running near their legal or customary minimum, the rate was raised and loans discouraged. This permitted a considerable variation in the superstructure of credit built on the foundation of legal tender currency, and in this way facilitated the fluctuation of prices

(1) *First Interim Report of the Committee on Currency and Foreign Exchanges after the War*, p. 4.

within certain limits. Although it had the effect of preventing prices from swinging very far away from the normal or secular trend, there was little check to the *rate* of movement between the effective limits. Many economists consider this system unsatisfactory or inadequate even under prewar conditions.

Mr. R. G. Hawtrey says : "Before the war the world *did* suffer gravely from the fluctuations in the commodity value of money, moderate as those fluctuations seemed to be." (1)

"So long as credit is regulated with reference to reserve proportions, the trade cycle is bound to recur. The flow of legal tender money into circulation and back is one of the very tardiest consequences of a credit expansion or contraction. If the Central bank waits for this flow to affect its reserves, and sits passively looking on at expansion or contraction gathering impetus for years before it takes any decisive action, we cannot escape from the alternations of feverish activity with depression and unemployment." (1)

The present situation is marked by two principal features : the existence in America of a surplus reserve of gold representing more than 40 per cent of the total monetary supply of the world ; and, in certain other countries, the complete lack of limitation on the issue of legal tender notes. In only a limited number of countries would the reserve situation act as a satisfactory check on the undue expansion of credit.

As regards the position in America, the following summary by Messrs. Ch. J. Bullock, O. M. W. Sprague and W. B. Donham is of special interest. "The creation of the Federal Reserve System by centralising our national gold reserves made them much more effective than before, and largely increased the potential volume of credit over pre-Federal Reserve days. In addition to this the country to-day possesses practically twice as much gold as it did in the year 1913. The increase is approximately $ 2,000,000,000, the total gold in the country being now nearly $ 4,000,000,000. Of this total over $ 3,000,000,000 is in possession of the Federal Reserve Banks where it is directly available as a banking reserve. Over $ 1,000,000,000 of this gold has come in since the summer of 1920, so that our credit basis is much larger than it was at the peak of the inflation period of 1919-1920. Adopting Professor Persons' estimate that under the Federal Reserve System the possible volume

(1) *Monetary Reconstruction*, p. 144. Longmans, Green and Co., 1923.

of credit which can be supported on a given quantity of gold is not less than ten times the amount of gold as compared with about eight times under the old National Bank Act, the available credit at present is at least two and one-half times as great as in 1913." (1)

Even those who are opposed to the control of credit in accordance with price movements are yet unanimous in declaring that the reserve situation in America provides no satisfactory basis for determining credit policy. Dr. A. B. Hepburn and Dr. B. J. Anderson, Chairman and Economist of the Chase National Bank, consider, for instance, that "the high Federal Reserve ratio, due to an artificial and abnormal excess of gold, constitutes no justification at all for reducing rediscount rates." (2)

If the old system is unsatisfactory, what method may be substituted for determining the issue of credit ? There seems no doubt that, in view of its influence on employment, on industrial relations and on social justice, the movement of the price index number should stand first as a guide to discount policy.

However, the movement of prices, though emphatically of first importance, cannot be considered as an independent and final criterion For a rise in prices does not always mean that trade is active, and a decline does not always point to depression

Professor W. C. Mitchell shows that, "contrary to a widely accepted opinion, prices do not always rise in the early stages of a revival and they do sometimes turn upwards during depression". This he illustrates in a footnote, stating, in particular, that "English index numbers show a slight rise in 1904 though the revival of business can scarcely be said to have begun before 1905". (3) If it is true, therefore, that an upward movement of prices can take place before the depression is spent, it seems clear that the price index number cannot be used as an infallible guide to the action desirable with regard to bank credit. For it would be folly, however rapidly prices were recovering, to add to the burden of industry by increasing the price of credit just at a time when business firms were

(1) *Harvard Business Review*, January 1923, p. 132.
(2) *The Chase Economic Bulletin*, 20 July 1921, p. 35.
(3) *Business Cycles*, p. 457. University of California Press, 1913.

with difficulty extricating themselves from the trammels of a general slump in trade.

It seems to be clearly the general opinion that, in the upward swing of prices, the discount rate should not be raised to a high figure until all the factors of production are very fully employed. Particularly is it important to maintain a very low rate of discount during the *initial* period of revival, even though this period may be marked by a swift recovery of wholesale prices. Such an attitude would apparently be strongly supported by the Federation of British Industries, whose report, published in October 1928, states :

"At the moment we are at the depth of an extremely serious depression of trade. Past experience shows that in such conditions a certain upward movement in prices is an invariable and inevitable accompaniment of the process of recovery. The object of a policy of price stabilization, therefore, should not be to stabilize prices at the abnormally low level shown by the index number at the bottom of a severe depression, but at such an increase on this level as normal trade activity would entail."

Assuming, however, that the policy of maintaining a low rate of discount were followed during the earlier part of a trade revival, the question would then arise as to the means for determining when the recovery is so far advanced as to necessitate a change of policy.

Professor T. S. Adams states the proposition thus : "At some point in the cycle, borrowers and buyers ask for credit which in their own and the public interest should be refused. To do this it is necessary *(a)* to find some practical test or index by which to determine when the time for credit restriction has arrived..." (1) He goes on to describe the criteria which have been proposed in solution of this question. "The starting point of the recent discussion of this subject (the use of the discount rate) is found in O. M. W Sprague's initial proposal that the discount rates of the Federal Reserve Banks should be sharply raised, regardless of reserve ratios when the capital and labour of the country are fully employed and when, therefore, there can be little or no increase of output in response to the stimulus of additional credit and rising prices. The proposal is based on the thought that credit is

(1) *Business Cycles and Unemployment*, p. 262.

overextended, not when the reserve ratios are threatened, but when production has reached its peak and further credit results principally in fruitless speculation."

Here then we have two criteria suggested, the employment index and the index of production. The same two indexes are recommended for use by Messrs. Foster and Catchings, writing for the Pollak Foundation for Economic Research. "The pertinent question is, in what stage of the business cycle should we attempt to stabilise prices ? Certainly not at any stage in which the volume of employment and production can be increased by a rise in prices. We have noted the fact, however, that in the upward swing of the cycle, the stage is reached, sooner or later, in which rising prices and rising wages cannot increase the volume of employment and actually decrease the volume of production. No matter what the level of prices happens to be, therefore, it is the right time to attempt to stop further changes when employment and production have reached a maximum. How can we tell when that stage has been reached ? From our available indexes of employment and our available indexes of production, we cannot tell exactly. There is nothing, however, except a recognition of the importance of these measures, to prevent us from making them as nearly accurate as need be ; and, compared with the losses we are seeking to prevent, the cost of perfecting these measures and keeping them up-to-date would be trifling. Even with the imperfect indexes at hand, it seemed probable, early in 1923, that further increases in the volume of currency and credit in circulation would prolong the period of rising prices, with its attendant evils and prospective collapse, without increasing the volume of employment and production." (1)

Professor Mitchell's examination of the question follows much the same lines. "Professor Sprague has proposed to use index numbers of physical production such as have been made recently by Day, King, Snyder, and Stewart as a basis for discount policy. These series show that the increase in volume of business after a depression is for some time produced mainly by a rapid increase in the output of serviceable goods. During that phase of the cycle expansion is economically desirable. But whenever the existing industrial equipment is booked to capacity and the industrial army is fully employed, then future

(1) *Money*, pp 366-367 Houghton Mifflin Company, 1923.

growth in the supply of serviceable goods slows down to the rate at which new equipment and new hands can be provided and improved technical methods devised. After this point has been reached in the cycle a further rise of prices serves not to increase the current supply of serviceable goods, but to create confusion in the markets, to stimulate disserviceable speculation, and to produce the credit entanglements which cause so much anxiety during the crisis and prolong the period of liquidation. Our aim, accordingly, should be to check the rise of prices when the index numbers of physical output indicate that the limit of existing capacity is being approached. At that point it would be desirable to raise discount rates — even though reserve ratios might still be high." (1)

Mr. F. W. Pethick Lawrence suggests a further index. "What would really help to regulate trade would be to begin to contract credit as soon as stocks of finished articles unmarketed showed signs of increasing... and to begin to expand it as soon as they showed signs of diminishing." (2)

It is thought that an index of stocks might be of considerable value if it showed the proportion with merchants and retailers as compared with manufacturers. For with the former class the incentive to speculation provided by rising prices causes an unwarranted accumulation of finished goods during the boom, a factor which results in the very serious aggravation of the depression. Manufacturers, on the other hand, produce for stock merely in order to avoid inactivity of labour and plant when the market is too sluggish to absorb their goods. To restrict their credit under such circumstances would be unreasonable. In the case of the merchant class, it might, however, be advisable to refuse credit for speculative purchase during the latter part of a boom. And for this purpose an index of stocks with middlemen and retailers, sub-divided as much as possible by trades, might prove of use. It is not considered that an index of stocks would be a satisfactory criterion for judging when the moment had arrived for the *general* restraint of credit

The perfecting of indexes for the guidance of banking policy is a matter which requires much careful examination in the light of different theories of cyclical movements. Comparatively

(1) *The Stabilization of Business*, pp 42-43 The Macmillan Co., 1923.
(2) *Unemployment*, p. 53, Oxford University Press, 1922.

little discussion has so far been given to the question. The general conclusion may, however, be stated that, whereas it is desirable to prevent, as far as practicable, rapid fluctuations in the level of prices, the movement of this level cannot be regarded as the only criterion for determining the discount policy of banks. It should be supplemented by indexes devised to show how fully the available forces of production are employed. (1)

(1) Some further indication of the manner in which employment statistics may be used in conjunction with the price index number is given at the end of the next chapter.

CHAPTER VI.

The Influence of Rapidly Rising Prices on the Volume of Employment and Production.

In considering the desirability of applying the monetary brake to prevent rising prosperity from developing into a speculative boom, it is important to form some estimate of the possible gain in total production which may accrue from the period of rapidly rising prices. Evidence has already been given to show that this period contains elements which lead to injustice and hardship during both boom and depression; but the general observer still retains the impression that these disadvantages may be largely compensated by an increase of production during the period of intense activity. It becomes necessary, therefore, to gain some idea as to how real may be the development during this period and how far it may add to the total physical volume of production.

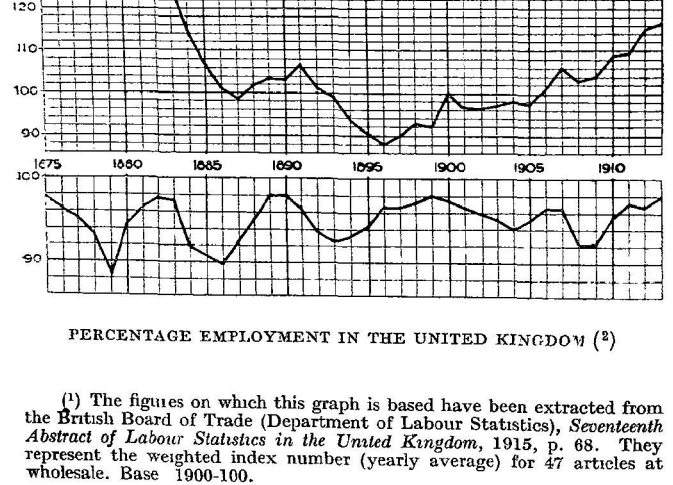
Owing to the paucity of statistics of total production it might be advisable to show, first, the extent to which employment may be increased during a boom and, secondly, the relation between employment and production. In this way it will be possible to relate production indirectly to price movements.

Employment and Rising Prices.

Two graphs are given below: the one showing wholesale prices in Great Britain from to 1913 and the other showing the percentage of employment for the same period. From an

examination of the periods preceding the years 1891, 1900, 1907 and 1913, it will be seem that employment rose to within 1 ½ per cent. of the maximum for the period about eighteen months or two years before the peak of the boom, that is to say, before prices began to show a marked rise. Thus in 1889 employment had reached 97.9 per cent., this being the maximum yearly average for the period, in spite of the boom continuing until 1891. In 1898 employment stood at 97.2 per cent., the maximum for the period being 98.0 and the boom continuing until 1900. In 1905 the employment percentage was 95.0, the maximum being 96.4 in 1906, and the rise of prices continuing until 1907. The percentage reached in 1911 was 97.0, the maximum being 97.9 in the culminating year of the boom, 1913.

WHOLESALE PRICES IN THE UNITED KINGDOM (1)



PERCENTAGE EMPLOYMENT IN THE UNITED KINGDOM (2)

(1) The figures on which this graph is based have been extracted from the British Board of Trade (Department of Labour Statistics), *Seventeenth Abstract of Labour Statistics in the United Kingdom*, 1915, p. 68. They represent the weighted index number (yearly average) for 47 articles at wholesale. Base 1900-100.

(2) The figures on which this graph is based are taken from the publication (page 2) mentioned in footnote (1). The original statistics represent the percentage of unemployment (yearly average) in trade unions which paid unemployment benefit to their members Persons on strike or locked out, sick or superannuated were excluded. The unemployment figures have been inverted so as to show percentages of employment.

It would seem to follow that the period of most rapidly rising prices can only add, at the most, about 1 ½ per cent. to the forces of labour employed, and in some cases has even shown a fall in employment.

The Relation between Employment and Production.

The question then arises how far it may be possible to add to total production by the absorption of this maximum of 1 ½ per cent. of additional labour and by the working of overtime. There seems reason for assuming that only a negligible increase can be affected by this means, for it is generally recognised that labour efficiency declines during a boom and thus tends to offset the advantage gained from additional labour and extra hours of work. Any actual development in production which may take place would be accounted for very largely by the improvement of methods and plant. Some considered opinions on this question are quoted below.

Professor Mitchell believes that "the efficiency of labour declines because overtime brings weariness, because of the employment of 'undesirables', and because crews cannot be driven at top speed when jobs are more numerous than men to fill them" (1).

Messrs. Foster & Catchings, of the Pollak Foundation for Economic Research, emphasise the same belief that little additional output is possible through a regime of rapidly rising prices. "Inflation, it is true, increases profits, and profits stimulate industry: but the stimulus falls like the gentle rain from heaven on the just and the unjust — the producers who hinder as well as those who aid the winning of the war and the winning of the peace that follows. Furthermore, the stimulus is only temporary. Although rising profits at first increase production, they also increase a discontent that soon interferes with production. The object of Government financing in the United States during the World War was necessarily to obtain more goods; and more were obtained as long as increased bank credit enabled employers to put idle people and idle machinery to work. The country soon reached the point, however, where it was employing virtually every man and every women who

(1) *Business Cycles*, p. 573. University of California Press, 1913.

was able and willing to work. After that, employers could add to their own staffs only by taking laborers away from other employers. At this point, competition among employers for workers inevitably resulted in higher wages and, consequently, in new demands on the banks for increased working capital. But bank credit created for the purpose of enabling somebody to take workers or orders away from somebody else did not increase production. There was no gain in the efficiency of the workers : on the contrary, the workers, already incensed over what they called 'war profiteering', had less incentive to efficiency than ever, since they knew that, if they lost one job, they had only to go across the street to find another job. All this was clearly predicted by a number of economists early in the war. In 1917, Carl Snyder said : 'Production, and therefore the actual volume of exchanges, is practically at the limit and has been for a year or more. No expansion of bank credits can put this production any higher. It follows, therefore, as a practical fact that any expansion of bank loans now means inflation — to all practical intents, dollar for dollar' " (1).

The evidence from French sources also corroborates the opinion that after a certain stage has been reached in the recovery of industry, little further increase in production can be effected as a result of rising prices.

Dr. François Simiand, who has made a special study of wages, prices and production in French mines, shows that a stage is reached in the upward trend of the price cycle when the "average daily output per worker no longer increases and may even diminish" (2). This he attributes in varying degrees to the absorption of "a larger proportion than previously of mediocre, less experienced and less efficient workers"(3); to the exploitation of "poorer mines, new mines and less productive mines" (4) ; to a relative increase in the employment of manual labour as compared with mechanical power ; to "diminishing economy in organisation and in the utilisation of labour itself" (4) ; and to a reduction in effort on the part of the worker when conditions improve and the struggle for livelihood becomes easier.

(1) *Money*, pp. 72-73. Houghton Mifflin Co , 1923.
(2) *Le salaire des ouvriers des mines de charbon en France*, p. 203. Edouard Cornély & Cie, 1907.
(3) *Ibid.*, p. 206.
(4) *Ibid.*, p. 212.

Professor A. Aftalion gives the following statistics in illustration of the theory that the daily output per worker diminishes during periods of boom (1).

TABLE I. — FLUCTUATION IN THE DAILY OUTPUT PER WORKER IN THE COAL AND IRON MINES, AND IN THE SMELTING FURNACES OF FRANCE.

Coal mines.		Iron mines.		Blast furnaces.	
Year.	Daily out-put in kilogrammes per worker	Year.	Tons per Year per worker.	Year.	Tons of cast iron per year per worker.
1857	471	1856	189		
1866	*536*	*1860*	*203*		
1867	533	1862	184		
1872	*588*	*1869*	*315*		
1875 ?	528	1874	251	1873	96
—	—	*1880*	*357*	*1879*	*117*
1882	641	1881	352	1880	115
1889	*756*	*1888*	*562*	*1886*	*152*
1892	682	1891	517	1890	198
1898	*750*	*1896*	*576*	*1895*	*239*
1902	670	1901	521	1900	222
1905	*710*	*1904*	*671*	*1903*	*263*
1909	669	1908	620	1907	238
1910 ?	*672*	*1910 ?*	*736*	*1909*	*232*

According to the index numbers prepared by Mr. Sauerbeck, prices reached maxima positions in the years 1847, 1857, 1864, 1873, 1880, 1891, 1900 and 1907. It will be seen therefore that the years of maximum output per head, which are marked in italics, hardly ever occur during the period of boom.

Further evidence of a similar nature has been collected by Mr. D. H. Robertson (2) :

"Thus there is good evidence that in times of boom in any trade the high value attached to leisure by the manual workers is a factor which operates to restrict production below the level at which the business man desires to maintain it. This influence is particularly strong in the coal trade, where the marginal utility of 'a straight back and the sunlight' is naturally peculiarly high. Thus Mr. D. A. Thomas repeatedly complains that in times of high prices and high wages there is a strong tendency

(1) *Les crises périodiques de surproduction*, Vol. I, p. 216. Marcel Rivière & Cie. 1913.

(2) *A Study of Industrial Fluctuation*, pp. 207-208. P. S. King & Son, Ltd., 1915.

among colliers to work less hard, so that the output per man is diminished ; and gives the following figures in illustration :—

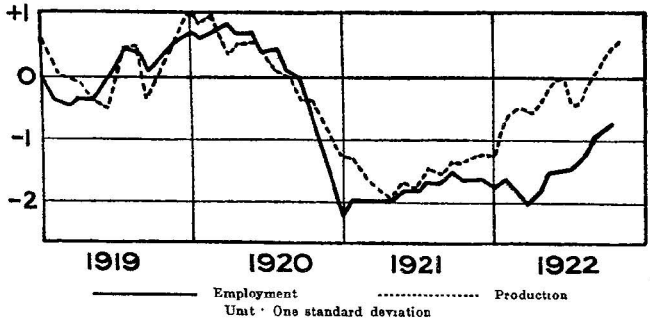
Year.	Great Britain Price per ton.	Output per man.		South Wales Output per man.
1870	9.47 s.	321 tons		320 tons
1874	10.98 s.	235 »		222 »
1888	8.27 s.	333 »		
1891	11.96 s.	296 »		
			Wage index.	
1899	10.53 s.	320 »	100	294 »
1901	13.73 s.	287 »	140	254 » (1)]

"The tendency, however, is not confined to the coal trade. It has recently been a source of considerable embarrassment in the Liverpool docks, where it has been intensified by the self-denying ordinance of the employers as to the restriction of imported labour. Again in 1889 'towards the end of the year especially there were frequent complaints that in some branches of trade the men were not working so steadily as they did when wages were lower' (2)."

The relation between employment and production has been made the subject of special study by Dr. W. A. Berridge whose data reveals a very close correlation between the two indexes.

"Chart 8 shows the employment and production indexes fully corrected for seasonal and other variations. Here, as in certain earlier charts, the inequalities in the vertical amplitude of the two curves have been lessened by using the standard

CHART 8. ADJUSTED INDEXES OF EMPLOYMENT AND PRODUCTION, 1919-1922.

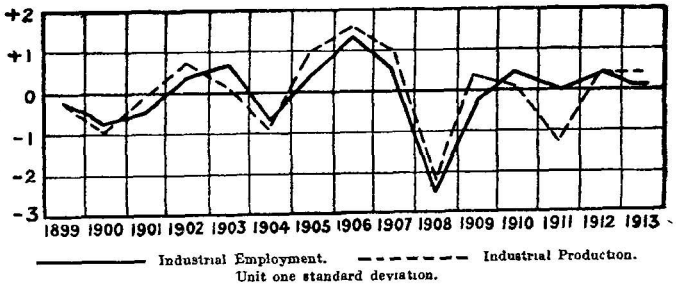


(1) Article on coal exports, *Stat. Jour.*, 1903. Cf. the same authority in *Fortnightly Review*, 1893, p. 301, and his comments on a paper by the present writer, *Stat. Jour.*, Jan. 1914, p. 174.

(2) *Economist History* of 1889

deviation as the vertical unit. Chart 9 shows the employment index thrown into annual form and extended back to 1899. It is constructed by weighting the New York, Massachusetts, and New Jersey data, on the 5-3-2 basis. The curve is shown for comparison with Professor Day's annual production index for all manufacture. The correlation, represented by a coefficient of + 0.86, is high.

CHART 9. EMPLOYMENT AND PRODUCTION, 1899-1913.

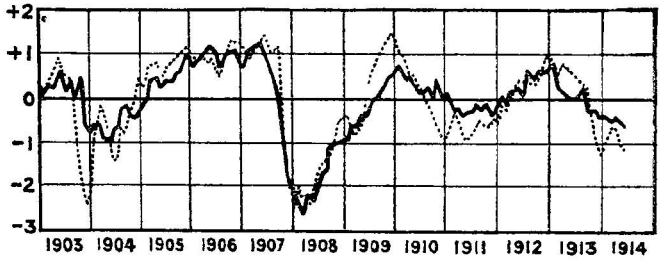


"These two agreements — in annual form before the War and in monthly form since the War — are very close despite the differences in the source and nature of the two groups of data. The high order of agreement suggests the possibility of utilizing employment as an index of the monthly production cycles prior to the War. Since very few production series other than that for pig iron were available in monthly form at that time, employment provides a much more comprehensive basis for picturing the monthly pre-War cycles of industrial activity than can be obtained from evidence as to production. The employment index covers not only a much wider variety of lines, but more advanced stages of fabrication than could be represented in a pre-War index based on monthy production data.

"Chart 10 shows the monthly index of employment compared with pig-iron production. Here again the agreement is very close (+0.89). Further substantiation of the validity of employment as an index of business activity is found in the relations of employment to other series representing the volume of business, such as bank clearings outside New York City. These relationships afford conclusive evidence, in

support of that here presented, that employment yields a highly satisfactory index of industrial cycles both before and since the War." (1)

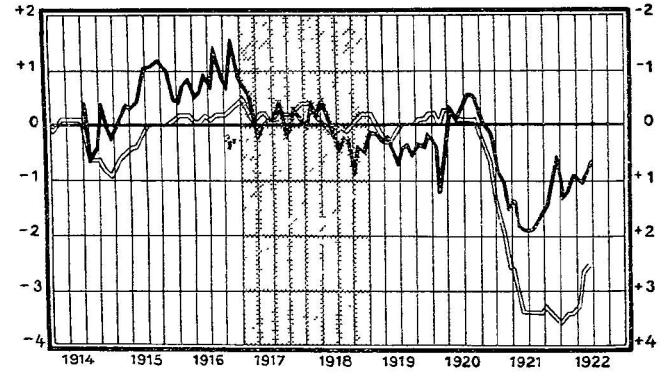
CHART 10. EMPLOYMENT AND PIG IRON PRODUCTION, 1903-1914.



——— Employment . Pig iron production.
Unit one standard deviation.

The following chart, extracted from the *Swedish Economic Review* of September 1922, page 2, also shows a high degree of correlation between employment and production.

SWEDEN : PRODUCTION IN THE BASIC INDUSTRIES, AND EMPLOYMENT.



Index of the Volume of Production in the Basic Industries · iron, steel, wood-goods, and pulp (———) and employment index (═══)

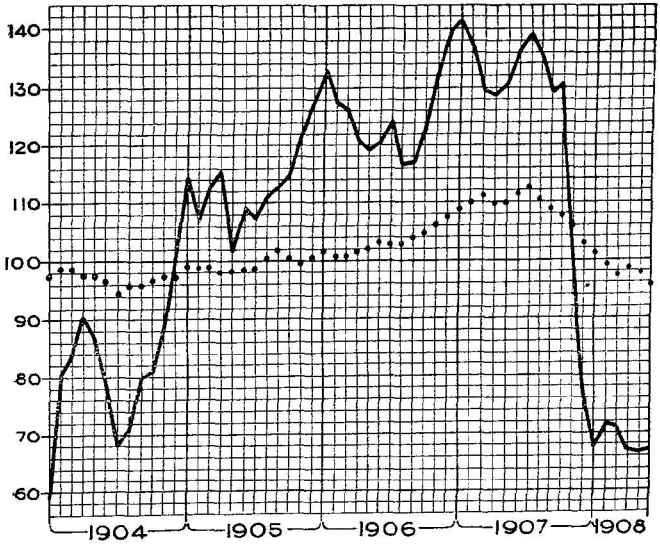
(1) *Cycles of Unemployment*, pp. 64-67, Houghton Mifflin Co., 1923.

The existence of such a close relationship between employment and production would seem to be full justification for assuming that, when employment is approaching its maximum limit, production is also nearing the point at which any further increase is impossible.

Statistics of Production.

Further statistics of production are given by Professor A. H. Hansen, of the University of Minnesota, in his "Study of Monthly Data for the Cycle 1902-1908". The following graph

COMMODITY PRICES AND PIG IRON PRODUCTION IN THE UNITED STATES.



reproduces his index number for the production of pig iron in America (1) (this commodity being very representative of production as a whole). It will be seen from this graph that during the period January 1904-December 1905, there was a

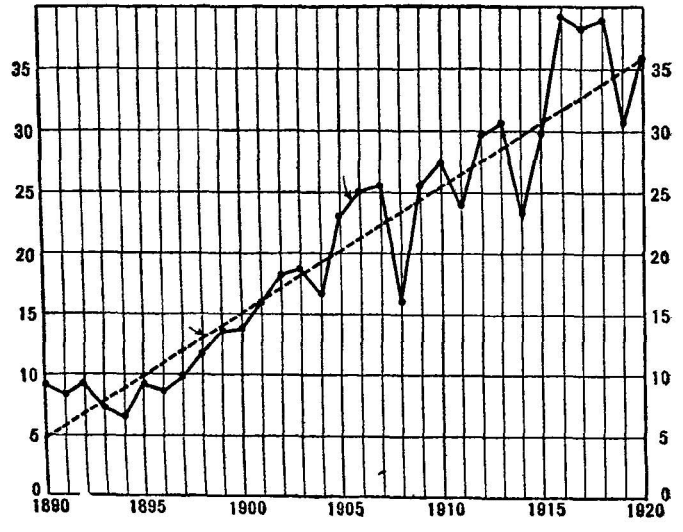
(1) *Cycles of Prosperity and Depression in the United States, Great Britain and Germany*, pp. 47-49. University of Wisconsin Studies, No 5.

very marked recovery in output, the index number moving from 59.1 to 127.8. The rise of prices during this period was comparatively small, *i. e.* from 97.5 to 100.3. During the next 18 months there was a comparatively small increase of output yet the price index number rose 12 points, touching a maximum of 112.3 in July 1907.

The statistics given by Professor Hansen for German industry (1) show the same effect, though not to such a marked extent. In the two years, January 1904 to January 1906, the index number of pig-iron production showed a rise from 90.1 to 110.3. In the 18 months following, during which prices rose rapidly to their culminating point, the pig-iron index at no stage reached more than 116.

Professor Mitchell gives the following chart of pig-iron production in America for the years 1890-1920 (2) showing, by means of a dotted line the "secular trend" or normal growth of output in this industry. By comparison with statistics of

PIG IRON PRODUCTION IN THE UNITED STATES.



(1) *Ibid*, pp. 69-70.
(2) *The Stabilisation of Business*, p. 6, The Macmillan Co., 1923.

commodity prices, it will be seen that, in the later years of the price boom, the rate of increase of production tends to decline and the curve runs parallel with the secular trend (note, for instance, the years 1899-1900, 1902-1903, 1905-1907, and 1912-1913).

Post-war statistics should of course be quoted with considerable reserve. Nevertheless, the table below, which has been extracted from the British Board of Trade *Statements of Currency Expansion, Price Movements and Production in certain Countries*, (p. 10), throws some interesting light on the relation of rising prices to production. It will be remembered that prices rose sharply in 1918, accelerated in 1919, and reached their culminating point, for most countries, in the summer of 1920. The year 1919 and early 1920 gave the impression at the time of being a period of unprecedented industrial activity, and yet, in the case of each commodity quoted in the report, a decline in production is shown for the year 1919.

Output of Coal in United Kingdom, United States, France, Belgium, Netherlands, and Germany.

Year	Monthly average ·	Metric tons	Proportionate figures
1913	. . . . .	87,286,000	100
1918	. . . . .	84,368,000	96.7
1919	. . . . .	73,630,000	84.4

Output of Pig Iron in United Kingdom, United States and Germany.

Year	Monthly average :	Metric tons	Proportionate figures
1913	. . . . .	4,565,000	100
1918	. . . . .	4,842,000	106.1
1919	. . . . .	3,742,000	82.0

Output of Steel in United Kingdom, United States, and Germany.

Year	Monthly average ·	Metric tons	Proportionate figures
1913	. . . . .	4,575,000	100
1918	. . . . .	5,533,000	120.9
1919	. . . . .	4,257,000	93.1

World's Production of Wool.

Years	Millions of lbs	Proportionate figures
1913	2,980	100
1919	2,735	91.8

Thus, from such statistics as are available for both pre-war and post-war production, there would seem strong reason to believe that the latter period of prosperity, marked by the

most rapid rise of prices, can add relatively little to the total output of the community. The principle reason for this appears to be that the shortage of labour, which is a prominent feature of the period, is effective in curbing the growth of total production, not only through the actual lack of working force, but also as a consequence of the tendency to declining efficiency.

From the same data it may be concluded that a gradual rise of prices is all that is necessary to enable industry to recover a high pitch of efficiency. Historical proof is supplemented by recent events in America. The *Federal Reserve Bulletin* of May 1913 states (pp. 540-541): "The growth in the physical volume of production since the middle of 1921 indicates a rate of industrial recovery almost without parallel in American business. Within a year and a half after recovery began the monthly output of 21 basic commodities, as measured by the Federal Reserve Board's index of production, increased over 67 per cent. The volume of goods produced and consumed during the first quarter of 1923 probably exceeds that of any similar period in the history of the country. Fuller employment of equipment and of labor has produced the additional income from which profits and wages were realized. In fact, profits in many lines of industry have been dependent upon quantity production, the lower production cost per unit more than offsetting the increased cost of materials. It is partly in consequence of larger output that the prices of manufactured goods have not more fully reflected the increases in prices of raw materials. Larger pay rolls also until quite recently have resulted chiefly from increased employment rather than from advances in wage rates. These increases in production and employment have thus far economically justified the increases in the total volume of bank credit. For credit extension does not result in overexpansion so long as the additional credit yields proportionate results in the larger production and marketing of goods."

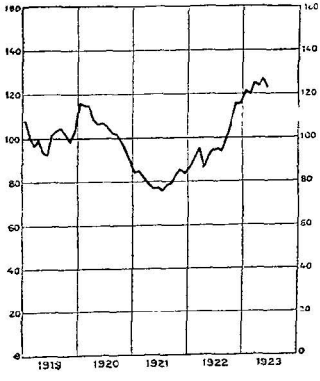
Later. the same Bulletin states (p. 545) that: "Production in basic industries, according to the Federal Reserve Board's index, increased 4 per cent. in March to a level 8 per cent. higher than at the 1920 peak and 69 per cent. above the low point of 1921. The output of pig iron, steel ingots, automobiles, and crude petroleum, and the mill consumption of cotton exceeded all previously reported monthly totals. Building operations showed a further large expansion, and the value of contracts

let for residences in March was the highest on record. Railroad freight shipments have been larger every week this year than in the corresponding weeks of the past four years."

In the August number of the *Federal Reserve Bulletin*, the following graphs are shown side by side:

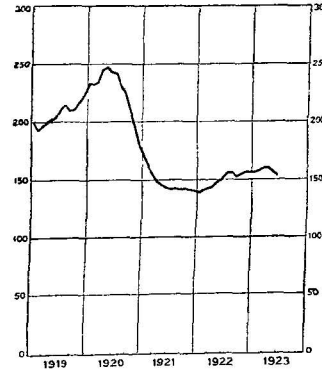
INDEX OF PRODUCTION IN BASIC INDUSTRIES

Combination of 22 individual series. Corrected for seasonal variation. (1910 = 100)



PRICES

Index numbers of wholesale prices, United States and Bureau of Labor Statistics. (1923 = 100, the base adopted by Bureau).



The recovery of wholesale prices from the uneconomic level of the depression was doubtless a necessary accompaniment of trade revival. Retail prices have, however, shown no appreciable fluctuation during this period. Such an unprecedented recovery of industry without the stimulus of a rapid rise in prices seems very strong presumptive evidence that booms in prices are not essential to the full development of production.

Conclusions.

Statistical information is not as complete as would be desirable for the study of an important question such as the relation between production and price movements. However, there does seem sufficient evidence to confirm certain very broad conclusions:

Industry can recover a high pitch of activity without the stimulus of a rapid rise in prices.

Output may be increased so long as it is possible to absorb more labour into the productive process. As soon as shortage of labour is felt, the rate of increase must slow down to approximately the normal rate of expansion due to improvement of methods. Although this period of shortage is not accompanied by any considerable growth of production, it is frequently marked by rapidly rising prices.

How far do these considerations assist in determining the moment for the restraint of credit expansion ? Emphasis seems to be on the employment index as providing the most valuable guide. For, from historical evidence, a fairly close estimate could be made of the figure which employment may reach before shortage of labour becomes effective in restraining the growth of production and in causing further credit expansion to be reflected in rising prices. The perfecting of unemployment statistics, in such a way as to show the *causes* of loss of work, might also materially assist in determining when this stage had been reached. In the meantime, the employment index, rough as it may be, if taken in conjunction with the movement of the price level itself, would form an admirable criterion for the guidance of discount policy. A tendency on the part of the employment index to turn down towards the horizontal, [1] coupled with an upward turn of the price index number, would be the strongest possible evidence that the time had come to regulate credit strictly in accordance with the needs of industry as expressed by the volume of goods coming on the market. In other words, after this point had been reached, the movement of the price level would be the principal guide, the object of credit policy being to prevent the rate of movement from attaining any degree of rapidity. If the upward movement discontinued and a minor crisis ensued, credit would immediately be eased to prevent an abrupt decline in prices. By such means it would seem possible to rule out the extremes of boom and depression, thus maintaining industry permanently on a more level keel.

[1] After a comparatively high level of employment, varying according to the country, had been reached.

PART II.

THE PRACTICAL ISSUES.

CHAPTER VII

Limitations on the Use of the Discount Rate.

The discount rate has been described in an earlier chapter as the price demanded by banks for the credit they issue. If the demand for credit is inelastic, a change in the price will have little influence on the amount issued; there are occasions when the market will hardly respond at all to the inducement of a low price, and there are other times when a high price will fail to restrain the growth of borrowing. Some influence will always be exerted, but sometimes the influence will not be decisive.

In illustration it might be shown that when a State is borrowing for war expenditure or for any other purpose, it may override any consideration of cost. In the case of a State which fails to meet its annual expenditure from revenue, the only way of making up the deficit is to borrow from the banks or from the public. When the State borrows from the bank, the obvious result is expansion of the purchasing power of the community, tending to a rise in prices. Under such circumstances the restraining influence of a high discount rate could hardly be expected to be decisive.

The evidence of the Commission on Currency and Exchange of the Brussels Conference is particularly significant in this connection:

> "The chief cause (of inflation) in most countries is that the Governments, finding themselves unable to meet their expenditures out of revenue, have been tempted to resort

to the artificial creation of fresh purchasing power, either by the direct issue of additional legal tender money, or more frequently by obtaining — especially from the Banks of Issue, which in some cases are unable and in others unwilling to refuse them — credits which must themselves be satisfied in legal tender money. We say, therefore, that —

II.

"*Governments must limit their expenditure to their revenue. (We are not considering here the finance of reconstructing devastated areas.)*

III.

"*Banks, and especially Banks of Issue, should be freed from political pressure and should be conducted solely on the lines of prudent finance.*" (1)

There are a number of States which have not yet reached this preliminary stage in the process of stabilisation. It would be of no immediate value, therefore, to discuss the application of the discount rate to such countries. Where this unfortunate situation still obtains, the most that can be done is to reiterate with insistence the unanimous recommendations of this Conference of experts, whose warnings are in some respects even more vital to-day than they were three years ago.

There are, however, many important countries where a large measure of control still rests with the banking institutions. On such countries it would be desirable to concentrate most attention.

A second limitation upon the free control of credit by means of the discount rate is imposed by the reserve situation of the banks. Speaking generally, for every increase in the amount of loans issued, there must be a corresponding expansion of hand to hand cash for the payment of wages, the settlement of small claims, and every-day personal transactions. The amount of such cash, 'legal tender' or 'lawful money' which is required, bears a fairly constant ratio to the amount of loan credit issued.

(1) Report of the Conference, p. 18.

A bank is therefore obliged at all times to keep a reserve of legal tender cash sufficient to meet all claims which may be likely to be made upon it as a result of its issue of loan credit. It will be seen, therefore, that if there is a limit to the extension of this basis of legal tender cash, there must equally be a limit to the growth of the superstructure of credit.

To take a concrete example, the principal legal tender currency of Great Britain is the currency note. The amount of these notes which may be issued is governed by the Treasury Minute of November 1919, which limits the total fiduciary issue in any year (the issue in excess of gold, silver, and Bank of England notes held in the currency notes redemption account) to the maximum actual fiduciary issue of the previous year. The establishment in this way of a maximum for each year which can never rise, but which in years of depression is likely to fall, can only lead in the long run to a contraction of the basis of legal tender. The superstructure of credit built on this foundation of cash must, perhaps within more elastic limits, follow the same course of contraction. As a result, a time must come when banks, although preferring in the interests of industry to increase the volume of credit by maintaining a low discount rate, would be obliged, owing to the limitation of their cash basis, to raise the rate in order to restrain the growth of credit. This example must be regarded as of purely illustrative value, since the Treasury Minute to which reference is made, was a temporary measure and may presumably be repealed as occasion demands.. However it does provide a concrete example of the potential limitation of the free use of the discount rate through the reserve situation.

Speaking of the method of controlling prices by means of the discount rate, Professor Fisher says: "This adjustment would not of itself, however, be sufficient to keep the price level stable; for while it controls the credit superstructure, it does so only *relatively* to the metallic base and if this base is uncontrolled relatively to the needs of business, the credit superstructure being proportional to the base, that credit superstructure is equally uncontrolled relatively to the needs of business." (1)

Under an effective gold standard, when the monetary unit is always exchangeable for an unvarying weight of gold, the

1 *Stabilising the Dollar*, p. 172. The Macmillan Company, 1920.

credit expansion possible is ultimately dependent on the available reserve of gold. There must therefore be a limit to the expansion of credit, a factor which, prior to the war, was effective in preventing any abnormal fluctuations such as might occur under an uncontrolled non-metallic standard. This limitation might however become operative at a time when it was not desirable and might prevent the expansion of credit when such expansion was in the interests of industry. An unrestricted currency would, on the contrary, permit the application of whatever policy might be considered expedient at any time. In estimating the value of a gold standard, the choice lies therefore between the desirability of having an automatic check to expansion (and possible inflation) on the one hand, and the permanently unfettered judgment of the "discount rate controllers" (and the possible abuse of their power) on the other.

The principal argument advanced in opposition to the latter proposal is that the bodies at present in control cannot be trusted or are not competent to regulate the discount rate according to sound principles. They are said to be either "the football of politics" or are competitive, profit-making organisations conducted according to principles of self-interest.

There is, however, a further question of importance — the extent to which a monetary unit of unvarying gold content enables stability to be secured in the rates of exchange between different countries. Professor Cassel states: "The existence of a gold fund has no other importance than that of securing the finest stabilisation of the exchanges where a general stabilisation has already been attained as a result of the stabilisation of the internal values of the currencies by the aid of a discount policy." (1)

This consideration gives rise however to the question whether the existence of a gold fund is essential even for the purpose of this "finest stabilisation." Since the war, the Austrian exchange rate with the United States has for seven months been held at a far more stable level than would have been possible under the pre-war system. This stabilisation has not depended on the flow of gold from one country to another, or on the maintenance of a gold standard.

Professor Verrijn Stuart comments as follows on this question. "I need not devote much space to the argument that a

(1) Address before the International Chamber of Commerce, March 1923.

metallic system is essential for the maintenance of the parity of exchange. The level of exchange is determined by the relative purchasing power in the home markets of the money units of the countries which draw bills and have bills drawn on them. In normal times if the home currency becomes depreciated, each delivery of goods, stocks or claims to foreign countries, even to a limited extent, tends to restore the parity of exchange. Gold could certainly be used for this purpose, but its use is not essential, and in practice it plays but a minor part. If the depreciation did not supply its own corrective by the alteration in the balances of payments which it brings into force, the issue of cheques, supplemented by the traffic in bills and stock, would achieve the same results as the export of gold. And in abnormal times, such as the years following 1914, the metallic basis of the money systems proved wholly inadequate to guarantee a fixed rate of exchange — a fact borne out by the general prohibition of the export of gold." (1)

Whatever choice may be made in the future — even though it be for a return to the gold standard — the discount rate may still be used for retarding the rise or fall of the price level when the movement tends to accelerate. This slowing down of the rate of fluctuation would in itself be of value. It should be noted also that the reserve situation is only an absolutely dominating factor when shortage of legal tender is being felt. At all other times the discount rate may be used with perfect freedom. For instance, although there may be an excess of legal tender reserve, as is the case in America at present, this need not *compel* the application of a low discount rate. Except during the last months of prosperity and the early critical period of depression, the discount rate might at all times in the past have been regulated with complete disregard to the reserve situation. (2) Finally, it might be shown that even when a shortage of gold reserve is being felt this would not constitute a factor of essential importance if it were considered admissible to reduce the gold content of the monetary unit.

A third difficulty in the use of the discount rate arises from the fact that any approved policy can only be made effective through the medium of a large number of separate and indepen-

(1) *Economic Journal*, June 1923, pp. 152-153.

(2) This assumes that the policy would have been adopted on a fairly wide international scale and that political difficulties might have been overridden.

dent credit institutions. The cardinal problem in this case is that of finding some suitable means for bringing external pressure to bear upon the whole money-lending system in order to secure united action in the adoption of a desired policy. This may be done, and is done in certain countries, where there exists a central institution, a bankers' bank, which holds a large proportion of the cash reserves of the ordinary banks and lends them further cash when necessary. By varying the rate at which it will lend to dependent banks the central institution can influence considerably the rate at which they in turn are able to lend to their clients. Such a method of control is by no means perfect and, of course, does not exist at all where there is no central agency. The problem of securing effective control by this means will be discussed at greater length in the next chapter, but it is necessary to note here a possible lack of national cohesion in the application of the discount policy, which must be regarded as a potential limitation to the regulation of credit by means of the discount rate.

In the fourth place, the efficiency of this method of control may be impaired if action is so long delayed that the movement of prices has accelerated beyond restraint. A runaway speculative boom or a precipitous slump in prices may for some considerable period defy the curb of a high or low discount rate. The comparatively small part which this rate plays in the general costs of business during the rapid movement of prices is well brought out by Dr. A.B. Hepburn and Dr. B.M. Anderson, writing jointly in the *Chase Economic Bulletin* of 20 July 1921. Speaking of the boom period of 1919-1920 they say : "Similarly, the raising of the rediscount rate by the Federal Reserve Banks helped to check the boom. It made the interest element in cost of business go higher, and consequently helped make profits disappear. It was not, however, the chief element in the rising costs which swamped profits in so many businesses and compelled reaction. Labor costs rose also on an appalling scale, partly through rising wages and partly through growing labor inefficiency. Rentals rose startlingly on new leases. Raw materials rose. Cost multiplied through declining managerial efficiency. Demoralization of railroad traffic made for a great rise in costs. Coal rose to great heights, etc. Moreover, long before the Federal Reserve Banks raised their rediscount rates, interest rates in the open market were very high. The shortage of real capital and the shortage of

bank money reflected themselves in rapidly rising rates on all kinds of loans, well in advance of an increase in the rediscount rates of the Federal Reserve Banks. To attribute the rise in prices in 1919 to the low rediscount rates of the Federal Reserve Banks and to attribute the fall in prices in 1920 to the moderately higher rediscount rates of the Federal Reserve Banks, is to exaggerate in an absurd degree a minor factor in the general situation."

It might be noted in this connection that an 18-20 % rate of discount entirely failed to check the rise of prices in Germany in the early months of 1923.

Professor Mitchell makes the following rejoinder with regard to the difficulties confronting the application of the discount rate for controlling credit. "Three objections have been made to this suggestion that the excesses of booms can be tempered by advancing discount rates at an earlier stage than has been customary in the past.

"First, it is said that the measure would be ineffective. Bank discount is a minor item in most business undertakings, an item small in comparison both with other costs and with the profit margins anticipated in periods of prosperity. In this respect, we are told, American business differs notably from English business in pre-war days, when an enormous volume of international trading was done in London on margins so narrow that a change of a quarter of one per cent in the market rate of interest made a marked difference in the prospects of profits.

"There is force in this contention, but not, I think, enough force to contervail Governor Strong's opinion that an advance of discount rates would moderate the expansion of business. And moderation is what is wanted to prevent booms from producing those credit entanglements which make inevitable a long period of liquidation. Granted that most business plans would not be affected by an advance of even one or two per cent of the discount rate, there probably remains a considerable volume that would be affected directly, and a larger volume that would be affected indirectly by a signal from the banks to observe caution. To control these marginal transactions would help to relax the stresses that are accumulating within the business system." (1)

(1) *The Stabilisation of Business*, pp. 39-40. The Macmillan Company, 1923.

Mr. R.G. Hawtrey should also be quoted in this connection as having made a special study of the use of the discount rate. "When credit expansion with the concomitant upward tendency of prices has once set in, a rate of discount, which under normal conditions would be adequate or even high, becomes low relatively to the profits to be derived from the use of borrowed money. What is needed to secure control is such a rise in the rate as will deter traders from borrowing. But if prices are rising, the mere holding of commodities in stock yields an additional profit over and above the usual dealers' percentage on the turn-over. If traders are to be deterred from borrowing money to buy commodities, the rate of discount must be high enough to offset the additional profit.

"But, it may be asked, how is this possible when prices are rising at the rate of 30 per cent per annum ? No one would contemplate a rate of discount of anything approaching such a figure. Yet how can a lower rate be deterrent ?

"The explanation is that it is not the *past* rise in prices but the *future* rise that has to be counteracted. The problem is a psychological one. As soon as the rate is high enough to offset the traders' hopes of future profits it becomes deterrent. And a very relevant factor in the psychological problem is the traders' expectations as to the intentions of the authority which fixes rates. If that authority means business, and can be relied on to push up rates relentlessly till they become deterrent, the *mere expectation* that this will happen may make quite a moderate rate adequate. For the prospect of rising prices is dispelled and normal standards of profit and interest are re-established in the traders' minds." (1) In a further passage Mr. Hawtrey states : "It is perfectly true that the producer is not much troubled by the rate of interest he has to pay his banker. But that is not so in the case of the merchant or dealer, who is constantly carrying stocks of goods large in proportion to his own capital, and makes very nice calculations as to his margin of profit and the cost of borrowing. A moderate rise in the cost of borrowing will make the carrying of stocks appreciably less attractive to him. He will buy less and sell more, and so a fall of prices can be started....." (2)

(1) *Monetary Reconstruction*, pp. 107-108. Longmans, Green & Co.
(2) *Ibid.*, p. 140.

"The other branch of the problem, the counteracting of a loss of confidence, is not quite so certainly soluble. 'Loss of confidence' means an expectation that prices will fall, or that demand will contract. It is theoretically conceivable in such a case that no rate of interest, however low, would tempt dealers to buy goods. Even lending money without interest would not help, if the borrower anticipated a loss on every conceivable use that he could make of the money. Business got into something very like this state in England after the American crisis of 1893. Bank rate was kept at two per cent for upwards of two years before a revival began, and the open market rate for three months' bills fell below one per cent.

"But such a condition of stagnation is not possible except in the course of reaction from a riot of inflation. If the inflation is prevented, the stagnation will never arise." (1)

Mr. Hawtrey also notes the need for avoiding delay in the application of the monetary brake: "Credit is inherently unstable, and it can only be successfully controlled by perpetual vigilance and prompt action. Every disturbance from the normal, whether towards expansion or towards contraction, tends to magnify itself unless quickly checked by the appropriate rise or fall in the discount rate. Traders and bankers often deprecate rapid changes in the discount rate as being unsettling to business. But what is unsettling is the alternation between expanding and contracting credit. If credit, and therefore the flow of purchasing power, are kept approximately steady, the short-period changes in the rate of discount cause no trouble except in the highly specialised calculations of the discount market itself." (2)

One essential point would appear to stand out from this brief summary: that the discount rate tends to lose effectiveness as the movement of prices accelerates; and that, in consequence, any hesitation in using it in the earlier stages of a boom or depression would entail more drastic action later.

It would be an extremely difficult task to determine what may be considered a generally acceptable formula with regard to the control of the discount rate. One may safely say that no economist considers it possible to secure absolute stability by this agency. Many, however, believe that it may render

(1) *Ibid.*, p. 142.
(2) *Ibid.*, pp. 123-124.

possible the restriction of price fluctuations within very narrow limits, provided that banks are united and unfettered in their action. There are hardly any who will deny that the judicious use of the discount rate may at all times have a beneficial restraining influence on the rapidity of price movements. Those who object to its use for this purpose do so principally on political grounds.

Starting from this basis, it would be well to revert to the main point at issue. Unemployment is a scourge. If the manipulation of one factor in industrial organisation may lead in any way to a diminution of this evil, the immediate duty of all concerned would seem to be to strengthen this factor where possible and determine the soundest criteria for its use. The discount rate is a weapon ready to hand. Its exercise requires no enabling legislation and its application is even now in part controlled. How then may it be gripped and used with greater force and certainty ?

CHAPTER VIII.

Measures for Rendering the Discount Rate More Effective.

The problem of increasing the efficiency of the discount rate presents a two-fold aspect. First, it is necessary to determine how national unity may be secured in the adoption of any policy. This amounts in current practice to finding a means for rendering the central rate of discount effective in controlling the market rate. When this is secured, the further question arises of increasing the influence of the market rate over the expansion of credit.

The first suggestion which naturally occurs to the mind in discussing the problem of national unity is that no special financial machinery would be required at all if the banks were in a position to come together and agree upon some scheme of mechanically adjusting their rates of discount to conform to the movements of the central rate. Something of this nature seems to be contained in the proposal of Mr. Seebohm Rowntree, who writes as follows: "The suggestion is that bankers should co-operate to keep a very close watch on the condition of industry. When they see that it is expanding with dangerous rapidity they should apply the brake by raising the bank rate, and similarly, when there are signs of approaching depression, they should seek to stimulate industry by lowering the bank rate. Thus the peaks of over-production would be less high, the valleys of under-production less deep. It is, of course, easy to see many difficulties in the adoption of such a course. It assumes, on the part of the bankers, a greater freedom from the desire for immediate profits than is common among other business men, as well as a

prescience of industrial tendencies to which probably few bankers lay claim, while it requires a degree of co-operation among banks which would doubtless be exceedingly difficult to secure." (1)

How far such combined action would be possible or acceptable in any country would depend largely on its political and industrial traditions, and also on the extent to which banking was already centralised. As for the desirability of such a procedure, *prima facie* the problem might be stated thus: under existing competitive conditions the market rate of discount may stand at a figure which is socially disadvantageous; if, by the partial elimination of the factor of competition, banks can cause their rates to move in accordance with the broader interests of the community, as determined by the central rate, such combined action would seem highly desirable.

Several difficulties would, however, attend the formulation of any scheme whereby the market rate of discount was to follow automatically the movement of the central index. The classification of different kinds of loans, bills, securities, deposits, etc., in order to determine the various rates of interest or discount to be applied, might prove troublesome. A still more important consideration is that a bank must remain solvent, that it must regulate its reserves of cash, its deposits and its loans according to fairly constant proportions, and that the only method of so doing is to make adjustments as occasion demands in its rates of interest and discount. Any co-operative arrangement for the regulation of the market rate of discount would therefore need to be of a very elastic nature.

Probably the nearest possible approach to this method of securing joint action has already been achieved in London. Here the rate of interest on deposits of all the principal banks moves automatically with the discount rate of the Bank of England (the Bank Rate). When the Bank Rate was raised on 5 July last from 3 per cent. to 4 per cent., the deposit rate was likewise raised from 1 per cent. to 2 per cent. A further rise of of 1 per cent. in the Bank Rate would be reflected by a corresponding rise of 1 per cent. in the deposit rate, and so on. Now, since the deposit rate constitutes one of the principal *costs* of banking, any movement in this figure must be offset by a compensatory change in the banks' *prices*, *i. e.* their rates of discount. Hence, wherever by custom or necessity the deposit rate

(1) *Times*, 26 May 1923.

moves automatically with the central rate of discount, a considerable measure of control is thereby exercised over the market rate of discount. It would seem, therefore, that the London system might with advantage be extended to other financial capitals.

That such a method of control is not always effective is clearly brought out by Mr. Hartley Withers, who suggests that banks should go a stage further in their joint action and mutually decide not to "lend money to bill brokers or anybody else at a lower rate than one-half per cent. above that which they are giving to their depositors..." (1)

"Whether such an agreement is possible is another question. But the fact that a considerable number of the banks already work by mutual agreement in deciding on the rate at which they will lend money to their Stock Exchange clients is in favour of the possibility. And since the bankers already to some extent regulate the rate that they allow to depositors by Bank rate, such an arrangemant as is here suggested would introduce no new principle and effect no revolution, but merely carry the application of an established principle a step further. It would bring the Bank rate and the market rate into touch, yet quite distantly and elastically, and without establishing any cast-iron link between them. And it would enable Bank rate to work, not as now, with the assistance of artificial and expensive measures that have suddenly to be decided on and executed by the Bank of England, and upset calculations, and cause inconvenience and irritation, but by a continuous and normal relation between it and the lowest price at which credit is available in the market.

"Under such circumstances the other banks might fairly claim to have a more definite influence on the movements of the Bank rate; and any process which would lead to closer co-operation between them and the Bank of England would be a gain."(2)

Setting aside the problem of voluntary co-operation of banks, it would be well to discuss the manner in which central banks have made their rates effective in the past and how their power of control may be strengthened in the future. Mr. F. Lavington gives the following summary account of the system.

"Apart from collective action, a rise in the rates charged by the central banks works out its effects through several routes.

(1) *The Meaning of Money*, p. 240. John Murray, 1921.
(2) *Ibid.*, pp. 240-241.

By discouraging borrowing from the Bank itself, it tends to reduce the totals of Other Securities and Other Deposits, thereby initiating a rise in Market rates, directly through the contraction of loans, and indirectly through the contraction of the deposits which form the principal reserves of Joint-Stock banks. It leads also to a partial rise in the rates at which capital is supplied throughout the whole country; for a large and perhaps a growing part of loans of Joint-Stock banks are made at rates of interest which vary automatically with changes in the Official rate. Finally, each change in the Official rate is customarily followed by a meeting of the Clearing House bankers, and leads usually, though not always, to a rise in the rates allowed by them to the public for money lodged on deposit account. It seems to be true that a rise in Bank rate will always become effective if time is given for these various influences to work out their full results. But the Bank controls only a relatively small part of the total supplies in the short loan market; and the fact that it has at times to reinforce the influence of a rise in its rate by borrowing from the market shows that the Bank rate is inadequate as an effective means of dealing *immediately* with temporary disturbances. The lack of any close connection between Bank and Market rates marks, then, a definite weakness in the power of the Bank of England to carry out the duties with which it is entrusted." (1)

Thus, apart from any automatic changes in the deposit and loan rates of banks, already discussed, Mr. Lavington shows that the raising of the central discount rate is partly effective because it discourages further borrowing of cash by banks. If banks are unwilling to pay the higher price for the extension of their cash reserves, they are obliged to raise their own rates of discount in order to restrict the borrowing of their own customers.

The manner in which this system operates in America is discussed at considerable length by Professor C. A. Phillips, the following extracts being particularly relevant.

"Whenever shortage of reserve exists or threatens, the banker may tap the lending power of the bankers' bank and there, through rediscounting or direct borrowing on the secured obligation of his own bank, obtain an addition to his reserves in the form of either a deposit credit on the books of the bankers'

(1) *The English Capital Market*, p. 163. Methuen & Co. Ltd., 1921.

bank or of 'money' that may be paid out to meet demands for cash at the paying teller's window...." (1)

"How much a borrowing bank can lend on the basis of a reserve acquisition obtained through borrowing is ascertainable by the application of the formula.... already developed, page 54. The application of this formula indicates that a typical bank can increase its loans by approximately $1.22 for every dollar borrowed. A rate of *rediscount*, therefore, that equals or or exceeds the rate of *discount* tends strongly to check borrowing by the commercial banks." (2)

The problem of rendering this method of control more effective resolves itself into that of making member banks more dependent on the central banks for the maintenance and repletion of their reserves. (3) The larger the volume of loans borrowed from the central institutions, the more does the cost of these loans enter into the calculations of member banks when they are determining the rate to be demanded of their own customers.

The present position in the United States is extremely difficult owing to the excessive supply of reserve gold. As a result of their possessing large metallic reserves the member banks are not often obliged to have recourse to the privilege of rediscounting bills for the repletion of their cash resources. Consequently, they are very largely independent of the Rediscount Rate. For this and other reasons, many proposals have been put forward for producing an artificial shortage of gold. Messrs. Foster and Catchings suggest "an emergency measure which might help."

"Even without enabling legislation and without delay, the Federal Reserve Board could set aside a billion dollars or more of gold as a 'reserve against contingencies'. This special reserve might be earmarked 'for export'. In this way the Board could emphasise the fact that the time may come when this gold will best serve the economic world by being shipped abroad, and should not now be used as a basis for further inflation. Under

(1) *Bank Credit*, p. 114. The Macmillan Company, 1921.

(2) *Ibid.*, pp. 115-116.

(3) Professor H. Parker Willis, of Columbia University, casts some doubt on the belief that actual growth of membership would increase the power of the federal reserve system. "The reserve system would be a far more effective part of our financial organisation if it had a much smaller volume of assets and far fewer members but materially increased its activities".

(Political Science Quarterly, December 1922, p. 566.)

this plan, the reserve ratio—reduced to 50 or even lower— would be a less urgent invitation to expand bank deposits." (1)

A similar proposal is made by Messrs. C. J. Bullock, O.M.W. Sprague and W. B. Donham in the *Harvard Business Review* of January 1923. "The Federal Reserve Board and the regional banks might recognise and state the fact that there is in the country some such amount as $1,000,000,000 of gold in excess of the normal amount and they could further state definitely their intention to recognise this as an essential fact in their treatment of reserve ratios. During the last year or more prices have been comparatively stable and the reserve ratio of the Reserve Banks has been in the neighbourhood of 75 %. If $1,000,000,000 could be deducted from the reserves of the Federal Reserve System, this ratio would be reduced at the present time to something like 50 %, which would still allow for a considerable further expansion of business before the danger point was reached. If then the various regional banks and the Federal Reserve Board were to state that the present 75 % reserve will be treated by them as the equivalent of 50 % reserve, this would give a basis for executive decisions and would enable business men to estimate the probable future course of money rates. The exact readjustment in ratios which seems best should be determined by the Federal Reserve System and published at an early date."

Amongst such proposals should also be included any plan entailing the modification of the gold content of the monetary unit. To increase the weight of gold exchanged for the dollar would be equivalent to cheapening gold at the American mint. As a result of its reduced value this metal would tend to flow into the arts and to other countries where its commodity value was higher.

It seems questionable how far any of these proposals are politically practicable ; hence a further suggestion which takes account not only of the national situation but of international conditions might be relevant :

The level of prices is a factor of the greatest important in determining the volume of credit required, and thus the indebtedness of the business community to the banks and of the banks to the central institutions. If, by a very gradual process, the level of prices in America were permitted to rise a further 15 or 20 points, a corresponding increase in business credit would be

(1) *Money*, p. 362, Houghton, Mifflin Company, 1923.

required, and in order to meet this demand member banks would need to replete their reserves of cash by rediscounting more frequently at Federal Reserve Banks. Moreover, assuming that the price level of European and other countries were to remain constant during this period, a large number would be in a position to resume the gold standard as a result of the restoration of their pre-war exchange rates with America. (1) This would probably lead to their importing gold from America. A double pull would thus be brought to bear on the reserves of member banks, leading to their increased dependence on the Federal Reserve Banks.

The danger of such a procedure would lie in the possibility of the rise of prices getting out of control. If some temporary device could be adopted for investing the Federal Reserve Board with the necessary measure of control until, through the above process, more permanent control was secured by normal methods, the cause for anxiety would be largely removed.

As already indicated, there is no shortage of proposals to this end, but politically the difficulty of securing action would appear to be very great. It seems that the situation might, however, be very rapidly remedied if direct action were taken internationally with a view to relieving America of its embarrassing surplus of gold.

The third method which a central bank may adopt, when it wishes to cause the market rate of discount to rise to the level of the central rate, is to draw money from the market by the sale of securities. The payment for the securities is, in general, made by means of cheques drawn on other banks, so that the amount of cash thus absorbed by the Central bank "cancels so much of its liability under deposits, in other words, reduces the balances of other banks and so narrows the basis of credit, makes money dear, brings the market rate of discount into some connection with the official rate...." (1)

As a temporary and emergency expedient, the sale of securities in this way has been for many years the recognised policy of the Bank of England. The extension of this method would seem to be limited only by the amount of securities it may be

(1) Professor Cassel has proposed an arrangement of this nature as being specially advantageous from the European standpoint. His view would probably not receive support from those who would prefer to see gold entirely demonetised.

(2) *The Meaning of Money*, p. 229. John Murray, 1921.

feasible to hold. The system might, it seems, be adopted with advantage in other countries.

In various quarters of America, the system has received considerable recognition. It is of interest to note, for instance, that the principal part of Mr. Carl Snyder's proposal for the stabilisation of gold consists of : "Control of the note issue to be through the medium of the federal reserve banks, which should be required by law, on a change in the price level of, let us say, 3 per cent. (or whatever figure might be decided upon) to raise or lower the rate of rediscount by 1 per cent, or in the same way to raise or to lower their holdings of securities and acceptances by, let us say, some conventional figure like 100 million dollars, as might be agreed upon ; or both." (1)

Messrs. Foster and Catchings suggest that the Government might collaborate in such a process. "Involved in this plan is the practical problem of getting currency into circulation and withdrawing it. But this surely involves no insuperable difficulties. It might be possible for the Government to accomplish this purpose by selling securities in the open market whenever prices began to rise and buying securities whenever prices began to fall." (2)

Three principal methods of securing national unity of action have been discussed : the voluntary co-operation of banks for the regulation of deposit and discount rates ; increasing the dependence of member banks on the central institution ; and the purchase or sale of securities by the central bank with a view to easing or restricting credit. Under certain circumstances, in the past, these methods have proved to be efficient. The problem is rather that of regulating the circumstances than of devising new methods. In every country where there is a highly centralised system of banking, the methods of the Bank of England would seem applicable. In other countries and in the United States, the problem would seem to be one more of development based on principles already proved.

It would be out of place in this brief summary to attempt any account of the difficulties presented in the various different countries. Each country has a separate banking literature of its own ; and its political, financial and industrial traditions differ from those of others. All that is possible here, therefore,

(1) *American Economic Review*, June 1923, p. 284.
(2) *Money*, p. 361, Houghton Mifflin Company, 1923. See also *Monetary Reconstruction*, p. 68, published by the author, Carl Strover.

is to bring to light certain general principles and illustrate them from existing conditions in the chief financial countries. It is essentially a national task to secure the development of a sound system of central control according to the special requirements of the country concerned.

The second stage in the problem of adding to the effectiveness of the discount rate was shown to be that of increasing the influence of the market rate over the expansion of credit. It may be said at once that comparatively little discussion has as yet been given to this point, and that any suggestions made here are very tentative in character.

One point of outstanding importance was noted at the end of the preceding chapter : that to be most effective, the raising or lowering of the price of accommodation should take place before the movement of prices has attained any degree of rapidity. Such a precautionary system would be even more strengthened, however, if it were known to be the declared and recognised policy of the banks. If business men knew that those who control the monetary machine would make a concerted effort to prevent rapid fluctuations in prices, they would neither rush to buy at the first signs of a boom nor would they stampede when a decline was in evidence. This stabilising of business confidence would go far towards increasing the effectiveness of the discount rate as a stabiliser of prices. Speaking of the current situation, Mr. J. M. Keynes states that "the best way of remedying unemployment would be for those responsible to declare that they would do all they could by means of currency policy to avoid a fall of prices and to promote confidence of the business world in the existing level of prices" (1). In America, a similar appeal for a "certain and well-defined policy" has been made by such prominent economists as C. J. Bullock, O. M. W. Sprague, and W. B. Donham.

A further advantage would accrue if it were known that the State itself would collaborate, if necessary, in the policy of stabilisation. The experience of the war has shown that Governments are frequently responsible for the expansion of credit through their borrowings at the bank. For instance, the British Currency Report of 1918 explains that a large part of the credit expansion arose "from the fact that the expenditure of the

(1) *The Nation and Athenaeum*, 11 August 1923, p. 611.

Government during the war has exceeded the amounts which they have been able to raise by taxation or by loans from the actual savings of the people. They have been obliged therefore to obtain money through the creation of credits by the Bank of England and by the Joint Stock Banks, with the result that the growth of purchasing power has exceeded that of purchasable goods and services". (1) Conversely, the taxation of the community for the cancellation of loans thus contracted, or of floating debt, has a deflationary effect (2). This leads naturally to the conclusion that Government financial policy might frequently be modified in such a way as to lend support to the discount policy of banks.

The First Session of the International Labour Conference, held at Washington in 1919, adopted a Recommendation that each Member of the International Labour Organisation should "co-ordinate the execution of all work done under public authority, with a view to reserving such work as far as practicable for periods of unemployment.....". It would seem reasonable to assume that the reservation of works entails also the reservation of the *funds* necessary to defray the expense ; for the advantage gained in postponing public operations for times of depression would be largely neutralised if the funds had to be provided through heavier taxation during this period of particularly severe financial strain.

The principles contained in the last two paragraphs — that of modifying national financial policy so that it might assist the operation of the discount rate in the control of credit ; and that of reserving *funds* for times of depression — are essentially linked. If carried out methodically as part of national fiscal policy they would entail an increase of revenue over expenditure during years of prosperity, the surplus being carried over into a fund specially reserved for public enterprise. In times of depression expenditure would exceed revenue, the deficit being made up by withdrawals from the fund. The influence of such a policy would be slightly deflationary during a boom and inflationary during a depression ; in other words, it would in each case counteract existing harmful tendencies.

(1) *First Interim Report of the Committee on Currency and Foreign Exchanges after the War*, p. 6.

(2) Cf. Address of the Right. Hon. R. McKenna, P. C., reported in *The Times* of 25 January 1923.

To express this idea in greater practical detail, it would entail the adoption of a schedule of payments into, or withdrawals from, a reserve fund. In years when employment stood above 96 per cent., an amount, say £ 20,000,000, would be set aside from excess revenue (the amounts might be graded according to the employment index). When employment fell bellow 94 per cent., State expenditure would be increased by withdrawals from the fund according as circumstances might demand.

The question of the moment for Great Britain and certain other European countries is whether they would be justified in starting the operation of such a schedule during periods of depression. Would the Government be justified in borrowing during a period of depression on the explicit understanding that the expenditure would subsequently be refunded in accordance with a regular "cyclical schedule" ? Such a policy might perhaps be considered unsafe in a country whose financial ideal has always been that of maintaining an exact balance between annual revenue and expenditure ; but it would none the less be in full accordance with the principles enunciated above of modifying the budget to counteract existing cyclical tendencies.

The indications given in this and preceding chapters would seem to lead to one very certain conclusion : that there is occasion for more extensive research into the means of bringing currency definitely under control. In so far as the State and the banking system have it in their power to add considerably to their influence over this vital factor in industrial and social welfare, they are under a joint obligation to shoulder the responsibility which this potential power demands. Further research, the definition of a clear policy, and united purpose, would seem to describe the line of action desired.

CHAPTER IX.

The Need for International Action.

"It is a platitude to state that nowadays, no country can live to itself alone and be completely independent of its neighbors" (1). Following this opening to his chapter on "International Problems in Stability", Professor E.R.A. Seligman develops a comprehensive account of international trade relations as they exist in the twentieth century. Discussing the question of currency control, Professor Seligman shows that the events of the war have very largely altered the face of such problems from the international standpoint. The principal difference rests in the fact that there is now no effective gold standard and, therefore, no automatic link between the price levels of different countries. In view of this distinction, it would be well to discuss the two questions entirely apart.

Currency Relations under an Effective Gold Standard.

Before the war, international collaboration had a strong advocate in Professor Irving Fisher. Mention has already been made of his recommendation in 1911 that an international commission should be appointed to enquire into the causes

(1) *The Stabilisation of Business*, p. 283. The Macmillan Company, 1923.

and effects of changes in the cost of living in different countries. Amongst those who, in reply to his circular letter, expressed the opinion that much value might be derived from such an enquiry were : Mr. A. M. Ackworth, Mr. Ernest Aves, Professor E. Böhm-Bawerk, Dr. R. van der Borght, Professor Edwin Cannan, Professor S. J. Chapman, Professor J. B. Clark, Lord Leonard Courtney, Professor F. Y. Edgeworth, Professor Ch. Gide, Professor E. C. K. Gonner, Mr. Henry Higgs, Mr. F. W. Hirst, Mr. John A. Hobson, Mr. J. M. Keynes, Deputy A. Landry, Professor Paul Leroy, Professor G. Ogawa, Mr. R. H. Inglis Palgrave, Professor A. C. Pigou, Professor L. L. Price, Mr. G. Sakatani, Professor William Smart, and Professor Harald Westergaard. In their replies, many of these prominent economists stated a very clear opinion that the level of prices was essentially an international problem and should accordingly be dealt with on a international scale. Briefly, the reason for this connexity of prices is as follows :

Under an effective gold standard of unvarying content, the price level in any country is the inverse expression of the commodity value of gold. A rise in prices means that a given weight of gold will buy less goods. In other words, the commodity value of gold has fallen. Conversely, when prices fall, it means that gold will buy more goods, i. e., that the commodity value of gold has risen.

Internationally, this circumstance has the following effect. If a country succeeds in restraining the movement of prices below the level of that of other countries, it means that in this particular country, gold will command more goods than elsewhere. There will then be a tendency for gold to flow into the country from others where the level of prices is higher, that is, where gold has less value.

By being deposited with banks, the inflow of gold swells the cash reserves. Since it is unprofitable to hold a higher proportion of cash to credit than is required for meeting possible claims, banks are induced to lend more freely and to reduce the rate of discount with a view to expanding credit. The growth of purchasing power thus effected tends to lift up prices until they reach the world level.

Conversely, in a country where prices are comparatively high, there is a tendency for gold to be exported to other countries where its value is greater. Through the ensuing contraction of their gold reserves, banks are obliged

to restrict credit and so press down prices until they conform to world standards (1).

The mechanism by which this process is effected is more complex than appears from this summary. However, Professor J. H. Jones' statement may well be accepted that: "It is an axiom in economics that there is a strong tendency towards a common level of prices in countries trading with each other, due allowance being made for differences in their tariff policies and in the cost of transport" (2).

Granted the existence of this international relationship, two main conclusions would appear to stand out:

(1) The existence of a large surplus of gold in any one country is a potential source of expansion for the currencies of other countries maintaining the gold standard. The latter would seem justified, therefore in claiming a hearing with regard to the currency policy to be adopted by the country possessing a surplus of gold.

(2) A country which maintains a monetary standard of unvarying gold content would experience the greatest difficulty in securing a stable price level in the face of a world boom or depression. During the period of falling prices, gold would disappear; in the rise, reserves would become redundant. The country would almost certainly have to fall into line with the general movement.

If, therefore, there should be a very general resumption of the gold standard on the pre-war basis, the world surplus of gold will present, not a series of separate national problems, but a joint problem for all countries retaining the standard.

Currency Relations without the Gold Standard.

Where there exists no gold standard, the international link would appear to be much less direct. To take a concrete example, it might be shown that during the years 1919 to 1922,

(1) It is realised that this explanation is an extremely untechnical short cut, but it should be noted that the majority of authors devote complete chapters to explaining the manner in which price changes upset the flow of international trade, dislocate the exchanges, and induce bullion brokers to make profit by the transmission of gold; and how this in turn affects bankers' reserves and causes them to call in or extend their loans. A full extract or explanation would be impossible at this stage.

(2) *Social Economics*, p. 148. Methuen & Co., 1919.

the policy of the Government of India was to secure comparative stability of the internal price level, rather than the stability of its exchange rate with Great Britain. The following table, which shows the relative movements of prices in the two countries and the rate of exchange between them, gives clear evidence that where the monetary standard is not the same for both countries, and the gold link is removed, the country is very much freer in the pursuit of an independent price policy (1).

	Indian Prices	English Prices [2]	Value of Rupee in Sterling	
			Purchasing Power Parity	Actual Exchange
Average, 1919	100	100	100	100
Highest, 1920	112	129	115	152
Lowest, 1921	95	65	69	72
Average, 1922 (3)	90	64	71	74

In contrast to this, there is the striking example of the simultaneous and almost uniform collapse of prices in America, Great Britain, Scandinavia and, to a less extent, in Western Europe during the years 1920 to 1922. This close uniformity of movement may be partly due, as Professor Seligman has shown, to the very close interdependence of nations from the commercial point of view. In so far as a country is dependent on foreign markets, the price ruling abroad is as serious a factor as the home price ; and an internal fall of prices may be brought about, not so much as a result of the contraction of the home currency as of the liquidation of stocks, attendant on the failure of foreign demand. In this way, then, the link between the currency policies of two countries is of a more indirect character ; inasmuch as the monetary practice of one country affects its industrial activity and that activity has a repercussion on foreign conditions, the foreign countries concerned may be justified in claiming a certain interest in the currency policy adopted. Regarded from another point of view, it will be seen that no country whose relations are in any way international can escape the effects of industrial fluctuations arising

(1) Table reproduced from Mr. J. M. Keynes' article : Professor Jevons on the Indian Exchange, *Economic Journal*, March 1923, p. 64.
(2) Statist.
(3) First 10 months.

out of unsound currency methods elsewhere. Thus, regardless of the existence of the gold standard, there would seem good reason for considering currency policy to be an international question.

Half way between the two extreme situations discussed above, is that which arises when one country maintains a gold basis and other countries consider it expedient that they should resume the gold standard at the pre-war parity. This is potentially, if not actually, the position at the present time. The chief significance of the situation is that the countries concerned will be unable to resume the gold standard at the pre-war parity until their internal price level bears roughly the same relation as before the war to the price level in the country with a gold basis. Thus, whilst America holds the value of gold at a high level by maintaining low prices, other countries can only enter the market for gold if they are willing to secure a corresponding value of this metal within their own borders. This entails the depression of prices in such countries until the pre-war rate of exchange between the respective currencies and the dollar has been restored. Professor Cassel shows the international bearing of this problem as follows : "A restoration of the gold standard in England, as in other countries in a comparable financial position, would, as I have previously pointed out, most easily be effected by a lowering of the internal value of the dollar, which, of course, would be bound to entail a corresponding reduction in the purchasing power of gold. Such a reduction has in fact set in with the above mentioned increase in the price-level of the United States during the present year. In order that this rise of prices may bring the pound sterling nearer to the gold parity, it is obviously essential that a corresponding rise of prices should not occur in England." (1)

In another passage, Professor Cassel states : "Provided that the United States could be induced definitely to abandon any attempt at further raising the value of the dollar, and if possible to meet Europe half way by slightly lowering it — that is, by a credit policy which would entail a rise in prices of 10 to 15% in the United States — not only England, but also Sweden, Holland and Switzerland, and perhaps one or

(1) *Quarterly Report*, issued by the Statistical Department of Sweden, October, 1922, p. 34.

two other countries, might very soon be able to restore the gold standard in accordance with the pre-war par." (1)

Mr. O. Rydbeck, Managing Director of the *Skandinaviska Kreditaktiebolaget*, Stockholm, also considers the price level in Sweden largely dependent on American policy: "Whether the process of deflation proceeding in Sweden has yet touched bottom, it is difficult to judge. Doubtless, it will depend in part on developments in other countries, especially the United States, whether we shall be obliged to lower our level of prices and standard of living still further." (2)

As early as 1919, Professor J. H. Jones anticipated a very close connexity in the movement of different national price levels, regardless of the fact that the direct monetary link provided by the gold standard was missing. "The contraction (of currency) when it begins, will assume an international character. No single nation is free in this matter, which is eminently suitable for control by the League of Nations. Our currency policy will be determined largely by that of other countries, an economic truth the force of which America is now beginning to realise, and which all industrial communities might have realised in the years immediately preceding the war." (3)

The *Swedish Economic Review* encourages the hope that some public action may take place with a view to securing international co-operation for the solution of currency problems. "The possibility of a gold standard union between the United States and England together with the minor high currency countries such as Sweden, Switzerland and Holland, has been publicly discussed. In this discussion the opinion has been forcibly expressed that such an agreement between countries with sound finances might develop to become the only solid ground in the large sea of inflated currency and would gradually cause other nations to emerge from the troubles of inflation." (4) How far there is justification for the hope of such united action depends largely on the growth of the spirit of internationalism. No more striking example of progress in such inter-State fellowship could be found than that of the combination of eight important countries to save the Austrian

(1) *Ibid.*, July 1922, p 24.
(2) *Ibid.*, p. 21.
(3) *Social Economics*, p. 154, Methuen & Co., 1919.
(4) September 1922, p. 3

Republic from complete financial ruin. The fact that the economic urge is not so obvious where price relations are concerned does not mean that need for international union is less real.

A year ago, a strong appeal was made that this important question should be raised above its local setting and treated in its rightful universal sphere. The appeal is here repeated.

GENOA CONFERENCE

Report of the Financial Commission.

RESOLUTION 8.

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. 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. It is suggested that an early meeting of representatives of central banks should be held with a view to considering how best to give effect to this recommendation.

RESOLUTION 12.

With a view to the development of the practice of continuous co-operation among central banks and banks regulating credit policy in the several countries, as recommended in Resolution 8, this Conference recommends that the Bank of England be requested to call a meeting of such banks as soon as possible to consider the proposals adopted by the Conference, and to make recommendations to their respective Governments for the adoption of an International Monetary Convention.