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FULL RECOVERY OR STAGNATION?

FULL
RECOVERY
OR
STAGNATION?

BY ALVIN HARVEY HANSEN

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HARVARD UNIVERSITY

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FOREWORD TO THE ENGLISH EDITION

(By *Arthur D. Gayer, M.A., D.Phil., Oxon.*)

PROFESSOR ALVIN HANSEN needs no introduction to British economists. His works are hardly less well known in Britain than in the United States; the reputation he enjoys of being one of the leading living economists is international. Any words of praise on my part for his work would be superfluous. The purpose of this prefatory note to the English edition of his latest book is merely to call attention to the fact—immediately evident upon even a casual inspection of the book—that its contents are of quite as much interest and importance to British readers as to Americans.

The book covers a rather wide range of topics, ranging from theoretical analysis of the nature of trade cycles to the discussion, against this background, of practical policy relative to the problems of depression, recovery and stagnation. Theoretical analysis and the examination of current questions are elegantly blended to their mutual advantage, and both are expounded with a clarity, simplicity, and felicity of expression rare in the treatment of such solemn topics. The timeliness of its appearance at the present phase of the trade cycle in this country, when Britain's immediate economic future is so uncertain, scarcely need be mentioned.

Part I, dealing with current trade cycle theory and the problem of control, consists of four chapters devoted to a

critical examination of the recent work of four British economists and a fifth chapter on the most significant international literature on the subject. The reader will note that British and Continental authorities are cited in this chapter, as elsewhere throughout the book, at least as frequently as are American writers. Similarly the relevance to the British situation of Part III "The International Situation"—is clearly as great as it is for the United States. Parts II and IV relate in somewhat larger measure to specifically American problems but by no means exclusively so, while the underlying principles and the conclusions reached are equally applicable to each of the two countries in whose hands the future of world economic stability largely lies. Since, moreover, the course of events in the United States constitutes such an immensely powerful factor in this regard both for Britain and the world, it is well that we Englishmen should have a clear comprehension of the nature and significance of American developments.

Few persons could be as well qualified as Professor Hansen to write this opportune and penetrating study. The select band of economists to which he belongs, who combine mastery of the technical tools of theoretical analysis and contacts with practical affairs, is all too limited in number. The former quality is evidenced by his widely known contributions to technical economic literature, the latter by his former service as Economist of the State Department at Washington, as Secretary and Director of Research of the Commission on National Policy in International Economic Relations, and in various other practical capacities. At present he is a member of the Advisory Council on Social Security. This, his latest, book deserves as wide and careful study in this country as it will receive in his own.

ARTHUR D. GAYER

London, September, 1938.

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INTRODUCTION

THIS book deals not only with the problem of cyclical fluctuations but also with the larger problem of full employment of resources from the long-run point of view. In the post-war decade England suffered a volume of unemployment far in excess of anything that could be explained on the grounds of the business cycle. In contrast, such unemployment as was experienced in the United States was largely cyclical and transitional.

The relatively full employment enjoyed in this country in the seven fat years 1923-29 can, however, be explained in large measure in terms of special conditions (discussed in subsequent chapters of this book) of a sufficiently temporary character to raise grave questions about the future. And similarly, the high prosperity achieved in England in 1935-37 leaned heavily on peculiar circumstances, such as exceptionally favorable terms of trade with the outside world, a long-delayed housing boom and the non-recurring (so at least it was hoped) rearmament expenditures. Thus the underlying conditions of prosperity have never in the post-war period been such as to give one any sense of permanence or security.

The fragile and uncertain recovery from the Great Depression in the United States stopped dead in its tracks in 1937 and quickly began to slide back toward the deplorable

depth from which it had started. Was there some stern necessity in the inevitable economic reactions to the Great Depression which set a ceiling to recovery? Had the terrific strain, to which the economic organism had been subjected, set in motion powerful forces making for stagnation? Did the 1929-33 collapse, together with the ensuing international upheaval, leave such a black cloud of uncertainty and insecurity that private enterprise was no longer willing to undertake that assumption of risk without which our economic system cannot function? Had the increasing bureaucratization of large-scale enterprise contributed to the unwillingness to undertake bold, forward-looking investment projects? Had our economy become so rigid, so compartmentalized, that it was no longer possible to shift resources with sufficient rapidity to prevent "bottlenecks" so serious and widespread as to set a limit to recovery? Is business rapidly developing, in the course of the evolution of large-scale enterprise, corporate price policies of a character that makes the system of free enterprise unworkable? Has the government intervention, made inevitable by the distress incident to vast unemployment, created a hybrid society, half-free and half-regimented, which cannot operate at full employment?

The chapters included in this book range from theoretical analysis to a discussion of practical policy relevant to the problems of depression, recovery and stagnation. Part One begins with a discussion of Keynes's *General Theory of Employment, Interest and Money*, published in 1936. Few books in the whole history of economic literature have created such a stir among professional economists. There follow four chapters dealing with the current literature and especially with the work of Harrod and Hayek. Part Two turns to the general problem of the maintenance of purchasing power, and specifically to the implications of the social security reserve funds for economic stability. Part Three is de-

voted to the international situation and the economic bases of peace and war. Part Four contains a discussion of the character of the recovery of 1935-37, the causes of the depression beginning in 1937, a comparison of the prosperity of 1923-29 with the period 1935-37, the structural changes that are fast transforming our economic system and which raise grave questions with respect to future investment outlets. An Appendix follows on The Fundamental Equations in Keynes's *A Treatise on Money*.

A considerable part of the material is quite new, but much has appeared either in whole or in part in various journals and periodicals during recent years. I am greatly indebted to the editors for permission to use parts or all of the articles indicated below. My thanks and appreciation are also due to Mr. Herbert Tout, who was joint author with me of the article, "Investment and Saving in the Business Cycle," a section of which appears as a part of Chapter III and an additional section in the Appendix to Part One; and to Messrs. Francis M. Boddy and John K. Langum, who contributed to the article on "Recent Trends in Business-Cycle Literature." The various articles referred to above and the time and place of publication are given below.

"Mr. Keynes on Underemployment Equilibrium," *Journal of Political Economy*, October, 1936; "Harrod on the Trade Cycle," *Quarterly Journal of Economics*, May, 1937; "Investment and Saving in Business Cycle Theory," *Econometrica*, April, 1933; "Hayek's Monetary Theory and the Trade Cycle," *The Nation*, September 20, 1933; "The Social Credit Proposals of Major Douglas," Bulletin No. 7, prepared for The Commission on Banking Law and Practice, *Association of Reserve City Bankers*, March, 1936; "Recent Trends in Business-Cycle Literature," *Review of Economic Statistics*, May, 1936; "The Flow of Purchasing Power," Chapter VIII in *Economic Reconstruction*, Columbia University Press,

1934; "The Investment of Unemployment Reserves and Business Stability," Part IV in *A Program of Unemployment Insurance and Relief in the United States*, University of Minnesota Press, 1934; "The International Monetary Situation," *Yale Review*, Autumn, 1936; "The Situation of Gold Today in Relation to World Currencies," *American Economic Review*, Supplement, March, 1937; "The Gold Sterilization Policy," *Barron's*, May 17, 1937; "The Sterling Area and the Stabilization Problem," *Proceedings of the Academy of Political Science*, May, 1936; "The Economic Bases of Peace," in *Peace or War?*, University of Minnesota Press, 1937; "What Causes a Business Downturn?," *The New Republic*, February 2, 1938; "The Consequences of Reducing Expenditures," *Proceedings of the Academy of Political Science*, January, 1938; "Some Introductory Observations" presented in the Seminar on *Capital Formation and Its Elements*, National Industrial Conference Board, November 9, 1937; "Pump-Priming, New and Old," *Barron's*, April 11, 1938.

PART ONE

INVESTMENT, SAVING AND MONETARY CONTROL

KEYNES ON UNDEREMPLOYMENT
EQUILIBRIUM

MR. KEYNES regards his *General Theory of Employment, Interest and Money*¹ as the fulfillment of the imperfect, though essentially correct, views of "Mandeville, Malthus, Gesell and Hobson"—majors in the "brave army of heretics . . . who, following their intuitions, have preferred to see the truth obscurely and imperfectly rather than to maintain error reached, indeed, with clearness and consistency and by easy logic, but on hypotheses inappropriate to the facts."

Mr. Keynes announces in the first chapter of his book that it is his purpose to contrast his arguments and conclusions with those of the *classical* economists, by which he means Ricardo, Mill, Marshall, Edgeworth, and Pigou. He confesses in his Preface that the orthodox economist will probably fluctuate between the belief that his new book is quite wrong and the belief that it contains nothing new. For himself, however, the author feels that the composition of this book has been a long struggle of escape from habitual modes of thought and expression, and "so must the reading of it be for most readers if the author's assault upon them is to be successful." The difficulty, he says, lies not in the new ideas, which even though laboriously expressed are in reality ex-

¹ Harcourt, Brace and Company, 1936.

tremely simple, but rather in the fact that the old ideas, on which we have all been brought up, ramify into every corner of our minds and keep us chained in fetters.

The reader who is familiar with the previous work published six years earlier, *A Treatise on Money*, is likely at first to be somewhat bewildered upon taking up this new book. Yet Mr. Keynes explains that what to others may appear as a confusing change of view seems to him to be a perfectly natural evolution in the line of thought which he has been pursuing for several years. With this interpretation the writer finds himself quite sympathetic. For, while Mr. Keynes has now donned an entirely new suit of clothes, it is not difficult to see that it is, after all, the same man who wears them.

The imposing edifice erected in *A Treatise on Money* is, indeed, wholly abandoned. It had been shown that there was a serious error in his first fundamental equation.² The correctness of this criticism Keynes at once admitted,³ and announced that in future editions of his book he would redefine the units in which the physical quantities were measured so as to correct this error. It was then pointed out that, were this done, his second fundamental equation would thereby equally be rendered of no practical significance.⁴ Still more disconcerting was the conclusive demonstration by Hawtrey and Robertson that the disequilibrium between investment and saving as Keynes defined them was incapable of revealing the causal factors at work. It was shown that the inequality of saving and investment, as defined, merely reflected and registered the course of events; that this divergence could not be regarded as the "cause of a windfall loss

² See my note on "A Fundamental Error in Keynes's *Treatise on Money*," *American Economic Review*, September, 1932.

³ *American Economic Review*, December, 1932.

⁴ See pp. 335-7 of this book.

or gain, for it is the windfall loss or gain." ⁵ These and other criticisms left his theoretical structure without a foundation and compelled either an abandonment or a radical reconstruction.

The critics may well, however, be wary of assuming too much credit for the author's abandonment of the edifice so elaborately constructed only six years before. For Mr. Keynes is one of those rare and delightful spirits who finds it quite impossible to live happily for long in contemplation of old ideas, even though those ideas are his own. He must forever be exploring new frontiers and evolving new insights and new solutions. It is this characteristic which makes Mr. Keynes one of those phenomena in our current age which help to make life worth living. *The General Theory of Employment, Interest and Money* ⁶ is no less stimulating than was the *Treatise on Money*.

The new book is not a treatise; it is a debate to which the public is invited, and the ticket is five shillings in England and two dollars in the United States. The publication of a book with so difficult and complicated an analysis at a popular price is itself indicative of the power and prestige of Mr. Keynes as a social prophet in the current distracted world. The shafts are directed, as the author himself announces, at

⁵ R. G. Hawtrey, *The Art of Central Banking* (1932), p. 349; and D. H. Robertson, *Economic Journal*, September, 1931.

⁶ Keynes's recent work is especially inspired by Malthus. In connection with his current appreciation of the work of John A. Hobson (only slightly in evidence in the *Treatise* of six years before) it is not without interest to turn back to a review of Hobson's *Gold, Prices and Wages* (*Economic Journal*, September, 1913, pp. 393-98) written twenty-five years ago. In this review Mr. Keynes says: "One comes to a new book by Mr. Hobson with mixed feelings, in hope of stimulating ideas and of some fruitful criticisms of orthodoxy from an independent and individual standpoint, but expectant also of much sophistry, misunderstanding, and perverse thought. . . . The book is . . . made much worse than a really stupid book could be, by exactly those characteristics of cleverness and intermittent reasonableness which have borne good fruit in the past." This characterization by Mr. Keynes himself is not altogether inapplicable, some may perhaps say, to his own book.

the classical school from Ricardo to Pigou, but in the midst of this major contest Mr. Keynes finds ample strength for many a dart at the neo-Viennese and London school.

And what is the debate about? Very briefly it may be stated as follows: Ricardo had built up quite logically and consistently a theory of prices and distribution based on the assumption of an equilibrium position at which the factors of production were fully employed. It is Keynes's purpose, however, to develop—what he thinks the classicals had neglected—the general theory of employment. He criticizes the classical school, not for their analysis of the manner in which the factors of production are combined or of how the value of the final product is distributed between them, but because they neglected to consider the determinants of the volume of employment and output as a whole. They assumed that there was but one equilibrium position—that of full employment. Keynes argues that this position is but a limiting point of a whole range of possible positions of equilibrium. It is the essential function, indeed, of his new book to show that in the actual conditions of the current economic order equilibrium is reached at a point far below full employment, and to elucidate the factors which determine at what level any one equilibrium position is reached. What is criticized, therefore, is not the theory of prices and distribution of the classical school, but the assumption that there is only one equilibrium point, and in particular the disastrous and misleading attempt to apply the characteristics of the special case of equilibrium at full employment to the quite different facts of experience in the economic society in which we actually live.

What is correct policy in the case of equilibrium at full employment may turn out to be quite a wrong policy in an equilibrium position at underemployment. At full-employment equilibrium one is concerned only with the proper

allocation of the factors in the production of consumption goods and of investment goods. One is not concerned with the problem of full employment of these factors, since that is assumed. Under these conditions consumption and investment stand in a competitive relation to each other. If investment is increased, consumption must perforce be reduced, and vice versa. In such a society the question of how much to save and how much to consume involves exclusively the problem of future satisfaction of wants as against present satisfaction of wants. Increased investment may, under these circumstances, be justified as a means of increasing future production. Neither investment nor consumption has any relation to the problem of employment as such, since full employment is assumed regardless of the ratio of consumption to income. But if the society is at equilibrium at a point of underemployment the matter is quite different. Under these circumstances consumption and investment stand not in a competitive relation but in a complementary relation to each other. With underemployment, an increase of investment, far from requiring a restriction of consumption, will, because of the resulting increase in employment and income, tend to increase consumption. Likewise an increase in consumption (i.e., an increase in the percentage of the income consumed) will raise the prospective profitability of investment. Thus both consumption and investment are simultaneously increased and thereby also employment, output, and income. While a puritanical policy of thrift and saving may be quite appropriate in a society in equilibrium at full employment, prodigality may be the appropriate social virtue in a society in equilibrium at underemployment.

It is evident that the great problem for a society in equilibrium at underemployment is to bring under social control

the determinants of equilibrium. Only in this manner can the position of equilibrium at full employment be achieved. What now are these determinants? They are: (1) the propensity to consume, (2) the schedule of marginal efficiency of capital,⁷ and (3) the complex of rates of interest on loans. These are the determinants of the volume of consumption and of investment, which in turn fix the volume of output, income, and employment for society as a whole.

The ultimate causal forces are therefore found outside of the price system, in the mores, customs, habits, and behavior patterns of the people. The fundamental psychological factors are the psychological propensity to consume, the psychological expectation of future yield from capital assets, and the psychological attitude to liquidity. Psychological propensities, mores, and behavior patterns are thus the root forces which lie back of and control consumption and investment and thereby determine what the point of equilibrium shall be.

In this connection let it be noted that when modern capitalism was in process of developing, and when it was in full bloom, it did not rely solely on the automatic functioning of the price system to supply an adequate volume of saving. It preached the doctrine of thrift and sought to establish a propensity to save.

On the classical assumption of full employment one need have no concern about the propensity to consume, for what was not consumed was saved. And saving merely meant a diversion of production toward the creation of investment

⁷ Keynes alleges that current business-cycle theory fails to see that the marginal efficiency of capital depends on the *prospective* yield of capital (pp. 141, 145-46). In this he is, however, definitely in error. See, for example, Chaps. IV and VI (esp. pp. 82-86 and 134-35) in my *Business-Cycle Theory* (1927), where a survey is given of writers who analyze the cycle phenomenon in terms of "fluctuations of the marginal efficiency of capital relatively to the rate of interest."

goods. The rate of interest was the regulator which controlled the ratio of consumption to income. If the rate of interest fell, less was saved and a larger percentage of the income was consumed. If the rate of interest rose, more was saved and less was consumed. Thus in the earlier view the supply curve for savings assumed the familiar, normal shape. Later, to be sure, this definite direct correlation between the rate of interest and saving was subjected to criticism. In neo-classical thinking doubt had been raised with respect to the precise relationship between the rate of interest and saving. Within certain limits, indeed, a lower rate of interest might induce a larger volume of saving. All this is familiar ground, and needs no elaboration here. It was held, nevertheless, that while a fall in the rate of interest up to a certain point might indeed stimulate saving, below a certain minimum level any further decline would reduce the volume of saving and stimulate consumption. Cassel in his *Nature and Necessity of Interest* had argued that, because of the shortness of human life, capital depletion would set in once interest fell below a certain point. Below this minimum rate consumption would be stimulated at the expense of saving.

Thus, while neo-classical thought refused to accept the doctrine of an invariant relation between interest and saving, it did not go so far as to break completely the dependence of saving upon the rate of interest offered in the market. While under modern high standards of living it had come to be believed that the growth of population had little relation to the rate of wages, it was only within certain limits that the same position was taken with respect to the supply of capital as a variable independent of price. The view of Hobson—that saving had no relation to the interest rate, that it was determined wholly by the mores, customs, and behavior patterns of the population, by the propensity to con-

sume and its inverse, the propensity to save—remained the unorthodox view.

With Keynes (as with Cassel, but for quite different reasons) there is a minimum rate of interest below which—unless, indeed, determined action is taken by society—the rate of interest cannot fall. He suggests that this minimum rate is 2 or $2\frac{1}{2}$ per cent. But with Keynes, despite this minimum rate, society (because of a fixed propensity to consume only a limited proportion of its income) continues to pour out a steady flow of savings. Thus the marginal efficiency of capital may well fall to a point below the minimum rate of interest. Here, then, is to be found the mechanism which drives the economic system to an equilibrium level below the point of full employment. According to Keynes, at this minimum rate of interest saving is not deflected toward consumption, as Cassel had it; instead, it is at this point that hoarding begins. If saving continues willy-nilly by reason of a fixed psychological propensity without regard to price factors, and if the marginal efficiency of capital in a wealthy community falls below the minimum interest rate, then of necessity a part of the planned individual savings cannot find outlet in realized investment.

At this point it becomes necessary to inject a brief consideration of terminological difficulties. In the new book Keynes formally abandons his former highly artificial definitions of income and saving.⁸ But his new terminology is by no means wholly satisfactory. In the writer's opinion his entire exposition would have been very greatly facilitated had he adopted outright Robertson's definitions of income,

⁸ According to these definitions, income included the "normal" return of entrepreneurs. In calculating the income of entrepreneurs no account was taken of windfall profits or windfall losses. Thus in a depression, despite windfall losses, the income of entrepreneurs, as defined, remained unaffected. And, since saving was defined as that part of income which was not spent on liquid consumer's goods, it followed that a large part of the saving in a depression consisted of business losses!

saving, and investment.⁹ This would have made it far easier for him to make clear the factors of disequilibrium. For Robertson's terminology enables one to see very clearly the disequilibrating effects of hoarding and dishoarding and of credit creation and debt cancellation. In Robertson's view the saving of the current period is equal to the income of the preceding period minus the consumption of the current period. The consumption of today may, however, exceed the income of yesterday by the net addition of a certain amount of dishoarding or of credit creation, and vice versa. Thus Robertson speaks of "the power possessed by the public and by the monetary authority to alter the rates of income flow—the former by putting money into and out of store, the latter by putting it into and out of existence."

The current income is determined by the volume of consumption and investment of today. If the consumption and investment of the current period exceed the income of the preceding period, expansion of employment and of income occur. If, on the other hand, current consumption and investment fall below the level of the income of the preceding period, contraction is going on. In this latter case a portion of the current savings finds no outlet either in consumption or in investment, and so "runs to waste." The excess of saving over investment is the measure of the idle funds, or "hoards."

Robertson's terminology does not mean that the current consumption is limited and restricted by the income of the preceding period, as Hawtrey has alleged.¹⁰ The current consumption and investment are largely determined by anticipations of the future, by the state of optimism or pessimism. If the outlook is good, if the prospective rate of profit is

⁹ D. H. Robertson, "Saving and Hoarding," *Economic Journal*, September and December, 1933.

¹⁰ R. G. Hawtrey, "Saving and Hoarding," *ibid.*, December, 1933.

high, investment will be increased. If one anticipates a rising income one will plan a larger consumption. The current consumption and investment may, therefore, outrun the volume of the income of the preceding period partly by dishoarding¹¹ and partly by the use of credit. It is in just these anticipations and the plans that follow them that the dynamics of disequilibrium must be sought. It is because of these factors that saving and investment, as Robertson defines them, may be in disequilibrium and may therefore involve either expansion or contraction.¹²

Keynes, refusing to adopt this terminology, is hard put to it to find a satisfactory scheme of exposition. One is never clear precisely what his terminology means. He defines saving and investment as always equal. In terms of the real phenomena, obviously saving must always equal investment; but in terms of the receipt and disposition of money funds, such a terminology makes it very difficult to handle satisfactorily the important concepts of hoarding and dishoarding, credit creation and debt cancellation. In a cumbersome manner Keynes in fact obviates the difficulty by explaining that individuals may *strive* to save a certain given amount, but this attempt is bound to fail if the volume of investment falls below the planned individual saving. Thus he finds his disequilibrium between planned individual saving¹³ and investment. "The decisions to consume and the decisions to invest between them determine incomes." If planned individual saving exceeds investment the income of the community is driven down to a point at which the total ag-

¹¹ "Hoarding (Dishoarding) may be alternatively defined as acting in such a way as to decrease (increase) the velocity of circulation of money against output" (D. H. Robertson, "Saving and Hoarding," *ibid.*, p. 401).

¹² Let Y_0 = the income of the preceding period; Y_1 = the income of the current period; C_1 = the consumption of the current period; S_1 = the saving of the current period; and I_1 = the investment of the current period. Then $S_1 = Y_0 - C_1$ or $Y_0 = C_1 + S_1$; and $Y_1 = C_1 + I_1$. Therefore $Y_1 - Y_0 = I_1 - S_1$.

¹³ See pp. 83-84, 211.

gregate saving and the investment equate. If planned individual saving and investment equate, there would be no tendency toward any further change in income and employment. Thus equilibrium is reached only when the propensity to consume and the inducement to invest stand in a particular relationship to one another.

Returning to the main argument, why, according to Keynes, does not the continued pressure of savings force the rate of interest ¹⁴ down below the marginal efficiency of capital? The answer is that the loan rate is not merely a pure interest rate; it includes also the cost and risk of lending. Thus, if one assumes that the pure rate were driven to zero, and that the cost and risk of lending were 2 per cent, it is clear that the minimum rate could never fall—so long as there is the alternative of hoarding—below this 2 per cent. In addition there is the special risk (a risk which becomes greater the lower the rate received) that any slight rise in the rate of interest in the future will drive the capitalized value of the investment down to a point at which the entire interest earnings have been wiped out. At the present moment, with the very low yield on long-term government bonds, a slight rise in the rate of interest would cause an appreciable loss on the principal. This is the danger which banks now run in holding long-term government bonds and which causes them, in large part, to prefer complete liquidity. Thus, below a certain interest rate, complete liquidity is deemed preferable to financial investment. The rate of interest, therefore, fails to fall to the point to which it would have to be driven in order that the whole flow of planned

¹⁴ With respect to Keynes's criticism (Chap. XIV) of the neo-classical treatment of the theory of interest, it should be noted that circular reasoning (such as he here attacks) can be found in all partial analyses of isolated factors in which it is necessarily assumed that "other things remain equal." One can get out of the circle only by the method of the general equilibrium analysis.

individual savings might find a ready outlet in investment. Taking, therefore, the propensity to hoard (liquidity preference) in conjunction with the relatively constant propensity to save, it is discovered that the rate of interest does not equilibrate the volume of planned individual saving and investment. In consequence, a part of the available purchasing-power in the community finds no outlet in the market. Unemployment, reduced output, and declining income ensue until a level of impoverishment is reached at which the propensity to consume is increased sufficiently so that the flow of planned individual saving equates with the volume of investment. For, with a higher ratio of consumption to income, the marginal efficiency of capital now rises to the level of the rate of interest. At this point an equilibrium is reached. The rate of interest now equates with the marginal efficiency of capital, and planned individual saving is equal to investment. But this point of equilibrium is one at which there is underemployment of the factors of production. Until there is a change: (1) in the propensity to consume, (2) in the marginal efficiency of capital, or (3) in the rate of interest, this equilibrium position remains fixed.

By what policies might the industrial system be shoved off this dead center of underemployment equilibrium? Keynes considers, in this connection, the role of wages, the role of money, the role of income distribution, and the role of socially controlled investment.

Keynes does not deny (as doubtless many superficial readers will conclude) the possible efficacy of reduction in wage rates as a means of lifting the economic system to a higher equilibrium position at fuller employment. He admits that a reduction in wage rates would release a proportion of the money supply and tend to lower the rate of interest. But he holds that there are other ways in which this same end could be accomplished without the social cost of wage reduction,

and that it is therefore folly to resort to this method. Keynes admits, moreover, that a general systematic scheme of wage reduction, carried out by a highly integrated or authoritarian society, might prove effective in raising the marginal efficiency of capital. But in Western democracies this method is not applicable—wage reductions, in fact, come piecemeal, now in this industry and now in that. The effect of such wage reductions upon political confidence and popular discontent might be to raise materially the schedule of liquidity preference. Moreover, if the reduction in wage rates leads to the expectation of a further wage reduction in the future the effect on current investment is likely to be unfavorable. In addition the transfer of income from wage-earners to other factors is likely to diminish the propensity to consume. For these reasons, piecemeal reductions, which leave the future uncertain, are not likely to prove an effective method of increasing employment. Wage reduction, moreover, tends to load the whole weight of any existing maladjustment upon the single factor, labor, and this is surely inequitable. Finally, the wasteful and disastrous struggles, to which this method almost certainly gives rise, threaten the whole social fabric and make it an impracticable device in the modern world. If the wage level is too high, other methods must be found of increasing the marginal efficiency of capital to a point at which equilibrium at full employment may be reached.

With respect to Pigou's theory of unemployment Keynes does not disagree with the static relationship which Pigou finds between the rate of real wages and the volume of employment. What he does charge (surely without justification) is the failure of Pigou to analyze the dynamic factors which control the rate of real wages, especially the factors—the marginal efficiency of capital and the rate of interest—which control the volume of investment.

Everything considered, a flexible wage policy as an instrument of control is ruled out as dangerous—and, indeed, it is argued that, under the institutional arrangements of Western democracies, genuine stability can better be achieved by an inflexible wage policy. Other methods of control must be discovered to secure full employment.

To this end, money plays for Keynes an important role, although less important in this book than in the *Treatise*. A controlled rate of interest, relentlessly held at a point below the marginal efficiency of capital and driven still lower as marginal efficiency falls with fuller investment, might eventually achieve—possibly even within a generation—the condition of completely “full investment.” This means that the supply of capital would have been increased to a point at which it would yield no net return over its replacement cost. At this point, the rentier class would be eliminated, and capital as a factor in production would have made its full contribution to maximum output.

A difficulty with this method—and one which Keynes sees—is that if full employment were reached, prior to the point of full investment, inflation would set in. To prevent inflation the rate of interest would have to be raised to the level of the marginal efficiency of capital. Thus if equilibrium at full employment were reached short of full investment, and if the society really wished to achieve a condition of full investment, resort would have to be made to other methods, such as direct social control of the volume of investment.

If a controlled rate of interest should prove quickly effective in achieving full employment, and if this policy were joined with a policy of taxation designed to bring about more equal income distribution, it might turn out that the rate of accumulation would be even lower than in the existing society. This would place us even further than now from the condition of full investment. Should it, therefore, turn out to be

an easy matter to achieve full employment by means of a controlled interest rate, it might not be desirable, Keynes thinks, to increase the propensity to consume. For, at full-employment equilibrium, consumption becomes competitive with investment, and this would prevent the society from moving toward that level of productivity which full investment would make possible.

The relentless maintenance of a sufficiently low rate of interest to maintain full employment, Keynes points out, is unattainable in an international gold-standard system. For if you must defend your balance of payments against gold drains by raising the rate of interest, you thereby sacrifice the goal of full employment. Thus the rigorous maintenance of an adequately low interest rate involves the adoption of a policy of flexible exchange rates.

In Keynes's view the condition of underemployment equilibrium will inevitably persist indefinitely in modern societies unless drastic measures are taken to control the determinants of employment—namely, the propensity to consume, the marginal efficiency of capital, and the rate of interest.

But the marginal efficiency of capital is determined in part by the cost of production of investment goods. From this it follows that flexibility in the cost-price structure is extremely important, though Keynes takes little, if any, cognizance of this problem. And, in particular, in an economy not expanding into new territory or experiencing a rapid population growth, the outlets for investment are made much worse under the condition of cost rigidities and monopolistic price and wage policies.

The current orthodox theory—represented, for example, by Pigou—has so fully elaborated the theory of underemployment equilibrium, under conditions of cost rigidity and monopolistic control of supply, that it is only necessary here to make reference thereto. We can be reasonably certain that

these restrictive institutional factors and rigidities will continue to prevail to a sufficient degree in the decades ahead to produce a very considerable amount of unemployment apart from the normal cyclical fluctuations. It will, therefore, be quite impossible from a mere observation of the course of future events to determine whether or not Keynes's analysis is valid.

With respect to economic progress, the rapid development of new products, new processes of production, new ways of utilizing natural resources, and new combinations of the productive factors have the effect of raising the marginal efficiency of capital and thereby stimulating investment. Thus economic progress constantly tends toward equilibrium at full employment. Should it turn out, however, that the next decades will witness a relative stagnation in innovations in the utilization of the resources of nature, the marginal efficiency of capital may (in view of existing and prospective cost rigidities) fall to a point so low as to produce a stagnation in investment.¹⁵ In the past, enormous investments have been made in large capital-consuming developments, such as railroads, roads, and other public utilities. It is not impossible that the technological innovations of the future will be of a character that will require less capital than many of the developments of the last century. Moreover, certain types of technological innovations are definitely capital economizing rather than capital using.

The frontier for the entire world is largely gone and population is approaching stabilization—if not, indeed, decline.¹⁶

¹⁵ Unemployment and stagnation, moreover, foment psychological conditions which intensify the international strain and threaten world chaos.

¹⁶ "And if some approach to an even rate of growth was attained in the nineteenth century, when both population and the area of effective economic intercourse were rapidly increasing, it may turn out (paradoxically enough) to be harder to attain in a planet which, thanks to the activities of the prospector and the pioneer and to the success of the propagandists of birth

This affects the outlet for the investment in durable goods both at home and abroad. Rural electrification schemes, housing projects, and the like, carried out under the stimulation of low interest rates, may, however, turn out to be really important investment outlets.

In view of the prevailing (and probably increasing) cost rigidities, and in view of the possibility of a slowing down in capital-consuming technological innovations, the problem of structural, or secular, unemployment (altogether apart from the cyclical unemployment of ordinary industrial fluctuations) is almost certain to present itself for solution in the decades before us. The all-important question therefore (whether or not Keynes's theoretical analysis of underemployment equilibrium is correct) is how to remedy this situation. Keynes's proposals are designed to offer a substitute for a completely planned socialistic or communistic economy. His solutions are, as we have seen: (1) the rigid maintenance of the rate of interest below the marginal efficiency of capital until full employment is reached, (2) the forced redistribution of income through taxation designed to increase the propensity to consume, and (3) socially controlled investment.

The first proposal is in line with current monetary theory. But efforts at general monetary control have already revealed

control, is rapidly ceasing to be a worthy member of an expanding universe."

"[Thus] it seems evident that the ship of economic life may be set a problem in re-orientation which transcends the capacities alike of its navigators and of its monetary steering-gear. Under such conditions the popular instinct which finds the root cause of dislocation in undigested plenty may be a surer guide than the laborious but one-eyed analysis which finds it in flouted scarcities and unjustified rigidities. . . . But again, if private enterprise remains sovereign, can it, at its most successful, find any way of countering slumps save by the perpetual stimulation of increasingly meretricious wants and increasingly hectic habits of life? Can it, consistently with its own nature, succeed in the more subtle task of transmuting into diffused leisure the concentrated unemployment of today?" (D. H. Robertson, *Stand der Konjunkturforschung* [Festschrift für Arthur Spiethoff, 1933], pp. 240-41.)

the weakness of this method. Indirect control—open-market operations and discount policy—is in process of being supplemented by direct monetary intervention (witness current measures to control the volume of funds placed at the disposal of the stock market) which borders on regimentation and rationing—a kind of monetary N.R.A. The third proposal goes far in the direction of a planned economy and might, indeed, lead straight into thorough-going socialism. How far taxation of incomes and wealth (the second proposal) may be carried without breaking down is problematical. Whether or not a drastic program of taxation carried far enough to effect a genuine redistribution of income is compatible with a system of private enterprise and private initiative; whether or not such a program would only serve to make a “flat situation still flatter,” thereby leaving no alternative except complete socialization, may perhaps finally be decided at the bar of history.

There is a vast difference between a spontaneous expansion of investment and employment, such as we witnessed in the nineteenth century, and a forced investment such as Keynes seeks to bring about by artificially contrived measures. When spectacular fields for profitable investment are opened up through the development of new resources, the introduction of technological innovations, the expansion of population, and the growth of new industries, then savings are sucked up, labor is scarce, and industry booms through the drawing power of an expanding demand.

The workability of the system of private enterprise has always rested heavily upon the work of the inventor and the engineer. Just as technological progress has been mainly responsible for the great advance in real wages and in standards of living during the last century, so also it may well turn out that in the future we shall have to look to new outlets for profitable investment—new discoveries in tech-

nique, new ways of utilizing nature's resources, new products, and new industries—if we expect the prevailing economic system to survive.

Whether or not Keynes's proposals will in fact prove effective, it is clear that they are currently popular and are likely to be tried on an expanding scale. Modern communities appear to be in process of reverting to the behavior patterns of the precapitalistic period. Leisure and luxurious consumption were leading characteristics of that era. Numerous holidays, magnificent entertainments, prodigality in consumption (*vide* cathedrals, castles, art products requiring infinite detail and leisurely, time-consuming workmanship)—these distinguish the precapitalistic period from the nervous speed and the emphasis on thrift and saving which characterized the nineteenth century. Keynes's economic system is, as he himself admits, a reversion to the economic doctrines of mercantilism. Modern societies are, in his view, being driven by the logic of events into pursuit of the same ideals which the mercantilists cherished. They were right, he thinks, in the enforcement of usury laws designed to maintain a low rate of interest. They were too close to the experience of an exuberant prosperity and rising prices, which the inpouring of silver and gold from the New World had generated, to overlook the importance of an abundance of precious metals. They were right, he thinks, in their preoccupation with the balance of payments and their fear that a drain on the precious metals would, by affecting the terms of lending, check the growth of investment and employment. They were right in their "deep rooted belief in the utility of luxury and the evil of thrift." These are the cornerstones of Keynes's economic philosophy, and it is not difficult to see that, whatever may be true of the correctness of his theoretical analysis or the workability of his proposals, the enigma of unemployment and business depression has already im-

pelled modern capitalistic economies far toward the reconstruction of a mercantilistic world.

In conclusion, a word should be said about Keynes's view of the trade cycle. Let it be noted that *The General Theory of Employment, Interest and Money* is only incidentally concerned with the trade cycle. Cyclical fluctuations may occur in either a full-employment equilibrium system or in an underemployment equilibrium system. The theory of the trade cycle is, therefore, something substantially apart from the theory of long-run underemployment or full-employment equilibrium.

In his "Notes on the Trade Cycle" (Chap. XXII)—a brilliant performance, even though, as Keynes admits, it contains essentially nothing new—Keynes finds that the cycle is mainly due to fluctuations in the marginal efficiency of capital. The movement is cyclical in the sense that the forces propelling the system upward at first gather force cumulatively but gradually lose their strength until a point is reached at which they tend to be replaced by opposite forces, which in turn gather force cumulatively until they, too, wane. The movement is cyclical, also, in the sense that these upward and downward movements occur with a recognizable degree of regularity in time-sequence and duration. A complete explanation of the cycle must, moreover, involve an analysis of the crisis—the sudden and violent turning point from boom to depression.

Let us consider these points briefly and in their inverse order. The phenomenon of the crisis may be explained by the precarious character of expectations of future yield on new investment—expectations based on highly shifting and unreliable evidence. The boom progresses on overoptimistic expectations. Disillusionment brings a sudden and drastic collapse in the prospective rate of profit—the marginal efficiency of capital.

Periodicity of the cycle rests upon two bases: (1) the length of life of durable assets in relation to the normal rate of growth, and (2) the carrying costs of surplus stocks.

The increase in the marginal efficiency of capital awaits the depreciation and obsolescence of the capital stock accumulated during the boom. This, of course, is nothing new. Karl Marx, Aftalion, Robertson, and others have stressed the relation of average durability of capital to the length of the depression.

The carrying costs of surplus stocks is the second important factor, in Keynes's view, which determines the duration of depression. The carrying charges tend to force the absorption of surplus stocks within a certain period, usually within three to five years. While the process of stock absorption is going on there is negative investment and, therefore, deflation and unemployment.

Keynes's emphasis on fluctuations in the marginal efficiency of capital as the moving cause of the trade cycle is in line with Spiethoff's analysis, though there are many points of difference. Moreover, the conclusion that the collapse in the marginal efficiency of capital may be so complete that the most favorable monetary condition is quite inadequate to produce a revival, is also in line with Spiethoff's view. With Spiethoff, however, the increase in the marginal efficiency of capital (without which revival would be impossible) is caused by inventions, discoveries, the development of new resources, new products, and new industries. With Keynes the absorption of stocks, the depreciation and obsolescence of fixed capital, and the effects of these upon the prospective yield of new investment, are the points stressed.

Keynes supports, as one remedial measure for the trade cycle, the program of redistribution of income designed to increase the propensity to consume. However, according to his own analysis, the cause of the trade cycle is fundamen-

tally to be found in *fluctuations* in the marginal efficiency of capital, and it is difficult to see how a permanent change in the distribution of income could affect these fluctuations. In other words, at this point Keynes is clearly confusing the problem of long-term equilibrium with the problem of short-term cyclical fluctuations.

Keynes's book, as with everything which comes from his pen, is stimulating thinking on fresh lines in the field of economic dynamics. There are too many obscure corners in our science to permit of comfortable dogmatism. The economic order is clearly in a state of transition to no one knows what. The system is half-rigid, half-flexible. A theoretical apparatus applicable to a flexible system is not always adequate for an analysis of current economic life. The problem of wage rigidity, for example, is not as simple today as formerly. A system which stands somewhere between a laissez-faire economy and a regimented economy presents exceptionally difficult problems for public policy. We are living in a time when economics stands in danger of a sterile orthodoxy. Keynes warns once again, in a provocative manner, of the danger of reasoning based on assumptions which no longer fit the facts of economic life. Out of discussion and research will come bit by bit an improved theoretical apparatus (Keynes's interest theory contains promising suggestions) and a more accurate appreciation of social psychology (the brilliant chapter on long-term expectation) and of the precise character of the economic environment in which humans act as individuals and in groups.

HARROD ON THE TRADE CYCLE

MR. HARROD¹ announces a "new theory" of the trade cycle. Realizing that such a prospectus may be greeted with skepticism, he hastens to admit that any author is likely to incur the reader's displeasure if he fails to show that he has "something of importance to add" (vii). On this point he definitely offers a written guarantee. "The earlier chapters of this essay claim to present a precise diagnosis of the causes of the trade cycle" (p. 232). Thus the reader starts the volume with high hopes that the Promised Land has now at long last been reached.

The reading of the book is somewhat forbidding, if indeed not at times terrifying, for there peep out, between the lines of almost every page, dreadful imps—in the shape of "static and dynamic determinants"—who issue inexorable decrees that call a sharp halt to any prolonged economic advance and then precipitately drive the economic system to the "bottom" of a "full depression." If, however, the governing authorities should perchance fully master Mr. Harrod's ritual it is barely possible (provided they are clever enough to detect the "breathing space" within which the imps are susceptible of appeasement), with even a small tribute of public works, to hold the determinants in check

¹ R. F. Harrod, *The Trade Cycle*, Oxford University Press, 1936.

before they have definitely been galvanized into action. But it is necessary to be forever on the alert lest the imps again seize the levers and drive the economic machine headlong over the precipice. One is always fearful lest they should suddenly begin to act in a quite unexpected manner.

If the arguments set forth by Mr. Harrod, in support of the claim that here at last is presented a "precise and definite diagnosis" of the cycle, be accepted, another great reverse (so he asserts) may confidently be expected to occur. This statement may indeed appear a little harsh to an extreme optimist—if perchance there be any such—in the New Deal; but it is not likely to meet with much dissent from the confirmed student of the trade cycle. But wait! The statement does have an ominous ring. Another great reverse like the last one? Well, we shall see. "The nightmarish quality of the events of 1929-32 was largely due to the fact that no one was able to give a sensible and coherent account of what it was that was happening or why it was happening" (p. 173). Only a few "highly enlightened" persons were able to see that it was a "downward phase of a trade cycle and could be classed with the phenomena already well known and analyzed in treatises on trade fluctuation." This does make one rub one's eyes a bit. One could have wished for a little supporting evidence, but Mr. Harrod is very sparing of his footnotes. The great mass of "experts," so the author states, were concerned merely with *ad hoc* causes. This seems to be on firmer ground—at least if one adds: "in large part." The "experts" have indeed taken account not merely of "the cycle" but also of the profound structural changes which have shaken the post-war world economy. For them, the recent depression *was* something more than a familiar phase of the trade cycle.

Mr. Harrod holds a very low opinion of the present status of trade-cycle theory. Even those "far-seeing" persons who

referred back to general cycle principles "did not carry the matter of diagnosis very far; for it was well known that the theory of this topic was still quite rudimentary" (p. 173). With this we may probably agree in substance. But is it necessary to single out cycle theory for public pillory? Can it really be argued with good reason that value theory, or the theory of distribution, has reached more definitive conclusions? It is high time that we cease asserting that the trade cycle was (even before the advent of Harrod's book) a quite unsolved enigma.

Not only is steadiness in the advance of industry impossible—so Mr. Harrod informs us—but worse yet, the mechanism so works that it cannot turn the corner without being pushed down to the "bottom" (p. 195). The concept of a "full depression," of a definitive "bottom," recurs again and again.

Mr. Harrod takes sharp issue with Professor Pigou and others who stress "errors of judgment" in their diagnosis. He conceives the trade cycle to be the inevitable result of certain characteristics of the economic structure. It is not necessary to look to time-lags, frictions, or miscalculations as the main cause. The cycle would occur even if everyone had perfect foresight and perfect judgment. Indeed it may be expected to become more accentuated. It is not likely to be cured by an increase of knowledge or sagacity on the part of businessmen and bankers. Yet it does not follow that it is absolutely incurable within the framework of our present economic system. It is likely to be cured only when the view is accepted that "scientific method" is necessary for its remedy.

The cycle is connected with the process of capital accumulation. Previous writers, the author rather grudgingly admits, "have endeavored to formulate theories connecting the cycle with this process." But they have "missed the necessary links

which make the theory here set out an intelligible and self-consistent whole" (p. 160).

The theory is said to explain why a sharp halt is inevitably called to an advance, and why the ensuing recession tumbles precipitately and inexorably to the "bottom." Of paramount importance is the rate at which the level of activity and consumption of the country is advancing. New construction is undertaken in expectation of profit, and this expectation depends *primarily* upon a growth in consumption. But not entirely, for Mr. Harrod does, it is true, give the reader a fleeting glimpse of the possible significance of inventions upon profit expectations. But only for a moment. It is, he says, sufficient for his thesis that a considerable proportion of the construction of additional capital depends on the prospect of growth of consumption. Now it is an old story that capital goods output fluctuates more than consumers' goods output. This, it is held, is due to the well-known principle of acceleration, which Harrod calls "the Relation." Noted by many, not enough importance has been attached to it, in the author's view. It demands "pride of place." The Relation, taken in conjunction with the incomplete mobility (note that Harrod himself thus introduces friction) of the factors,² provides "the elements of a self-perpetuating theory of the trade cycle" (p. 56).

"When the rate of increase of consumption begins to slow down, what is required in net investment is not merely a slowing down in its rate of increase but a decrease.³ This is due to the nature of the Relation" (p. 97). Why does the rate of increase of consumption slow down? Partly for the reason that, as income grows, the propensity to save in-

² "But if the prime factors of production are incompletely mobile and cannot be rapidly absorbed in the consumption goods industries as they are displaced from the capital goods industries, total activity must recede" (p. 57).

³ It will be noted that this is the crude and incorrect formulation criticized by Ragnar Frisch. I shall discuss the point later.

creases; and partly because the boom brings a shift to profit, which profits are largely saved. For these two reasons the proportion of income which is consumed declines as income rises. A leap then occurs in the author's reasoning, and the inference is made that because the proportion of income consumed declines, therefore the rate of increase of consumption declines. At another point the author argues that the "increase of consumption must slow down, once a considerable proportion of the unemployed is taken back into work" (p. 165). Obviously this is quite a different explanation of the alleged slowing down of consumption.⁴

The decline in the rate of consumption is regarded as the critical point at which the demand for additional capital goods falls. "If there is any drop in the rate of advance, a recession must occur. At that point the Relation dominates the scene" ⁵ (p. 104).

Enter the Multiplier. "A decline in the rate of advance involves a recession of investment. But then, in accordance with the Multiplier, consumption must recede." Now when "any decline of net investment sets in, a recession to the bottom is entailed and we have to begin the climb all over again from there; an ordered change from one rate of investment to another is impossible without this interlude. This is why, unless some reform can be devised altering the operation of the Relation and the Multiplier, we can confidently expect recessions to recur" (p. 104).

Just as the Relation is an expression of the regulative control of changes in the rate of consumption over the rate of investment, so the Multiplier is an expression of the determining influence exerted by the rate of investment over income, and, through income, over the rate of saving.

⁴ This explanation is the one offered by Ragnar Frisch in "Capital Production and Consumer Taking," *Journal of Political Economy*, October, 1931.

⁵ Note again the incorrect formulation of the principle of acceleration.

According to Keynes the Multiplier "establishes a precise relationship, given the propensity to consume, between aggregate employment and income and the rate of investment. . . . Let us call k the *investment multiplier*. It tells us that, when there is an increment of aggregate investment, income will increase by an amount which is k times the increment of investment."⁶ Thus changes in investment bring about definite changes in total activity and income. It follows that the "general level of economic activity is determined by the amount of investment taking place, in such wise that, given the country's propensity to save, the activity must be just so great as to give people an income from which they will choose to save the amount that is required for that investment" (Harrod, p. 70).⁷ Thus varying levels of investment determine the varying levels of total activity; varying levels of total activity establish varying levels of income; and these, in turn, varying levels of saving.

Investment, in the final analysis, determines income, and so, given the propensity to consume, the volume of saving and consumption. This is the lesson of the Multiplier. On the other hand, the Relation teaches that consumption regulates the level of investment.

We have noted above that investment is supposed to determine saving. Indeed the author, following Keynes in his *General Theory*, puts forth the proposition that investment and saving are equal. The theory depends on the two-fold nature of capital accumulation. On the one hand there are the decisions of those who order the construction of capital goods. On the other hand there are the decisions of those

⁶ J. M. Keynes, *The General Theory of Employment, Interest and Money*, pp. 113, 115. These definitions are apparently accepted by Harrod.

⁷ "The multiplier tells us by how much their [the public] employment has to be increased to yield an increase in real income sufficient to induce them to do the necessary extra saving, and is a function of their psychological propensities." Keynes, *op. cit.*, p. 117.

who decide to refrain from consuming a part of their incomes. These two sets of decisions are made by different people, but they are mutually interdependent (p. 160). Here are two magnitudes, representing the sum total of numerous individual decisions. "Yet these two magnitudes are really but one magnitude" (p. 162). Nevertheless, it is the "interaction of the two sets of motives which gives rise to the cycle" (p. 162). The trade cycle is an expression of the strain which the community must endure in order to keep these two (which are always the same magnitude) together!

However that may be, the reader will scarcely fail to enjoy the discomfiture of the author in his struggle to make the two magnitudes one, and yet keep them apart. Obviously something is unequal, since there is so much ado about it. Resort is had to much forced and strained circumlocution.⁸ At times the author almost forgets himself and comes perilously near saying that investment and saving *are* after all unequal. On these occasions, however, he jerks himself up quickly and asserts vehemently that these two magnitudes are always one magnitude. While they "might be expected to jog down together in harmony" (p. 163), there in fact appears to be an amazing degree of strife and disharmony between entities so firmly welded into one!

Mr. Harrod does allow a discrepancy between the intentions of those who give orders for capital goods and those of savers. In the short period the amount of intended investment may exceed or fall short of the amount people choose to save. If saving exceeds intended investment there will be an "undesigned accumulation of stocks" (p. 73). Thus a change in "deliberate investment" is offset by a change in "unintended investment" in the opposite direction (p. 74). Intended investment plus unintended investment equal the

⁸ I have elsewhere favored the solution of these terminological difficulties along the lines offered by D. H. Robertson. See Chapter I in this book, p. 22.

amount which people choose to save. Thus in the short period, savings may exceed (or fall short of) intended investment. But in the "longer period the amount which people choose to save is determined by the amount of intended net investment, this determination being effected by appropriate variations in the level of the community's income" (p. 74). Total income will be forced up or down until the amount people choose to save will just equal the amount required to finance the construction of capital goods (p. 164). Thus, so it appears, the amount people choose to save and the amount required to finance the construction of capital goods may not, in point of fact, be equal, and this inequality forces the level of income up or down until they are equal. Indeed, it is the inequality of these two magnitudes which causes total income to rise or fall. They are equal only when the level of income is stationary. At the moment that these two magnitudes are equal, it is permissible to label them "saving" and "investment," respectively; but whenever they are unequal they must under no circumstances be so labeled!

It is clear from the above that Mr. Harrod identifies "intended investment" with investment in fixed capital, and "unintentional investment" with the accumulation of stocks of finished goods. Total investment is said to include both, and so, even during the process of adjustment to lower (or higher) income levels, net investment equals saving. Suppose, however, that at the moment when saving exceeds "intended investment" there should be no accumulation of stocks, but only a fall in prices. What then becomes of the equality of saving and investment? Presumably, the answer would be that the fall in prices brings unintended negative saving (due to losses) which offsets the excess planned saving. Hence total saving does, after all, on this reasoning equal investment. The gap between intended investment and intended saving is filled by unintentional investment (or dis-

investment) and unexpected saving (or dissaving as the case may be.⁹

If the rate of increase of income slows down, while the absolute magnitude of income does not fall, savers will not choose to save less. But the orders for capital goods are reduced, and so there develops a discrepancy between intended investment and saving. In consequence, consumption falls off. "For the purchasing power which savers keep out of the market for consumable goods is no longer fully made up by the expenditure on consumption of those engaged in making capital goods" (p. 163). With stocks piling up, orders for consumers' goods will be reduced; production and income will fall. But this is only the beginning. With absolute reduction of consumption, no new capital goods will be needed. The first setback to the capital goods industries was merely due to a slowing down in the prospective rate of advance. But now with consumption down, no new capital whatever is needed. Investment falls rapidly to mere replacement. "Thus the conjoint action of the Relation and the Multiplier accounts for the catastrophic nature of the slump when it comes" (pp. 97-98).

According to Mr. Harrod's argument, then, it is the inequality between "intended investment" and saving which drives activity and income up or down. "Intended investment"—the orders for capital construction—is controlled mainly by changes in the rate of consumption (the Relation); and the level of "intended investment" influences income and so the rate of consumption (the Multiplier).

⁹ Mr. Hawtrey (in *Capital and Employment*, pp. 176-180) uses the term "active investment" for Harrod's "intended investment" and "passive investment" for "unintentional investment." Active investment and saving, he holds, are not necessarily equal. Professor Bertil Ohlin uses the terms "planned investment" and "planned saving" and regards the discrepancy between them as the cause of the expanding or contracting process. But he believes "realized investment" and "realized saving" to be always equal. See *Economic Journal*, March, 1937, pp. 66-69.

We have noted that the advance in activity and income comes to a halt by reason of a slowing down in the rate of increase of consumption, and that the author accounts for this slowing down by the action mainly of two "dynamic determinants"—the increased propensity to save and the growth of profits as income rises. These two determinants decree that in the upswing phase of the cycle a larger and larger proportion of the income will be saved. If the advance is to be sustained, therefore, it follows of necessity that the ratio of capital goods to income must somehow rise. This means that consumption will not rise in the same proportion as capital goods are increased. But can this continue without a breakdown? Only on the assumption that a third dynamic determinant comes into play which acts as an offset to the first two. This determinant is the amount of capital per unit of output. If the ratio of capital to output increases by reason of capital-using inventions, the advance may be maintained in spite of the action of the first two determinants. If the new capital goods are more highly capitalistic (more capitalistic means that, at a given rate of interest, the interest charge per unit of output is higher¹⁰) the advance may be sustained. In this event output will rise less rapidly than capital. Inventions often occur to increase the amount of capital required per unit of output, though this type of invention may be on the decline. Moreover, the rapid obsolescence of machinery has the effect of making production less capitalistic. We may, accordingly, find increasing difficulty in maintaining the advance, and, if the restrictive influence of the first two determinants exceeds the expansive influence of the third, the boom comes to a close.

¹⁰ It may be noted that Harrod rightly defines "capitalistic" not in the term of "quantity of capital" but in terms of "ratio of capital to output." See Gustav Cassel: *On Quantitative Thinking in Economics*, pp. 22-23 and 138-139; J. Marschak, "A Note on the Period of Production," *Economic Journal*, March, 1934, pp. 146-151; and Chapter V in this book, pp. 129-31.

If inventions should prove inadequate, there is still hope. Production may become more capitalistic by reason of a fall in the rate of interest. This exerts an expansive force and operates through the third determinant to overcome the restrictive forces. Thus a steady advance *might* conceivably be maintained.

But this is held to be highly improbable. To combat the recession successfully the decline in the rate of interest must be substantial and it must come promptly. If it does not occur within the breathing space—the brief period at the turning point when unfilled orders sustain the volume of capital goods construction—there is nothing for it but a recession to the “bottom.”

Mr. Harrod argues that the rate of interest does indeed fluctuate so as to *promote* a steady advance—rising in the boom and falling in the recession phase. But it does not fluctuate enough actually to achieve this result. Certain fundamental factors limit the range of its fluctuation. The long-term rate is influenced by long-run considerations which extend far beyond any one phase of the trade cycle. If it is known or believed that the rate five years hence will be 3 per cent, then the present rate will not fall as low as $2\frac{1}{2}$ per cent; for if it did the yield would be less than zero. Present rates cannot depart violently from expected future rates, though ignorance of the future does allow for some flexibility. Hence the rate of interest can do little to promote a steady advance.

We have seen how the three dynamic determinants, operating through the Relation and the Multiplier, influence “intended investment” and saving, and thereby “decree” an advance or a recession in activity and income. We have now to inquire into the role played by the movement of prices. The prevailing error in cycle analysis heretofore, we are told,

has been the mistaking of price and profit fluctuations for the true causes of the cycle.

Bankers expand and contract money. But why? Because certain pressures are present. These pressures are the true causes—not the changes in money supply or in its velocity. The price fluctuation is the mechanism by which the ultimate causes operate.

The pressures are exerted by the dynamic determinants which decree the rise and decline of activity. But there are also certain static forces which play the role of “stabilizers” and offer resistance to the dynamic forces. This resistance reveals itself in price fluctuations. Stated in a different manner, the price level is a fourth static determinant; but it acts as a “de-stabilizer.” The static stabilizers are: (1) the Plasticity of Prime Costs; (2) the Law of Diminishing Returns; and (3) the Law of Diminishing Elasticity of Demand.

If these three stabilizers lost all force, activity could move up and down without any force acting to bring it back to the equilibrium level. In the event that activity fell off, there would be no change in the rates of pay of factors, no increase in marginal productivity as output receded, no increase in the elasticity of demand as income declined. If, now, declining activity brought with it declining prices, as is regularly the case (the de-stabilizer, it is assumed, *does* function), output would continue to fall to zero. If it stops short of zero, that could only happen because the stabilizers were active—in short, because wage-rates had fallen and/or the marginal product had risen sufficiently to offset the fall in prices and/or the elasticity of demand had increased, thereby facilitating a recovery in output. If the stabilizing forces are powerful they will offset the fall in prices when output has fallen only a little. If a large price fall has already occurred, the stabilizing forces must be endowed with sufficient capacity for adjustment to check the price decline and prevent

it from cumulating into a headlong plunge to zero. Mr. Harrod wobbles a bit on the point whether these static stabilizers are, in fact, weak or strong in the modern economy. On page 31 he says they are very weak. It is notorious that little reliance can be placed on the plasticity of prime costs, while the factor of diminishing returns probably does not operate at all except at a high level of output. And diminishing elasticity of demand is still unproven. Yet on pages 75-88 the reasoning suggests that, taken together, the force of the three stabilizers is very considerable.

The third stabilizer—the law of diminishing elasticity of demand—needs special comment, since it is the distinctly new point in Harrod's theory. It represents an application of the theory of imperfect competition to the problem of the trade cycle. As output increases, everyone is richer and the response of buyers to possible price changes may now be considerably modified. Everyone being less sensitive to price differences, the demand becomes more inelastic. This gives opportunity for dealers to attach more firmly to themselves, by means of advertising, trademarks and the like, a more or less fixed clientele of customers who cannot easily be weaned away by price competition. Imperfect competition increases as the country becomes richer. As demand becomes more inelastic producers will be able to profit from restriction of output. Thus the law of diminishing elasticity of demand becomes, along with plasticity of factorial costs and diminishing returns, a force tending to pull activity back to its equilibrium level—a force which becomes ever stronger the further the departure from equilibrium. Moreover, this law is also significant for the second dynamic determinant—the shift to profit—for it helps to explain (without the use of time-lags) the tendency for profits to increase in the boom.

Such are the main lines of the theory. Does it constitute a "precise and definite diagnosis" of the trade cycle?

Let us examine, first, the analysis of the factors which call a halt in the boom; second, the "full recession to the bottom"; third, the factors making for revival, and, finally, what rate of advance might possibly be maintained.

(1) The boom ends we are told (*a*) because the first and second dynamic determinants slow down the rate of increase in consumption, and (*b*) because this in turn (via the Relation) causes an absolute decline in "intended investment," and so (via the Multiplier) an absolute decline in activity and income.

Let it be noted at once that neither of these propositions is, strictly speaking, true. To make them true a more precise formulation is necessary. But thus restated it will be discovered that they have lost much of their vigor.

(*a*) At the most, all that can be claimed is that the two dynamic determinants—the increased propensity to save and the shift to profit with advancing activity—decree an ever larger ratio of savings to income. But it does not follow from this that the rate of increase¹¹ of consumption will of necessity slow down. A steady rise in the rate of consumption does not require that consumption must rise proportionally with income.

(*b*) The second proposition, upon which the author lays great weight, is an incorrect formulation of an old and well-established principle in cycle theory—the principle of acceleration, here called the Relation. It was stated by Aftalion some thirty years ago, and later by Bickerdike, J. M. Clark,

¹¹ It should be noted that "rate of increase" means *absolute*, not percentage, rate of increase. It is the absolute increment of growth with which we are concerned when we apply the principle of acceleration. The other cause—apparently thrown in as an afterthought and having no integral connection with the author's theory—namely, that when all the factors have been re-employed the rate of advance must slow down, stands on a different footing. Indeed it was this point which the present writer cited to Frisch, and upon which the latter predicated the functioning of the acceleration principle. See *Journal of Political Economy*, October, 1931.

Pigou, and others. For the most part it had been correctly formulated, but Clark (after having used it accurately in his article in the *Journal of Political Economy* in 1917) inadvertently gave it a loose formulation in his *Economics of Overhead Costs*, and this statement was followed by Mitchell¹² and by the present writer in his *Business Cycle Theory*. Ragnar Frisch definitely clarified the issue in his discussion with Clark.¹³ Apparently Harrod has missed these articles—else he would certainly not have made the mistake all over again. It is not true that the rate of investment must decline when the rate of increase of consumption *begins* to slow down. It is not even true that it must decline at all. One can set up a model under the simplified conditions which have usually been assumed, showing that it will so decline *after a time*. And one can also, as Frisch has done, set up models under which both investment and consumption reach an asymptote with no absolute decline occurring in either one. Harrod's enthusiasm over his discovery of the Relation is unbounded, but his formulation is far from being "precise" or "definite."

This of course does not mean that the principle of acceleration is of no significance. Yet I am disposed to think that, far from being neglected by cycle theorists as Harrod avers, it has been given more prominence than it deserves. Most writers have conceived the relation between "consumer-taking and capital production" under artificially simplified conditions. When a closer approach is made to reality, it is evident, as Kuznets and Tinbergen¹⁴ have pointed out, that

¹² See "The Problem of Controlling Business Cycles," the *Stabilization of Business* (edited by L. D. Edie).

¹³ See *Journal of Political Economy*, October and December, 1931, and April and October, 1932.

¹⁴ S. S. Kuznets in *Economic Essays in Honor of Wesley Clair Mitchell*, 1935; J. Tinbergen, "Annual Survey: Suggestions on Quantitative Business Cycle Theory," *Econometrica*, July, 1935. See also Tinbergen's "Statistical Evidence on the Acceleration Principle," *Economica*, May, 1938.

the relation is a very complex and uncertain one. In the actual world the replacement of capital goods is not rigorously related to the existing stock of such goods, nor is the "expansion demand" for capital goods rigorously related to the growth of consumption. "Replacement demand" varies not only with the size of the capital stock but also with its age composition, with changes in the life period and in obsolescence, and the like. "Expansion demand" for capital goods depends not only upon the increase in consumption, but also upon the degree of existing excess plant capacity, inventions, and many other factors. The fluctuations in the output of capital goods are, it is evident, far less than one should expect from the acceleration principle; and the fluctuations that do occur can surely in large part be explained on quite other grounds. For the most part, the acceleration principle serves only to reinforce investment tendencies initiated under the influence of other factors. The fundamental explanation lies elsewhere. It is true that at the point where the unemployed are finally absorbed, a slowing down in the advance must take place, but this affects the output of all goods and not merely liquid consumers' goods.

It is indeed true that it is highly important for the analysis of the cycle to distinguish sharply between the "replacement demand" for capital goods and the "expansion demand." Now it is frequently inferred by those who lay stress on the acceleration principle that this classification is significant only in terms of their theory. This is a great mistake. In point of fact all those cycle theorists who have approached the cycle problem from the side of production have placed great emphasis on the point that business fluctuations are a function of progress, of growth in capital formation. It is important to note that if this growth comes by *spurts*, there must of necessity be a cycle. This analysis, Mr. Harrod should note, does not rest its case on miscalculations or

errors of judgment. Even though just the right quantity of houses, hotels, office buildings, factories, machines, public utilities, etc., were constructed in the boom, the slump would still come. For as soon as the "right amount" of additional capital goods was completed, one would only need, for the most part, to maintain and replace this stock of goods. Whenever the "expansion demand" falls off more than the "replacement demand" rises, there will be an actual decline in investment. It is the fact of *growth by spurts*,¹⁵ by *fits and starts*, as Robertson and Spiethoff have put it, that is significant. And be it noted that such spurts may not be caused at all by variations in consumption. They would occur even though consumption advanced at an absolutely steady and uniform rate. Inventions, the discovery of new resources, changes in the efficiency of the factors of production, the "swarming" of innovations (Spiethoff, Robertson, Cassel, Schumpeter)—these factors may operate quite independently of changes in consumption. These are the true "dynamic determinants" of growth and progress, of new investment, and of rising activity and income.

The reason why the spurt comes to a sudden halt is well stated by Keynes in his chapter on the Trade Cycle¹⁶ when he says that the essential character of the Trade Cycle is mainly the result of the way in which the marginal efficiency of capital fluctuates. This is partly a matter of the slope of the marginal efficiency curve, and partly a matter of the shifts, up and down, of the curve itself. The marginal efficiency of capital suddenly declines, following a boom, owing in part to the increase in the stock of capital goods. The marginal efficiency of a second railroad track may be very high, but that of a third may well be zero. A city may

¹⁵ The depression is a period of cessation of growth. There need be no actual relapse in capital formation—the existing stock being fully maintained.

¹⁶ *The General Theory of Employment, Interest and Money*, p. 313.

need one more hotel or office building, but still another might well prove a white elephant. Once the supply of new capital increases to a certain point, the marginal efficiency may drop very rapidly. Moreover, much new investment is strictly of a non-recurring type. As Spiethoff put it some thirty-five years ago, once the "empty vessel" is filled, one has only to keep it filled. Capital construction then falls to the level required by replacement. All this would happen even though consumption remained perfectly stable. And as soon as the prospects for a continued advance in investment become dimmer, the whole marginal efficiency curve shifts rapidly to the left.

It is because of the disposition to connect the "expansion" aspect of the demand for capital exclusively with the acceleration principle that its supporters have succeeded in obtaining for it a place in cycle theory out of proportion to its true importance. The really significant thing is the violent fluctuation in the "expansion demand" for capital. And even though there were no fluctuations in current consumption (and therefore no scope for the acceleration principle) changes in the expansion demand for capital would still occur in a highly dynamic and progressive economy where numerous factors are intermittently at work affecting the prospective rate of profit on new investments.

(2) Consider next the author's thesis on a "full recession" to the "bottom." The conception of the "bottom" is exceedingly vague. If it merely means that a recession does reach some bottom short of zero activity, nearly everyone would agree; only a few have argued that without positive governmental action there is no reason why the system should not completely run down. With Harrod a bottom is reached when savings are reduced to the level of "intended investment," and this he thinks is reached when net saving is reduced to a level "not much above zero" (p. 105). Accept-

ing his analysis this would necessarily imply that "intended investment" also falls to zero.

But why need net investment (p. 105)¹⁷—strictly speaking he should have said "intended" investment—fall so low, or, conversely, why not lower? The author argues that some replacement will always be necessary so long as there is some output. This is surely reasoning in a circle; and besides, *some* replacement might fix the bottom far below zero net investment. He further argues that corporations set aside less in depreciation allowances during depression. But there is no reason to suppose that this deficiency would just offset the savings of the public, thereby making total net social savings zero. Finally he says that a lower rate of interest will stimulate investment, and admits this "may somewhat raise the level of the bottom" (p. 113). This can mean nothing else than that there is after all no definite "full recession."

Believing strongly that salvation must come through the destruction of savings, the author welcomes the sharp decline of profits during the depression. This is quite consistent with his main thesis, but his particular formulation leads him into a curious contradiction. He makes his point in terms of profit fluctuations. These, as we have seen, are regarded as deplorable, since the rise in profits calls a halt to the advance. But from another point of view he welcomes these fluctuations, for, so he reasons, the amplitude of output fluctuation is diminished thereby, since the bottom of depression is reached the sooner if profits rapidly vanish. Obviously, he is trying

¹⁷ On pp. 62-64 he gives a curious definition of net investment. Obviously it ought to be defined as the amount of new construction of capital goods over and above replacements. Instead he includes in net investment that part of replacement which is in excess of the funds currently set aside for depreciation. Similarly any excess of current amortization over replacement must be subtracted from new construction to get net investment. All this is surely wrong. It makes no difference how capital construction is financed. Net investment is that part of capital goods output which is in excess of replacements.

to ride two horses. What he really favors is not profit fluctuations, but the utter elimination of excess profits. Put in this form we should agree, inasmuch as equilibrium in the cost-price structure is a necessary condition for stability. But this is not what interests him. His interest in profits arises from his slant on saving, the volume of which is increased whenever surplus profits are present in the system. Saving is regarded as always deflationary. In the boom it checks the continuation of a desirable advance. In the depression it forces the economic machine to lower and lower levels of activity.

It is seriously to be questioned that depressions have usually reached bottom via sufficient impoverishment to reduce net savings to zero. The emphasis is quite misplaced. The bottom is reached, and the upturn takes place, not because savings are squeezed to insignificance, but because eventually investment revives. And this is partly a result of the continued pressure of savings in so far as this acts to lower the rate of interest. (Unfortunately a large part of the savings have no such effect and merely "run to waste"; had such funds been spent, revival would have been stimulated.) Moreover, the relative stability of "current" consumption helps to put a bottom somewhere to a depression, for it serves to sustain activity and therefore necessitates, with the passage of time, an increase in replacements. Meantime the development of inventions, new processes and new products, bit by bit, enlarges the outlet for investment. Finally, insofar as there is any flexibility left in the system, an improved balance in the cost-price system facilitates recovery. Mr. Harrod forgets, at a point where they might have been useful, the role of his static stabilizers.

(3) Once the bottom is reached, the author predicates revival on the necessary increase in replacement incident to the passing of time (p. 101). With this meager suggestion he

dismisses the problem of the revival, in which he apparently has little interest.

(4) He is, however, intrigued with the problem whether a steady advance is of necessity rendered impossible once the system has experienced a "full" recession to the bottom. "If the starting point is one of large unemployment we must either acquiesce in that as a permanent feature or allow a rate of advance in output that cannot permanently be maintained" (p. 106). Elsewhere he is a bit more optimistic. While any rate of advance must be limited (if it is to be maintained) to the rate of growth of population and efficiency, this does not mean, he says, that you cannot reduce any of the unemployment of the slump; rather it means that any excess of the slack of unemployment over the slack of redundant capital equipment can never safely be taken up. But since population has grown during the depression, while new capital construction has been largely or wholly stopped, this still forces you, he declares, to accept, as permanent, a level of unemployment not far from its worst. And even this very restrained program of expansion would not guarantee the system from a relapse. Indeed, so runs the argument, should a relapse come after all, the situation might become worse; since, after a restrained prosperity with a relatively low volume of new capital construction, the necessary replacements in the subsequent depression would be relatively small. Thus we face a dreadful dilemma. If you allow a rapid advance, the volume of net investment will run very high, and this would entail a severe depression, since a "full recession" drives you down to zero net investment. If, however, you restrict yourself to a moderate advance, you may encounter a still worse depression because there will then be little need for replacements! Only in the event of starting the advance from fairly full employment can we hope to

avoid a major depression, and then only by a very clever manipulation of the interest rate.¹⁸

The problem with which Mr. Harrod is here wrestling is a real one. Difficult as it may be to secure a steady advance equal to the secular rate of growth and efficiency, it is far more difficult to maintain the sharp advance that we simply must make if we are to climb out of a deep depression. Yet I venture to say that Mr. Harrod has overstated the seriousness of the problem. This is partly because he overstresses the principle of acceleration.

We can make two choices: We could endeavor to bring employment in the durable goods industries (consumers' goods as well as producers') up to the full level of the preceding boom (and a bit higher in order to absorb the increase in population). In order to maintain this level, something must be done to enlarge permanently the demand for such goods. It would very probably be necessary to increase the relative importance of consumers' goods in the total output of durable goods and to be prepared to push this ratio still higher when depression looms ahead. Again, we could deliberately seek to divert a part of the labor supply away from durable goods to service fields—recreation, adult education, cultural activities, and the like. These policies would involve a deflection of a larger part (than formerly) of the total income to the community as a whole via taxation or loan expenditures on public investment projects.

Mr. Harrod has little confidence in monetary remedies for the trade cycle. One of his many sweeping and unsupported generalizations is to the effect that there is a remarkable consensus of opinion among economists on the thesis that

¹⁸ Will the central bankers feel enlightened when they read the following? "At a certain crucial stage in the advance the interest rate might be kept higher than it has been wont to be, and later, as the increased propensity to save and the diminishing elasticity of demand tended to overcome the third determinant, it might be gently dropped" (p. 114).

monetary instability causes trade fluctuations (p. 174). With this majority (?) view he definitely disagrees. Nevertheless he staunchly supports a program for monetary stability, yet never makes clear just what the program is. He regards the arguments directed against it as incredibly weak. In this connection he examines a brief catalogue of arguments against paper money and appears to view these as adequately representing a critique of monetary stability! He is confident that the stable money program (whatever that may be) will eventually be achieved. All "right-minded" men should "cry loudly" for stable money for it rests on "self-evident" principles (p. 178). He hopes that at the onset of the next depression the banks will increase the quantity of money on a heroic scale. Why he should be so ardent on this point is somewhat difficult to see, for he definitely thinks the experiment will fail. More money (issued by the banks against assets) will not raise prices except as a lower rate of interest increases activity; and this, as we know from experience, has only limited possibilities. Brief consideration is given to the proposal to give the monetary authority power to make money interconvertible with stocks of goods (raw materials, motor cars, buses, ships) in order to hold the price level steady—the "ever normal granary" carried to its rigorously logical conclusion. The author concedes that this *would* be a bit Utopian, especially if the goods basket included women's frocks!

Main reliance is placed on public works and public finance. Under these circumstances the new money will usually be spent quickly by consumers; such increase in money does affect prices. Public works should be injected at once during the brief interval of the "breathing spell." After the system has really started downhill toward the "bottom," expenditures on a heroic scale would be necessary. Remission of taxes is regarded as a weak device—one not likely to

raise purchasing power. On the contrary, higher taxes designed specifically to discourage saving may become increasingly necessary as countries become wealthier.

Budget deficits, not always easily balanced by subsequent surpluses, may create a growing burden of indebtedness. Thus the rentier element would be enlarged. But excessive saving can be counted upon "to push the rate of interest down to a nominal level, so that the rentier position would not be a strong one" (p. 222). Mr. Robertson has called this dual prospect for the rentier class at once its apotheosis and its euthanasia.¹⁹

I can find only one new tool in Harrod's work-kit. It is the law of diminishing elasticity of demand. The existence of this law appears plausible. It is certainly reasonable to suppose that imperfect competition, in Chamberlin's sense, flourishes during the boom. We know that advertising increases with good times, and that advertising serves to attach a clientele of customers to one firm. On the other hand, history reveals unmistakably the tendency toward the formation of outright monopolistic combinations during the depression phase of the cycle. These combinations weaken during the boom and in their place steps monopolistic competition. Thus restrictive tendencies are present in different forms in both phases of the cycle. The influence of monopolistic combinations upon depression has long been a subject of study and indeed dispute. The presence of monopolistic competition in the boom commands attention, and Mr. Harrod deserves credit for raising the issue.

¹⁹ *The Canadian Journal of Economics and Political Science*, February, 1937, p. 127.

HAYEK ON INVESTMENT AND MONETARY CONTROL

THE problem of the business cycle has been attacked from many angles. A line of approach which has come into great prominence in recent years is that which seeks to discover in the disequilibrium of investment and savings the causes of the fluctuations of business. Empirically, we know that the most salient characteristic of cyclical movements of business is the fluctuation in the production of capital goods. This fact presents a challenge to the economist, and the problems which it suggests have been attacked by methods as diverse as those of Spiethoff and Cassel, Aftalion and J. M. Clark, Schumpeter and Robertson.

The great merit of this approach is that it provides a method through which it may be possible to integrate the monetary and the real phenomena which together underlie the business cycle. This possibility was clearly seen by Wicksell.

Foremost among the champions of the investment and savings approach are the economists of Vienna, led by Mises, but more recently represented by F. A. Hayek. In the English-speaking world the outstanding proponent of this particular method of analysis in the early thirties was John Maynard Keynes, who had arrived at his conclusions for the most part independently and without close knowl-

edge of the works of the continental economists. It is in these contributions, and in the controversies which they have engendered, that one finds the most signal recent developments of business-cycle and of monetary theory.

The use made by Keynes and Hayek of the method above suggested was strikingly different, and the results which they achieved stand out in sharp contrast. While Keynes favored intervention, Hayek concluded from his analysis that current attempts at management of the currency were likely to be dangerously disrupting. He remained a staunch champion of *laissez faire*.

Perhaps the simplest way to envisage the fundamental causes of industrial fluctuations is to compare—admitting that analogies are always imperfect, if not dangerous—the economic mechanism to a pendulum. Here is a mechanism, which, by virtue of its inner structure, tends to oscillate back and forth once the state of equilibrium is disturbed by an outside force. It should be noted that the pendulum would not swing in cycles were it not for: first, the disturbing outside forces, and second, the peculiar internal structure of the mechanism itself.

A precisely similar statement may be made about the modern economic order, and it is basic to an understanding of the cycles of prosperity and depression. Business would not run in wavelike movements were it not for disturbing or initiating forces which destroy the equilibrium. Moreover, even granting the operation of these disrupting influences, cyclical fluctuations would not follow therefrom were it not for the peculiar *structure* of the modern economic order.

To understand the business cycle it is necessary, first, to examine the internal structure of the present order, which “causes” economic life to move in a wavelike manner in the

same sense that the internal structure of the pendulum "causes" it to swing in definite periods;¹ and, second, to examine into those initiating forces which "cause" the cycle movement in the same sense that a kick "causes" the pendulum to swing.² Those characteristics of the internal structure, and those initiating forces which run in terms of *real* as opposed to *monetary* phenomena, will be familiar to students of Spiethoff. Yet while these *real* factors would cause economic dislocations even in a barter economy, they do not adequately account for business cycles in a money and price system. The impact of technical change upon a capitalistic economy is magnified, in its disrupting effect, by passing through the money transformer.

Hayek appears to hold the extremely simplified view that the disturbances which continually arise from the side of *real* phenomena in a highly dynamic world could be prevented from causing serious errors of judgment on the part

¹ A statistical attack upon the varying periods of replacement of the different forms of durable goods, whether consumers' or producers' goods, the changes in the length of these periods, which have come with the changing structure of industry and the development of new products, and the cumulation of these hundreds of replacement cycles, each of different length and varying over time, into a single generalized replacement index, may be expected to throw light upon the recurrence of minor and major cycles, their relation to each other, and the varying lengths of the depression phase of the cycle in different historical epochs. Similarly, a statistical attack upon the varying periods of "gestation" of the different forms of durable goods may help to throw light upon the variations which are found in the length of the period of prosperity. A breakdown of the process of production, along the lines suggested, into component cycles or periods of gestation and replacement might well prove to be a most valuable statistical attack upon the business-cycle problem. It should help to answer the question whether on the basis of technology any logical ground can be found for the apparent element of periodicity (if we may apply that word to a recurrent oscillation which varies in length) in business fluctuations, or whether the phenomenon may better be described as a "Konjunktur," a fortuitous combination of circumstances. It is quite possible, also, that the periodicity of the cycle may be determined in part by the functioning of the institution of money, as Hawtrey believes.

² Credit is due to Dr. Ragnar Frisch for this analogy.

of entrepreneurs by the simple device of holding money neutral.

In order to facilitate discussion it is proposed to state Hayek's theses in a series of propositions as follows:

Thesis Number 1. That depression is brought about by a shrinkage in the structure of production (i.e., a shortening of the capitalistic process). In Hayek's view, the phenomenon of depression is a shrinkage in the structure of production. Dynamic forces may bring about various effects on economic life, but unless they have the specific effect of shortening the process of production, depression will not follow therefrom. Nor does depression ever assume any other form than that of a shrinkage in the structure of production. In short, depression may be defined as a shortening of the capitalistic process of production.

Thesis Number 2. The leading cause (there are, however, others) which ultimately brings about, indirectly, a shortening in the process of production, is the phenomenon of *forced* saving.

Thesis Number 3. An elongation of the process of production caused by *voluntary* saving tends to remain intact; or, at least, there is no inherent reason why such an elongation *must* necessarily be followed by a shrinkage in the structure of production.

An increase in voluntary saving would cause an enlarged demand for producers' goods in relation to consumers' goods, and this would raise the prices of goods in the higher stages of production in relation to those of the lower stages. The consequent narrowing of the price margins or, in other words, the lower rate of interest, would thus make possible a permanent elongation of the process of production.³

³ It should be noted that this is true only on the conditions of (a) full employment of all resources and (b) a neutral money supply. An increase in the volume of saving (here regarded as identical with investment, since

Thesis Number 4. A lengthening of the process of production caused by forced saving (the money supply not having been held neutral) cannot possibly be permanently maintained, but must necessarily be followed by a shortening in the process of production.

An increase in money supply (bank credit) made available to entrepreneurs would cause an increase in the demand for producers' goods in relation to consumers' goods, and this would raise the prices of goods of the higher order in relation to those of the lower order. The consequent elongation of the process of production could not, however, be maintained, because a reversal in the price relationship of higher and lower order goods would appear as soon as the money supply ceased to increase, owing to the fact that spending and saving habits had not changed. Thus a shrinkage in the artificially elongated process of production would inevitably occur.

Thesis Number 5. That an increase in consumer demand occasioned by an increase in the supply of money (over and above what may be necessary to hold money neutral) inevitably brings about a shortening in the process of production, and so causes depression.

An increased supply of money made available directly to consumers would cause an increase in the demand for consumers' goods in relation to producers' goods, and would thus raise the prices of goods of the lower order in relation to those of the higher order, and this would inevitably bring about a shortening in the process of production.

there is no forced saving) results in a lower rate of interest and shifts income expenditure from consumption to investment. See criticism by Keynes, in *General Theory*, pages 192-93, on the validity of identifying the price margins between the lower and higher order goods with the rate of interest. While valid under certain conditions, Keynes's criticism fails to take cognizance of the assumptions laid down by Hayek. Under these assumptions a change in the rate of interest does involve, as Hayek has it, a shift in the price levels of producers' and consumers' goods.

Thesis Number 6. That excessive public expenditures and taxation, by increasing the ratio of spending to saving, will force a shortening in the process of production and so cause prolonged depression or business stagnation.

An increase in spending would cause an increased demand for consumers' goods in relation to producers' goods, and this would raise the prices of goods in the lower order in relation to those of the higher order. The consequent widening of the price margins between the lower and higher order goods, or, in other words, a higher rate of interest, would, therefore, bring about a shortening of the process of production.

Thesis Number 7. That the supply of money should be kept constant, except for such increases and decreases as may be necessary (1) to offset changes in the velocity of circulation, (2) to counteract such changes in the coefficient of money transactions as are occasioned by the amalgamation of firms, and the like, and (3) to provide for any changes in non-monetary means of payment, such as book credit, that may be taking place. (A distinction is thus made between a "constant" money supply and a "neutral" money supply.)

Thesis Number 8. That any change in money supply (other than that necessary to hold money neutral) is harmful because it necessarily brings about, eventually, a shortening in the process of production. (a) If the increased money supply goes to entrepreneurs, the process of production is first elongated, but, subsequently, necessarily shortened, returning to its previous status, or to a still shorter process. (b) If the increased money goes first to consumers, the shortening of the process of production takes place at once, and the process remains shortened until the money flow ceases.

Thesis Number 9. That an increase in production and trade forms no justification for an increase in bank credit.

Thesis Number 10. That a period of depression should

not be counteracted by any inflation of the money supply, though, in theory, there is the possibility that during the acute stage of the crisis, while the capitalistic structure is tending to shrink more than will ultimately prove necessary, a nicely regulated increase might prove beneficial. The impossibility of such skillful management makes this an unimportant exception.

These statements are our own formulations of Dr. Hayek's theory. It is believed, however, that they present a fair and accurate summary of his position. They are derived from the analysis contained in Chapters II, III, and IV of his *Prices and Production*. They are stated in this formal manner in order to facilitate discussion.

Thesis Number 1 is highly controversial. In a society in which the working population is stationary, a shrinkage in the structure of production would mean not only that the rate of new investment had declined, but that it had fallen to a minus quantity.⁴ Suppose new investment fell to zero, but that existing capital was being fully replaced, then the process of production, being neither shortened nor lengthened, would just be maintained. It follows that there could be a violent fall in the rate of investment before any shrinkage in the structure of production occurred.⁵

According to the saving-investment equilibrium analysis, however, depression does not wait upon an actual shortening of the capitalistic process of production. It may occur even though the structure of production is being elongated. Even

⁴ Dr. Hayek says that "any change in the amount of capital per head of working population is equivalent to a change in the average length of the roundabout process of production. . . ." *Economica*, February, 1932, p. 42.

⁵ See Hayek, *Prices and Production*, pp. 48-49, where he seems to say that the structure of production remains the same if replacement is fully maintained. On p. 50, however, he appears, inconsistently, to say that if the total demand for producers' goods (whether for replacement or for new capital) declines, the process of production is shortened. See also p. 136. All references are to the 1935, revised edition.

though there were a considerable volume of net investment, and so an elongation of the capitalistic process, depression would still obtain, provided only the rate of investment fell below the rate of saving. Depression is a condition caused by the failure, owing to all sorts of obstructions, of an even flow of the two compartments of income—saving and spending—into the market for producers' goods on the one side and consumers' goods on the other. If this flow is being obstructed by reason of the fact that savings outrun investment, thus causing a considerable amount of purchasing power to be held in abeyance, depression and unemployment would prevail, even though there were some lengthening of the process of production.

Conversely, it is theoretically conceivable that there might be a shrinkage in the process of production without any resulting depression. If a minus quantity of net investment were balanced by a minus quantity of saving, no depression, according to this analysis, would ensue. This view, however, rests on the assumption of the possibility of instantaneous readjustment of production to shifts in demand.

But it is just at this point that it is important to take account of friction as a factor in economic dynamics. Mr D. H. Robertson holds the far more realistic view that because of the lack of mobility of factors, any violent shift in production from consumers' goods to producers' goods and back again, or from one important industry to another causes business fluctuations. "If it be true that industrial development, if we are to have it at all, must needs proceed to a certain extent by jerks, there will be times when a transcontinental railway has just been built which will meet all traffic needs for many years—when the street railway system of the country has been electrified, or its merchant fleet converted to an oil basis, when every man, woman, and child possesses a motor car—in short, when a condition of tempo

rary saturation with some important kind of equipment has been reached, and it is exceedingly difficult for mankind to switch his activities straight away into the satisfaction of some new need. Under such conditions, and we should be rash to say we would rather they never occurred, the symptoms of industrial depression will develop.”⁶

Maladjustment in production, arising from a violent decline in the demand for the products of important industries, will result in unemployment of factors and reduced output. The flow of money purchasing-power is obstructed, and time must elapse before the bank credit released from the declining industries can be got out to producers in other industries in sufficient volume to offset the contraction in those branches which are retrogressing. There will follow eventually an improved condition in other lines, and this, in turn, will finally lead to the employment of the factors displaced by the declining industries. But because of the immobility of labor, and of the other factors, especially when re-employment involves migration to other regions, this takes time, and, in the meantime, production and employment are reduced. If a shift of this character affects industries employing many workers, and if these, in turn, furnish a market for significant related industries, a very considerable depression may grow out of shifts in demand which requires a readjustment in the productive forces before a new equilibrium is reached. Depressions of this sort arise not out of a shortening in the process of production, but out of the immobility of the factors of production and the lapse of time required to induce entrepreneurs to utilize the resources released by the declining industries.

⁶ D. H. Robertson, *Money* (1929), p. 189. See also Arthur Spiethoff, "Vorbemerkungen zu einer Theorie der Überproduktion," *Jahrbuch für Gesetzgebung Verwaltung und Volkswirtschaft* (1902), pp. 730-733; also his "Krisen," *Handwörterbuch der Staatswissenschaften* (1925), VI, p. 74.

A special example of the type of depression factors here under consideration was the closing down of the Ford factories during a large part of 1927 while preparations were being made to produce a new model. The ramifications of this shut-down upon related industries were of a sufficiently large order of magnitude to produce a considerable depression of trade. There was no shrinkage in the structure of production. The decline in employment, production, and purchasing-power was due altogether to the inability to adjust instantly the processes of production to the changed situation.

The view that the essence of depression is a shrinkage in the structure of production is surely far too narrow to fit the facts. Indeed, it may be questioned whether the process of production is ever shortened, except in depressions of such great severity as that through which the world has recently passed. In minor depressions the net investment of capital may continue, though, to be sure, at a reduced rate. The capitalistic process may not unlikely be lengthened. Only in exceptionally severe depressions will there certainly be a failure to maintain the existing supply of instrumental goods. It is true that "self-help" movements among the unemployed result in more direct processes of production; that governments often discard machinery and resort to hand methods in order to furnish more employment; and that low wages, together with an unfavorable capital market, may in some industries result in a relatively larger use of labor and a relatively smaller use of capital. On the other hand, many industries utilize the depression period to reorganize plant and equipment in preparation for increased production at the lowest possible unit cost. Kuznets' study shows that net capital formation occurred on a relatively high level in the minor depressions, while in the

Great Depression replacement fell far short of the amount necessary to maintain the capital stock.⁷

At times, therefore, the role played by a shortening of the productive process may become a significant aspect of deep depressions. But it is the decline in the production of capital goods as a whole, whether new capital or replacement, which is the most outstanding characteristic of a depression period. The mere *decline* in such production does not imply, of necessity, a shrinkage in the structure of production.⁸

With respect to Thesis Number 2, we may at once so far agree as to concede that forced saving is, as banks now operate, a major disturbing force causing business depressions. We deny, however, as will be seen later, that forced saving *as such* is necessarily a disturbing factor. Dr. Hayek would be much nearer the truth if he had pointed to the effect of forced saving upon *fluctuations* in the volume of capital investment. Overstimulation in the production of capital goods finally brings collapse. But a steady rate of new investment, even when persistently stimulated by forced saving, need occasion no concern. Moreover, it should again be noted that a shrinkage in the structure of production is not synonymous with depression.

No objection can be raised, we believe, to Thesis Number 3 formally interpreted. It is correct so far as it goes. It contains, however, an implication with which we cannot agree. It suggests that if the process of production is first greatly elongated and subsequently maintained at the new level, no disturbance to economic equilibrium will follow. To make

⁷ S. S. Kuznets' *National Income and Capital Formation, 1919-1935*, New York, 1937.

⁸ It is of interest in this connection to note Cassel's statement that a "period of advance is one of special increase in the production of fixed capital; a period of a decline, or a depression, is one in which this production falls below the point it had reached." *The Theory of Social Economy* (1923), p. 521.

it concrete, the implication is that if an enormous capital equipment is quickly built up in the automobile industry, the cessation of further net addition to equipment would cause no disequilibrium provided only the achieved process were maintained. The transition, however, from a large program of new investment to mere replacement would entail such an enormous decline in investment that a curtailment of purchasing-power and depression would, at least in the absence of counter stabilizing forces, almost certainly ensue.

We come now to a consideration of Thesis Number 4, a very important one. The conclusion stated we think is in part unsound. Dr. Hayek has here fallen into essentially the same error which he has so roundly criticized in Foster and Catchings. These writers, as is well known, maintained that depression is an inevitable concomitant of the phenomenon of saving. Hayek now announces that forced saving must necessarily result in depression. Both conclusions are invalid. It is true that economic stability might be expected to be far more secure were it not for the continued accumulation of capital. And it is still more true that if forced saving could once and for all be eliminated, economic instability might be expected to be very considerably minimized. But neither voluntary saving nor yet forced saving need of necessity disrupt the economic equilibrium. Rather it is the *fluctuations* in the rate of capital accumulations, whether occasioned by voluntary or forced saving, which cause disturbance to the even flow of industrial life. A uniform accumulation of capital, as Bickerdike and others have shown, is not inconsistent with economic stability.

A *steady* and persistent increase in bank credit based on a slowly expanding stock of gold reserves is certainly not unthinkable, though admittedly, in the present state of central bank management, not easily achieved. At any rate the

question here is not whether or not a stable growth of bank credit is possible of practical attainment. The question is whether any increase in bank credit, supplying funds for investment which had not previously been saved, would of necessity cause disequilibrium. In our view there is no reason whatever to assume that such would be the case.

Dr. Hayek's thesis, and indeed that of the entire Vienna school, is, at this point, not wholly tenable. A part of their argument is quite correct, namely: that, under the artificial stimulus of forced saving, capital accumulation is developed to a point which is in excess of that which can permanently be maintained on the basis of voluntary saving. As soon as the artificial stimulus is removed, therefore, it is discovered that the structure of production has been elongated to a point which requires more capital than can be maintained by voluntary saving. Thus far the reasoning is sound.

It is next argued that a contraction in the capitalistic structure must necessarily sooner or later follow from every elongation of the process which is brought about through forced saving. This conclusion, however, does not of necessity follow. It rests on the assumption that the increase in bank credit cannot continue indefinitely, and that therefore reliance must sooner or later be placed wholly upon voluntary saving. This is invariably the reason assigned by Hayek, in *Prices and Production*, for the alleged inevitable crisis. But it is just this point that is wrong. There is no reason whatever why the volume of bank credit might not *steadily* continue to rise indefinitely provided either that sufficient gold reserves were forthcoming, or that bank efficiency in the use of gold progressively improved. Or, if a managed currency were substituted for gold, a slow and persistent increase in bank credit might continue indefinitely without resulting in inflation, provided the rate of increase

in money supply were no greater than the rate of increase in real income.⁹

A moderate degree of forced saving *as such* is not necessarily an evil. A shibboleth has of late been made of this term, so much so that, with some economists, the belief in its evil effects has become a fixed superstition. The persistent steady pressure of forced saving would be beneficial to society. What is disturbing is *fluctuations* in the quantity of bank credit, causing now a large volume of forced savings, and now complete cessation thereof. It is not forced saving as such, but its *irregularity* under existing bank practices which causes disturbance. But that is quite a different matter from the argument presented by Dr. Hayek.

No more stable period in the economic history of the last hundred years can be found than that of 1896 to 1914, a period of continued increase in bank credit and slowly rising prices. There were *fluctuations* in the volume of bank credit which were disturbing, but less so than in periods of limited bank credit and decline in prices. The forced saving of this period stimulated investment, but not an excessive amount of instability. Moreover, the non-monetary causes of instability operating in this period should not be overlooked.

Thesis Number 5 is, we believe, not tenable. There is assumed an expansion of consumer demand arising from an issue of money directly to consumers. This, it is claimed, will inevitably result in a shrinkage in the structure of production.

It will be noted that it is assumed that the supply of money and bank credit is elastic. Under these conditions Hayek's conclusion is invalid. If the prices of consumers' goods rise in consequence of the payment of more money

⁹ See Hayek reference to a "constantly increasing rate," p. 150 (1935 edition). It should be noted that a constantly increasing rate is quite consistent with a constant *percentage* rate of increase.

to consumers, the *prospective* rate of profit on output in all the various stages of production will rise. Entrepreneurs will apply to the banks for credit in order to take advantage of the promising prospects. The expanding volume of producer credit will forestall the shift of non-specific goods from the higher stages to the lower stages of production, as Hayek has it. The effort of consumers, in consequence of their increased money incomes, to shift production from goods of the higher order to goods of the lower order will be frustrated by the producers who, tempted by the prospective rate of profit, will at once arm themselves with more money purchasing power.

Hayek's mistake at this point arises from the failure to distinguish between a real change in the demand for consumers' goods occasioned by a fundamental modification in time preference for present and future goods, and a nominal change in demand arising from an increase in the volume of money. A rise in the rate of interest, following from increased spending habits, would bring about a rise in the prices of consumers' goods in relation to producers' goods. Under the assumption of a fixed money income, consumers' goods would then rise in price and producers' goods would fall. But a rise in the prices of consumers' goods occasioned by putting more money into consumers' hands will not cause producers' goods prices to fall, for entrepreneurs, enticed by the wider margin of profit in all the lower stages of production, will anticipate higher profits in all the various stages, and will therefore apply for bank credit and seek to expand operations.¹⁰ Indeed it is likely that producers' goods prices will rise much higher than consumers' goods prices for the well-known reason, assigned by T. N. Carver, Albert Af-

¹⁰ If we assume all the factors employed, as Hayek does, this would simply mean that entrepreneurs would bid up the prices of the factors without succeeding in enlarging output.

talion, and J. M. Clark, that a slight rise in consumers' goods prices greatly widens the margin of profit which, capitalized, causes a large increase in the prices of producers' goods.

We must distinguish two quite distinct influences operating on the prices of consumers' and producers' goods: (1) changes in the rate of time preference; (2) expansion of the money supply. The latter may, indeed, indirectly affect the former somewhat, owing to the effect of the shift in the distribution of income incident to a rise in money income and prices. But to clarify our thinking we must hold the two quite distinct in order to isolate the effect of each upon the relative prices of consumers' and producers' goods.

Assuming a fixed money supply, a rise in the rate of interest, consequent upon a change in the time preference of income receivers, will of necessity cause consumers' goods prices to rise and producers' goods prices to fall. This increase in the price margin between goods of the higher order and goods of the lower order is, as Hayek rightly points out, the very essence of an increase in the rate of interest. The demand for consumers' goods is increased in relation to the demand for producers' goods, and the prices of the former rise in relation to the latter. Under full employment of resources, a shift in production will occur involving a decline in the output of producers' goods and an increase in the output of consumers' goods.

This is not, however, what Carver, Aftalion, and Clark are thinking of when they say that a slight rise in the prices of consumers' goods will bring about a greater rise in the prices of producers' goods. They are thinking, not of the effect of a change in the ratio of spending to saving on consumers' and producers' goods prices, but of the effect of an increase in money supply upon these prices. An increase in money supply will raise the prices of both consumers' and pro-

ducers' goods, and it is likely to raise the prices of producers' goods more than those of consumers' goods.

It is the lag of costs behind the rise in selling prices, incident to an expansion of money and credit, together with the lag of the market rate of interest behind the rise in the prospective rate of profit, which causes the prices of producers' goods to rise more than the prices of consumers' goods. The higher rate of profit capitalized at a lagging market rate of interest raises the prices of producers' goods. Producers' goods prices will remain out of line with consumers' goods prices so long as costs remain out of line with selling prices and so long as the market rate of interest lags behind the rate of profits. Eventually this disequilibrium in the internal price structure will be rectified, whereupon the prices of producers' goods will reach a new equilibrium in relation to the prices of consumers' goods.

It makes little difference with respect to the relative prices of producers' and consumers' goods whether the increased money supply flows directly to consumers or indirectly to consumers by way of entrepreneurial borrowing. Entrepreneurs will borrow more at the banks only if and when the prospect of profitable investment arises. This can only arise in consequence of some event which has affected, or appears likely soon to affect, the profit margin. And the profit margin can only be changed by either a lowering of unit costs or an increase in sales prices. Whichever happens, businessmen will wish to borrow more money. If the initial cause of the widening of the profit margin is an expansion of consumer credit, entrepreneurial credit will also quickly be expanded. If the initial cause of a wider profit margin is lower costs, entrepreneurial credit will expand, but this will quickly mean an increased supply of money to consumers.

The conclusion is that the prices of consumers' and of producers' goods move in opposite directions if we assume,

first, a rise in the rate of interest, incident to a shift in the rates of spending and saving, and, second, a fixed money supply. On the other hand, the prices of consumers' and of producers' goods will move in the same direction if we assume an increase or decrease in the money supply.¹¹ In the latter case the prices of producers' goods will likely fluctuate more violently than those of consumers' goods, but when equilibrium is finally established their relation to each other will be found to be unaltered unless the effects of the transition period have been such as to change permanently the time preference of income receivers. This is not unlikely, since an increase or decrease in the money supply is likely to increase or decrease the real income of the community.¹²

Some qualifications are, however, necessary. If the treasury of the United States should begin to hand out money in large volume to consumers, it is of course likely that confidence in the currency would be impaired. This would be particularly true under the gold standard. But this is quite a different matter. If we had a managed paper currency in which the public had, through long experience, acquired confidence, no such results would follow from the issue of money to consumers. Dr. Hayek is not discussing the effect of such issue upon the operation of the gold standard; what is under

¹¹ This analysis helps to reconcile the positions of Keynes and Robertson with respect to this question (see *Economic Journal*, September, 1931). Unless there is a change in the *effective* quantity of money—and this involves not only the quantity of bank deposits, but also the propensity of the public to hoard—a rise in the prices of consumers' goods must bring about a fall in the prices of producers' goods.

¹² A curious but absurd conclusion follows from Hayek's analysis if we invert his assumptions. Suppose, instead of increasing consumers' credit, it is contracted. Following Hayek's reasoning, a decrease in the supply of money paid to consumers should raise the prices of goods of the higher order in relation to goods of the lower order, and thus cause a movement of non-specific goods from the lower stages to the higher stages of production. This would mean an elongation of the structure of production and so, according to Hayek, a spurt of prosperity.

discussion is whether or not there exists an inherent connection between the issue of credit to consumers and the effect of such issue upon the structure of production in any sort of money system whatever. And on these grounds his conclusion will not, we believe, stand the test of close analysis.

With respect to Thesis Number 6 we readily agree that it is wholly fallacious to assume that a government can safely rely, in a private capitalist economy, upon spending its way out of depression to a sustained recovery. Public expenditures may indeed maintain income and employment on a higher level so long as the expenditures are being made. But there is no assurance that they will really "prime the pump" so that private enterprise can go forward on its own steam. Moreover, it is our view that any *sudden* increase in taxation might easily result in a serious decline in the rate of private investment and so check expansion. But here again we must be careful to distinguish between: (1) the proportion of the national income taken in taxes, as such; and (2) violent changes in this proportion. Sudden increases in the tax burden are surely disturbing. But it does not follow that a larger amount of community spending at the expense of private spending, or even at the expense of capital accumulation, would cause economic instability. Once equilibrium had been reached on the new level of public expenditures, there is no reason whatever to suppose that the proportion of such expenditures to total income is of itself a cause of concern for those interested in stability. It is not the absolute volume of saving or spending but a violent *change* in the ratio of saving to spending which is significant.

The Theses numbered 7, 8, 9 and 10 may best be treated together in order to avoid needless duplication. In our view none of them is valid.

The whole problem as to which is the most desirable: (1) a constant money supply, (2) a money supply expanding with the volume of trade, or (3) a money supply expanding a little faster than the volume of trade, simmers down to the question of frictions. Which of these conditions is likely to facilitate the speediest adjustments to such dynamic changes as increased productivity growing out of improved technical processes? This is the significant question.

The argument for a constant, or more accurately speaking, a "neutral," money supply must rest upon the assumption that friction would be minimized under this plan. In our view this argument is based upon a misconception of the functioning of modern economic institutions. It presupposes, in the first place, that prices are, in point of fact, reduced *at once* wherever technical improvements lower cost. Under the modern development of cartels, and other monopolistic or quasi-monopolistic organizations, this assumption does not correspond to reality. An important result follows from the failure of individual prices to adjust themselves at once to lower costs; namely, a violent shift in the distribution of the nation's income, profits absorbing a larger share and wages a smaller, owing to the displacement of workers incident to the combined effect of technical improvements and the maintenance of the sales price. This frequently results in an abnormal increase in reinvested capital and thus creates an unstable situation.

Moreover, it must be remembered that a neutral money policy is of necessity a central bank policy. It is not possible for the central bank to lower the individual prices of those commodities which, as a result of technical progress, are produced at lower unit costs. All the banking system can do is to keep money constant (or, more accurately speaking, neutral). The price *level* will, in consequence, fall, but there

is no assurance that the decline will take place in the commodities produced at lower costs. If the prices of these commodities are held above cost the effect of a neutral money policy will be to force down the prices of commodities whose costs have not fallen at all. This is true because unemployment in the cost-reducing industries affects the demand for other commodities. It will thus be seen that at the crucial point in his theory, Hayek's emphasis upon *individual prices* is of no avail.¹³ His neutral money policy cannot take account of individual prices in the manner necessary to preserve equilibrium in the internal price structure; it can only insure that prices somewhere (but not necessarily the right ones) shall fall. In short, a neutral money policy would be no guarantee that prices would be properly adjusted to costs. On the contrary, such a policy would almost certainly cause maladjustments in the price structure, since in many industries it would force prices below costs.

How disastrous a neutral money policy might be can be clearly seen from the history of prices in the United States from 1873 to 1896. During this period wholesale commodity prices¹⁴ fell 2.9 per cent per annum. This is not widely different from the decline in prices which a neutral money policy would impose upon a society making as rapid technical progress as was made in these decades. Yet this period witnessed depressions of extraordinary severity and duration. We do not contend that the fall in prices *per se* was an evil. Could it have taken place without causing internal price

¹³ To this Hayek might reply that for perfect equilibrium the elimination of quasi-monopoly is necessary. With this one could cordially agree, but the postulate is inconsistent with the facts. In spite of this, Hayek is prepared to utilize his theory as a guide to central bank policy. When he does this he has no right to assume away frictions. Under assumptions of complete flexibility one could, of course, be prepared to agree that a neutral money policy would not have these effects.

¹⁴ The variable weight index of Professors Warren and Pearson of Cornell University was used.

maladjustments all would have been well. But this, in a world of frictions, was not possible.

It had been suggested that the serious collapse of industry in the United States in the early thirties was caused, in large part, by the fact that the price level for some years prior to 1929 was substantially stationary, and did not fall as rapidly as technical progress warranted. In view of the many periods in our history of mild price increases, which were followed by only minor depressions, this reasoning appears to be of doubtful validity. Moreover, the facts are not quite as stated. From 1926 to 1929 the wholesale price index of all commodities¹⁵ declined 1.6 per cent per annum. If we measured the decline from 1925 it would be even greater. Moreover, the prices of non-agricultural products—the ones most involved in Hayek's argument—fell by 2.9 per cent per annum. As is well known the late boom was the only one in half a century in which commodity prices actually fell materially. On Hayek's reasoning the ensuing depression should have been one of the mildest in our entire history.¹⁶

Admittedly, prices in many industries were too high. But there were also many industries in which they were too low. It is by no means certain that this maladjustment in relative prices would have been reduced had banking policy forced a sharper reduction in the general price level. Moreover, it should not be overlooked that, in terms of international equilibrium, the American price level was too low.

Nor does Hayek's thesis take cognizance of the effect of two modern institutions both affecting wage-rates, namely:

¹⁵ See new revised index of Bureau of Labor Statistics.

¹⁶ There is no clear evidence yet that technical progress, if we take all branches of industry and trade into consideration, made any more rapid progress in the United States during the post-war decade than that experienced before the war. See the studies of Professors Warren and Pearson of Cornell University, on per capita output, and also those of Dr. Carl Snyder of the New York Federal Reserve Bank.

(1) piece rates and (2) trade unions. Dr. Hayek's thesis requires that the money earnings of the factors of production should remain constant while individual prices fall in line with lower costs. In point of fact, under modern conditions there is a tendency for the earnings of labor to rise. There is, in the first place, the constant pressure of trade unions, and even where this is of little importance, as formerly in the United States, the widespread application of piece rates tends to force earnings up. Even though it be granted that the piece rates are generally set on a new basis whenever a new technical process is introduced, it is nevertheless a fact that following the introduction of an innovation money earnings do rise. Moreover the constant incentive to higher personal efficiency is a persistent force tending to raise the money earnings of piece workers. If disequilibrium were to be avoided, under Hayek's neutral money, piece rates would constantly have to be lowered, and every pressure of trade unions for higher wages would have to be sternly resisted. That frictions, maladjustment, and disequilibrium would develop under these conditions is not difficult to foresee.

It makes no great difference whether the price level rises slightly, falls slightly, or remains stationary. What is important is that prices shall not change so rapidly, whether up or down, that the cost and price relationship is thrown out of equilibrium. It is of utmost importance that windfall profits and windfall losses should be avoided, and this requires that costs and prices shall be kept in line with each other. Disequilibrium results from a disruption of the internal price structure. It is idle to make a fetish of a stable price level or yet of a falling one. None of these is of any significance *per se*. A sharp change in prices, whether up or down, brings about a redistribution of income owing to the failure of costs to adjust themselves quickly to price changes. A sharp fall in prices raises costs above prices and results in losses; a

sharp rise in prices lifts prices above costs and results in abnormal profits. It is in the forces which produce changes of this character that we must look in part for the causes of business booms and depressions.

Whether we should favor a gently rising, a gently falling, or a stable price level will depend upon the view taken of the following question: What sort of price level will, under the impact of dynamic forces, most easily and quickly facilitate the adjustment of costs to prices or prices to costs, as the case may be, so that abnormal profits or losses may be avoided? This is the essence of economic stability. Considering the character of the frictions engendered by modern institutions, it is our view that, on the whole, costs and prices could be best adjusted by a gently rising price level. But we are not obsessed with this conclusion. A gently falling price level might, as Alfred Marshall stated before the Gold and Silver Commission, prove to be quite consistent with a satisfactory equilibrium between costs and prices.¹⁷

The problem of price stability leads to a consideration of Hayek's *Monetary Theory and the Trade Cycle* ¹⁸ published in the midst of the Great Depression. It deserves rereading in attempting an appraisal of the whole recovery program and, in particular, the policy of the Roosevelt Administration first to "reflate" prices to the level at which debts were contracted, and thereafter to stabilize them. For it is the aim of his book to refute the "theories which have led to the

¹⁷ A special point with respect to Thesis Number 10. Hayek's view is that depression should not be counteracted by any inflation of the money supply.

With recovery, the physical value of trade will of course expand. Should not the money supply—whether in terms of velocity (V) or volume of credit (M)—be permitted to rise? Were this not permitted, prices would fall still lower with every increase in the volume of trade. Such a situation would tend to block every effort at recovery. An expansion of money, either in terms of velocity of circulation or quantity outstanding, is a *sine qua non* of business revival.

¹⁸ Harcourt, Brace and Company, 1933.

belief that by stabilizing the general price level all the disturbing monetary causes would be eliminated." And while Dr. Hayek emphasizes the monetary causes which *start* cyclical fluctuations, he has no confidence that one can cure a depression by monetary means. "To combat the depression by a forced credit expansion is to attempt to cure the evil by the very means which brought it about." In his view the easy credit policy of the Federal Reserve System in 1927, together with the attempts to prevent liquidation once the crisis had come, was responsible for the exceptional severity and duration of the 1929 depression. It is therefore high time, he thinks, that the influence of the price stabilizers, whose advice "monetary policy all over the world has followed" for the last six or eight years, should be overthrown.

Unlike Wicksell, who was concerned with the effect upon the price level of the divergence of the money rate from the equilibrium rate, Hayek is concerned, as we have seen, with the effect of this disparity upon the successive changes in the real structure of production which, in his view, constitute cyclical fluctuations. A "rate of interest which equilibrates the supply of real savings and the demand for capital" is by definition a rate which permits no expansion of bank credit, for every expansion of bank credit means that the demand for capital is in part satisfied not out of savings but from the arbitrary creation of purchasing-power by banks. And it is this which causes all the difficulty. For once this artificial stimulus to capital formation is withdrawn, it is discovered that the investments in productive equipment have been so large as to render them unprofitable. A boom consists of a spurt of capital construction financed not from real savings but from bank loans. To prevent the boom one must prevent an expansion of the circulating media. And it is quite Utopian to hope to prevent a depression if one fosters a

boom. For the boom is regarded as the cause of the depression.

Dr. Hayek has no illusions that it will be easy for modern societies to eschew bank-credit sprees and thereby escape the headaches that come the morning after. It is pertinent to ask "whether the causes which bring it about that banks increase their deposits through additional credits in periods of boom . . . are inherent in the nature of the system or not." A competitive and profit-seeking banking system cannot resist a demand for additional funds, such as may arise, for example, from new inventions, the discovery of new resources, and the development of new industries. A competitive and profit-seeking banking system can, of course, be restrained somewhat by weapons at the disposal of the central bank, but these weapons are far from adequate to keep rigidly neutral the money supply. Should one, then, not argue for the elimination of private banking? Dr. Hayek would reply that a government-owned banking system subjected to political pressures could probably offer even less resistance to the demand for credit expansion. He is therefore able to suggest no more effective reform than the subjection of banks to an extreme degree of publicity.

It may be added that even though a government-owned banking system operated with the utmost scientific precision, it would face no easy problem. For the effective money supply is a product of the decisions of innumerable individuals, not merely of the actions of banks. Hoarding and dishoarding, credit expansion and debt liquidation, rapid circulation of currency and the holding of idle balances, shifts in spending and saving—these suggest the complex factors involved. To devise a scheme of control which will affect the decisions of competitive commercial bankers, of hundreds of thousands of entrepreneurs, and of millions of income receivers so that the end result will be a constant

effective money supply (velocity and quantity both considered) is a task for the Olympians.

And even if we could achieve "money neutrality" we should not thereby reach the desired goal. For money neutrality is no adequate guarantee either of profit stability or of investment stability, far less of business stability.

Hayek, clinging as he does to the price system, logically approaches the problem of control from the standpoint of monetary stability. But the prospects for success are unfortunately not great. This is so partly because we do not yet know what kind of monetary stability we want—witness the disagreement in the current monetary literature; partly because the instruments of control are too crude to cope satisfactorily with a complex situation involving the psychological reactions of millions of individuals with respect to the disposal of their incomes; partly because a democracy is not likely to pursue, for long, a consistent monetary policy, particularly one which calls for great restraint in the use of credit. Indeed, Hayek himself impresses upon his readers "how little we really know of the forces which we are trying to influence by deliberate management; so little indeed that it must remain an open question whether we would try if we knew more."

But the evolution of social control does not and cannot stand still. The monetary solution failing, or coming too late, inevitably opens the way to more direct methods of control—the regulation of production and investment, of wages and prices, through industrial codes enforced by trade associations, trade unions, and ultimately by the government itself. And the economic system is so interwoven and inter-related that the effort to solve one problem raises innumerable new ones. One regulatory policy forces still others. There is no logical stopping-point short of complete economic regimentation.

The competitive price system is a scheme of social organization without resort to mass forces. If and when this system disappears, a syndicalized society will face the terrific problem of social coherence. It is not difficult to see that this problem already looms on the horizon.

The extreme complication of the functioning of the price system under the labyrinth of conflicting and obstructing institutional arrangements—some of which were definitely introduced as protective devices by special-interest groups (for example, the tariff and monopolistic or quasi-monopolistic price and wage controls), some to remedy special problems (for example, the regulation of public utilities) but failing to take cognizance of the larger, indirect consequences—makes any program of reform extraordinarily difficult. Most of the planning procedures currently advocated offer only piecemeal attacks which are likely to lose sight of the whole. Only the monetary approach is universal in character. But this approach confronts two grave difficulties. First, even an ideal monetary mechanism cannot function successfully except in the framework of a structure of reasonably flexible individual prices; and second, its operation requires the utmost freedom from manipulation by special-interest groups.

In the final analysis, disturbance of the price system, in consequence of special-interest controls, is the crucial problem. The world-wide shift toward regimentation, following from the current, intolerable conditions, does not offer an escape from the conflict of interests, but seeks to reach an accommodation through methods essentially political rather than economic. Whether the full consummation of this program (should this prove to be the road on which the logic of events will drive us) will spell the end of democratic institutions depends upon the level of intelligence and self-control which modern populations have achieved. But if short-sighted human selfishness will not permit the price

system to function, what assurance is there that the problem of human relations will be satisfactorily solved in a regimented economy? Unwilling to bear the ills we have we fly to others that we know not of. This, indeed, is the process of history.

THE SOCIAL CREDIT PROPOSALS OF
MAJOR DOUGLAS

MAJOR DOUGLAS, a British engineer, speculating about the unbounded prosperity and full utilization of productive capacity during the war, came to the conclusion that there was a fundamental defect in our monetary system. These views were expounded in his *Economic Democracy* as early as 1920. Reinforced in his opinions by the events of the post-war depression, a series of new books appeared in the following decade. Effective journalistic converts were quickly won, including A. R. Orage, formerly Guild Socialist, W. T. Symons, and C. Marshall Hattersley, who has been called the "Thomas Huxley" of the movement. Others in the group were novelists, artists and literary critics.¹

Interest in Social Credit proposals spread during the de-

¹ Reference may here be made to the following literature on Social Credit:

Books by C. H. Douglas: *Economic Democracy*, *Credit Power and Democracy*, *The Control and Distribution of Production*, *Social Credit*, *The Monopoly of Credit*, *Warning Democracy*; Articles by C. H. Douglas: "Toward a New Economics" in *Living Age*, September, 1933; "The Premises of Social Credit," *Economic Forum*, Spring, 1933.

C. Marshall Hattersley: *This Age of Plenty*.

Philip Mairet: *The Douglas Manual*.

E. S. Holter: *The ABC of Social Credit*.

W. T. Symons: *The Coming of Community*.

Gorham Munson: "What Alberta Voted For," *Christian Century*, Sept. 4,

pression of 1921-22, waned in the relatively good times of the late twenties, and revived with the coming of the Great Depression. A few years after the war, the Douglas proposals were thoroughly investigated, and rejected as fallacious, by a committee appointed by the British Labor Party including such eminent names as Sidney Webb, J. A. Hobson, Hugh Dalton, Chiozza Money, and R. H. Tawney.

By now Social Credit groups have been organized in all the British Dominions and in the United States. The movement has achieved some political significance in certain parts of the Empire, but especially in Alberta where William Aberhart and his Social Credit adherents won the election in the summer of 1935. Mr. Aberhart's campaign pledges differed, however, rather widely from the Douglas proposals.² In the United States so-called New Economics groups have been organized, notably in New York and San Francisco. Under their leadership a bill, embodying Social Credit principles, was introduced in Congress by Representative Goldsborough of Maryland.

The proponents of Social Credit insist that there is an inherent defect in the existing order which makes it impossible for the economic system to function properly. The remedy, however, they regard as quite simple and easily applied. They do not think that the capitalistic system needs to be fundamentally changed. Indeed they hold that private capitalism is a marvelously efficient system—one which has

1935; "The Douglas Cure for Economic Ills," *Current History*, May, 1933; "The Douglas Plan for Consumers," *Commonweal*, June 9, 1933.

J. Bartlett Brebner: "Social Credit Sweeps Alberta," *Current History*, October, 1935.

The Social Credit Proposals (pamphlet), New Economics Group, 55 Fifth Ave., New York City.

For a discussion and criticism of Social Credit see E. F. M. Durbin, *Purchasing Power and Trade Depression*; and H. T. N. Gaitskell in Cole's *What Everybody Wants to Know About Money*.

² Mr. Aberhart's campaign platform was a weird mixture of certain aspects of Social Credit, stamped money theories, and the Townsend Plan.

demonstrated its capacity to produce a bewildering output of goods to the point even of embarrassment, or at any rate of a glut in the market. It would be foolish, they say, to destroy such a system. Private property, private enterprise and the profit system should be retained.

Socialism attacks the existing distribution of income; property incomes should be socialized. Social Credit finds fault, not with the manner in which the income is divided, but rather with the size of the total income. The existing system has developed vast powers of production, but it is incapable of distributing enough purchasing power to the community to utilize the productive capacity fully. What is needed, it is said, is not to redistribute the wealth we have, but to create more wealth by tapping our unused resources. Social Credit is not based on a theory of class conflict. It espouses the principle of harmony of interest. All groups, it is alleged, will gain.

Not only does Social Credit oppose the socialization or nationalization of industry; it also opposes all solutions that run in terms of restriction of output, and the planning or regimentation of each separate industry. It wishes to retain competition, freedom of enterprise and price flexibility. It believes that the economic problem must be solved by reforming our money system. It aims to enlarge the volume of purchasing power, thereby opening up larger markets. It places implicit reliance upon the ability of private enterprise to supply the larger market with an abundance of goods.

Social Credit holds that there is an inherent flaw in our monetary and financial system, because of which it is quite impossible for producers to find adequate markets for their goods. Its proponents believe they have discovered the defect and know the remedy to apply. We shall analyze in some detail later what this alleged flaw is. At the moment let us center our attention upon the proposed remedies.

Whether or not it is inherently impossible for the current financial system, as now operated, to supply the community with adequate purchasing power, it will at any rate not be disputed by anyone that modern communities are afflicted periodically with business depressions, and that it is a characteristic of these depressions—whatever the causes—that the productive resources of the community are not fully utilized.

Social Credit proposes to maintain continuously adequate markets by instituting a fundamental change in the manner in which consumers are supplied with the means of payment. Under the existing order purchasing power is normally paid out to the community through private enterprise as a by-product of the process of production. The corporation or individual proprietor pays out money for wages, salaries, dividends, profits, interest, taxes, raw materials, replacements, repairs, new equipment, etc. Social Credit argues that it can be demonstrated mathematically that all this is not enough to enable goods to be sold at a fair profit. They insist that it is necessary to open up a new outlet through which purchasing power will reach the community. Funds must be paid out directly to consumers, in addition to those paid out as a by-product of the process of production.

Two proposals are made. First it is suggested that consumers' purchasing power could be strengthened if a way were found to subsidize retailers so that they could sell goods at a discount. The discount could be altered from time to time, but it should always be sufficient to insure adequate markets for the maximum output made possible by our productive equipment, due regard being taken of the desire of the community for a given amount of leisure. This discounted price, or assisted price, is known in the Douglas literature as the Just Price. If potential production is greatly in excess of current consumer purchases, the retail discount would be large. If consumption rises to a point sufficient to

take off the available output, the discount would cease. The discount varies with the ratio between total potential production and total current consumption.

The discount would apply uniformly to all registered retailers, each of whom would have to submit to detailed accounting supervision whereby prices, based on costs (including a normal profit), could be calculated. The discount would apply to these cost prices (known in the Douglas literature as "financial cost"). The cost prices would vary for each retailer, but a uniform discount of a given per cent would apply to all. Accordingly, the discounted price would vary in each store as prices now do, and competition would not be disturbed.

Social Credit proposes that the government shall reimburse the retailers for the losses sustained as shown by his sales vouchers. As we shall explain later, these funds would be *created* by the Treasury and would not be raised by taxation or by loans.

For the moment let us forget about the manner in which the funds are raised, and concentrate upon the government *subsidy* feature of the plan. In this particular the proposal is similar to many others with which we have become familiar during the depression. Fred I. Kent has proposed that the government should guarantee the out-of-pocket losses of industries which resumed production. Colonel M. C. Rorty urged that the government should subsidize private construction. The subsidies should be awarded to that private bidder who offered to accept the lowest bonus on certified outlays for wages and materials. Thus the lowest bidder might offer to undertake the job if the government granted 20 per cent of wages and material costs. Another proposal was that the government might pay a certain proportion of each payroll, thereby enabling the producer to sell at a lower price while at the same time maintaining the volume of wage payments.

Finally the proposal was made to the Von Papen government in Germany that all business concerns should be subsidized during the depression by the partial or complete remission of taxes, governmental expenses being defrayed, for the time being, from other sources. All of these schemes are in so far similar to the Just Price of Social Credit that each seeks to enable businessmen to sell at lower prices, thereby stimulating sales and production.

Let it further be noted that the Just Price proposal is a special device by which government funds are in effect paid out to consumers. Funds which are paid to retailers to reimburse them for losses sustained by selling below cost constitute in fact a direct assistance to consumers. It is therefore essentially a scheme to finance consumption; to increase consumer purchasing power. In this respect it is similar to the Townsend Old Age Pension Plan, to payment for relief, and to public works expenditures. Each of these latter plans differs from the Just Price proposal in that they aim to stimulate consumption by furnishing funds to a special group of consumers—old people, persons on relief, or workers on public works projects. The Social Credit proposal aims to stimulate purchasers at every point in the market, diffusing the benefits to all buyers in proportion to the volume of their purchases.

As indicated above, it is expected that the retailers would be reimbursed for the price discount by the government from new "money" created by the government itself, either by printing paper money (greenbacks), or else by means of book entries of credits—deposit accounts set up in the ordinary commercial banks against which the banks would be given non-interest-bearing government bonds. For the handling of those accounts the bank would be entitled to make appropriate banking charges.

Social Credit does not propose to nationalize the banking

system, nor does it propose to do away altogether with the powers of banks to issue credit to producers, as at present, on a fractional reserve basis. While producer bank credit is not definitely ruled out, as a matter of fact, once adequate government credit is issued to consumers through the retail discount and, as we shall see later, by other means, producers would, it is alleged, probably be able for the most part to finance themselves, and would therefore find little need for borrowing at the banks. The government-created credit would tend to supply all the needs of the community. Social Credit therefore approaches, but does not go quite so far, as the 100 per cent Reserve Principle advocated by Sir Frederick Soddy, Irving Fisher and others. This latter plan would take away altogether from the banks the privilege which they now hold of lending funds by creating demand deposits. The government would create paper money equal in volume to the demand deposits outstanding. These would be issued to the banks in exchange for government bonds or other sound assets. The banks would then hold 100 per cent cash reserves against their demand deposits. They could only increase their demand deposits in the event that the reserves should increase through the issue by the government of more paper money. Indeed in the event that the public should prefer to use paper money in place of checking accounts, the demand deposits would vanish altogether. If the public preferred to use checks, it would of course have to pay the banks for the bookkeeping costs involved. Banks could no longer create credit. They would become mere middlemen for those who have funds to lend and those who wish to borrow. Under Social Credit, however, banks might continue to grant credit to producers, if desired. The government would issue credit for consumption, and thus would supply the community with such abundant funds that there

would, so it is thought, be little if any demand for producer loans.

To guard against inflation, it is proposed to erect certain safeguards. Once consumption tends to outrun production the retail discount would be discontinued. Some writers have even suggested that as soon as the unused capacity falls below 20 per cent, the discount should cease to be applied. Should price inflation, however, still develop, a sales tax could be imposed. Such a tax would be the reverse of the retail discount previously applied.

Social Credit, however, is not content to rest its case with the Just Price (retail discount) proposal. Consumers are to be given purchasing power directly in the form of national dividends paid by the government to each citizen. These would be paid monthly in the form of checks or currency. This new "money" would be created by the government in the manner already described above.

Major Douglas holds that the payment of national dividends to all citizens of the community is an economic necessity in order to raise consumption to the level of modern potential productive capacity. Moreover, the State has a moral obligation to pay such dividends since only a portion of the output of society is due to individual effort. According to classical economics there are three factors of production: land, labor and capital. According to Social Credit there is a fourth factor—the accumulated social heritage of science and invention passed down through the ages. No individual or group of individuals can lay claim to this heritage. It belongs to the whole community. The productive power represented by this cultural heritage should belong to the whole people, and the income derived therefrom ought by rights to be theirs. Less and less of the output of goods is due, it is said, to individual or personal effort; more and more is due to the social heritage. Labor is becoming

less significant in the productive process and is being supplanted by technological progress. Science is working incessantly to minimize the labor function. Wages no longer constitute an adequate outlet for consumer purchasing power. Wages must therefore be supplemented by the payment of national dividends. These should go to every citizen whether he works or not. Wages are destined to become a smaller part while national dividends will become an ever-increasing part of the national income.

Social Credit writers apparently fear that the Just Price, or retail discount device, will not prove adequate to bring consumption up to the level of potential productive capacity. This is quite illogical since, according to their own argument, the discount is to be adjusted to the point necessary to equate consumption and production. Hattersley, however, argues that in order to make room for the payment of national dividends, the discount device should be used sparingly—sufficient to eliminate a part, but not all, of the unused capacity of equipment and labor. The payment of national dividends would absorb the rest.

The Douglas literature is distressingly vague, but at no point is it so shifty and uncertain as in the attempt to expound the flaw in the financial system. No single consistent explanation is given, as one might have a right to expect from the repeated assertion that there is an inherent, mathematically demonstrable, defect in the financial system whereby it is simply impossible that the community's purchasing power could be adequate to take off the goods society can produce. Indeed I have found nine different explanations for the alleged shortage of purchasing power, and there may be more. With such a multiplicity of independent and somewhat conflicting explanations, it is not easy to detect just what is the flaw in the system.

Special stress is laid upon the so-called "A + B Theorem."

All payments made to individuals, such as wages, salaries and dividends, are called "A" payments. All payments made to other organizations, for such things as raw materials, machinery, maintenance of plant, bank charges and other external charges, are called "B" payments. Now it is argued that the only money distributed directly to consumers are the "A" payments. And since the total costs equal $A + B$, it follows that consumers' incomes are not adequate to take the goods at cost prices. No juggling of figures, it is said, will make it possible for the incomes derived from the "A" payments to buy an article whose price is made up of $A + B$ payments.

This analysis is, however, definitely and wholly fallacious. The mistake made is to assume that the cost of producing a commodity is equal to the sums of the prices at which the product was sold from firm to firm, as it passed through the various stages of production from the raw material up through the various processes until it finally reached the retailer and consumer. This assumption is, of course, false. The cost of any article is not equal to the $A + B$ payments made by all the firms working at various stages on the product; it is equal to the $A + B$ payments of the retailer alone. The "B" payments made by the retailer to the wholesaler break up into the $A + B$ payments made by the wholesaler, while the "B" payments made by the wholesaler to the manufacturer, in turn, become the $A + B$ payments of the manufacturer. Thus, as the "B" payments are traced back to the final end of the process, it will be found that they all vanish ultimately into "A" payments. In other words all costs ultimately become incomes for somebody. Only a small part of the money paid by consumers to retailers becomes income for the retailer and his immediate employees; the rest of the money pays for the goods purchased from the wholesaler. Only a small part of

the money paid by the retailer to the wholesaler becomes income for the wholesaler and his employees; the rest goes to pay for the goods purchased from the manufacturer. Of the money received by the manufacturer only a part becomes income for him and his employees; the rest goes to buy the raw materials, etc. But traced back far enough the whole of the money paid by consumers becomes ultimately income for the various producers engaged at different points in the long interrelated process of production. What is true, therefore, is that the sum of all the "A" payments in all the various production stages must necessarily equal the sum of the "A" + "B" payments of the retailer or, in other words, the cost of the article to the consumer. The incomes (net) received by the various contributing factors do, therefore, exactly equal the cost, and there is, accordingly, no shortage of purchasing power, as alleged.

This can be made quite clear from the simple table which follows. Let us assume five stages, from the raw material, as it is found in nature, to the point at which the finished article is sold to the consumer. The "A" payments in each case are for wages, salaries and dividends (all profits are assumed to be distributed in dividends and salaries); the "B" payments are for materials, etc. The cost to the retailer is \$500, of which \$100 are "A" payments and \$400 "B" payments. The total "A" payments made in all the different stages involved in the complete process equal \$500. The sum of these "A" payments equals the income (net) of the community as a whole, while the sum of all the "A" + "B" payments is equal to the sum of the gross incomes of all the producers, which is the same as the total value of all transactions. Thus the income (net) of the community exactly equals the retail price. There is, therefore, no shortage of consumer purchasing power. The total "A" payments made in all the stages equal the cost, that is, the retailer's

"A" + "B" payments. Obviously there is no reason why the income of the community (the combined "A" payments) should need to equal the combined "A" and "B" payments of all the stages. In other words the value of all transactions involved in the process of production (the sum of the gross incomes) is by far larger than the net income obtained. While the income (net) of the people of the United States was about \$80,000,000,000 in 1929, the total volume of transactions (gross income) was 10 to 15 times that amount. The cost of the final products was equal, not to the *gross* income, but to the *net* income (80 billion dollars) of all the co-operating producers. In the simplified illustration given below the net income of all the producers = \$500 = sum of all "A" payments = the "A" + "B" payments of the retailer = total cost of production (the profits made in each stage are included in cost).

"A" + "B" Payments in the Various Productive Stages

STAGES	"A" PAYMENTS	"B" PAYMENTS	"A" + "B" PAYMENTS
Payments by Retailer.....	\$100	\$ 400	\$ 500
Payments by Wholesaler....	100	300	400
Payments by Manufacturer..	100	200	300
Payments by Intermediate Processor	100	100	200
Payments by Raw Material Producer	100		100
Total	500	1,000	1,500

While much is made of the "A + B Theorem," the Douglas supporters, particularly in the more recent literature, appear to recognize, somewhat uneasily, that there is something wrong with it. Often the difficulty is met by vagueness in exposition which makes it quite impossible to be sure exactly what is meant by the terms used. Sometimes it is

frankly admitted that the total "A" payments are quite adequate to cover costs. Resort is then had to a quite different argument. It is now alleged (see for example Douglas in the *Monopoly of Credit*) that while it is true that the total cost of an article has been distributed in the various stages of production, nevertheless the "A" payments made during the week when the product was completed are not adequate. And since the payments made in the earlier stages have long since been spent, there is not enough purchasing power, it is said, in the hands of consumers to buy the products.

But what were the earlier payments spent on? Obviously on goods finished at an earlier period. In fact in the actual world, the whole process of production is continuous—numerous processes are going on side by side all the time, each in a different stage of completion. If now the total income paid out in each process is equal to the cost of the finished product, it must be quite clear that the continuous flow of income will be adequate to cover the cost of the continuous stream of goods coming on the market. There is thus no ground for supposing that the financial system cannot pay out a sufficient amount of purchasing power to take the goods off the market at prices which cover all costs.

Next it is alleged that the flow of purchasing power must under modern conditions prove inadequate since labor is being superseded more and more by machinery. Wage payments are therefore not adequate, it is said, to buy back the goods produced. At this point it is forgotten that salaries, dividends and proprietors' profits also constitute income. If these are included in "wage payments" it is evident that we are back again to the old "A + B Theorem." Payments for machinery constitute "B" payments, and, traced back, these ultimately become wage, salary and dividend payments. None of the Social Credit proponents, so far as I can discover, appears to be aware that this labor-machinery argu-

ment is really not a new point, but is merely a restatement of the "A + B Theorem."

Social Credit proponents are quite wrong when they assume that the only way the general population can benefit from the scientific inheritance handed down from the past is through the payment of national dividends. Indeed, it is only because of the advance of technology that real wages have increased some four-fold during the last century and a quarter, while at the same time greater leisure has been achieved through shorter hours of labor. Moreover, the researches of Stamp, Bowley, King, the National Bureau of Economic Research, and others, indicate that, on the whole, all classes in the community have gained at approximately equal rates. Temporary shifts occur from time to time, but the broad trends are as stated.

Special emphasis is laid in the Douglas literature on two items in the "B" payments—interest and depreciation. These are supposed to present peculiar difficulties and to prevent an adequate flow of purchasing power. In reality, however, there is nothing peculiar about them. Interest charged by banks becomes income for somebody—salaries of bank clerks, or dividends for stockholders, or interest payments to depositors. And depreciation charges are, in a continuous productive process, continually balanced by expenditures on replacements and renewals. Thus these expenditures do not necessarily dam up the flow of purchasing power.

Undaunted, Social Credit advocates have still other trumps to play. Use is made of the familiar Foster and Catching's argument that when money is plowed back into production before it is used for consumption, there results a deficiency of purchasing power. During the interval while the new capital is being built, it is admitted that no shortage develops. But, so the argument runs, once the new capital begins to pour out goods, the deficiency appears, and prices

would have to fall. In reply it may be pointed out that lower prices need not be disastrous provided the new capital outlays result, as is usually the case, in lower unit costs. Moreover, history shows that there is no inherent reason why prices should fall, since an expanding volume of output might be matched by an equally expanding money supply with an attendant stable price level, or even by a more rapidly expanding money supply with a rising price level, as in the period 1896 to 1914. In other words, the saving process does not involve any inherent deficiency of purchasing power.

But there are other alleged difficulties. Of fundamental importance, in the view of proponents of Social Credit, is the failure of the current financial system to match each unit good produced with a corresponding money "ticket." In primitive times, says Major Douglas, the producer issued his own money tokens which served as warehouse receipts for the goods, and these money "tickets" could be offered in the market for other goods. Such, he says, was the origin of money. But the modern "farmer who grows a ton of potatoes does not grow the money whereby the ton of potatoes may be bought, and if he is fortunate enough to sell them, he merely gets money which someone else had previously."

This is surely not an accurate representation of the facts. In the usual case (though not necessarily) an expansion of production is accompanied by some expansion of bank credit. Moreover, the notion that money is in effect a warehouse receipt, and that, unless each unit of goods is represented by a money ticket, there is a "shortage" of money, is certainly quite wrong. Money does not represent a claim to specific units of goods in the manner that theater tickets represent a claim to specific seats in the theater. Suppose a thousand units of goods worth \$1,000 are produced in a given year. There is no need that these goods shall be repre-

sented by 1,000 dollars. Indeed 50 dollars, circulating with a velocity of 20 per annum, is all that is needed to facilitate the required transactions. In fact, if the customs and habits of the community are such that the velocity of money is normally 20, the issue of a 1,000 dollars corresponding to the 1,000 unit of goods would raise prices 20-fold, and it would then be discovered that the goods would be worth not \$1,000 as anticipated, but \$20,000. Warehouse receipts, let it be noted, do not run in terms of value. They run in terms of claims on the goods themselves. Money, running as it does in terms of value, represents generalized claims upon goods. And the values of the goods will vary with the quantity of money and its velocity of circulation. Moreover, the velocity of circulation of money has no intimate relation to the turnover of goods, as they are passed on from firm to firm in a long chain of production.³

Again the argument shifts. Money needed to buy consumers' goods is withdrawn, it is said, from circulation just as the goods come on the market. Bank loans, based on self-liquidating commercial paper, are repaid when the productive process is completed, and are canceled just as the goods reach the retailer.

What of it? In a continuous production system, where new processes are constantly being started and new loans made, there is no reason to suppose that the flow of income should not be adequate to take off the goods at satisfactory prices as they come to the market.

The proponents of Social Credit have not made good their claim that a mathematically demonstrable deficiency of pur-

³ A special case of this argument is made by Douglas when he insists that even though there is enough money to move the goods to the consumers through the chain of production, a deficiency would arise should consumers begin to exchange goods between themselves. Admittedly a change in the number of transactions calls for an increase in the quantity of money or in its velocity; else prices will fall. But such increase is, of course, quite possible.

chasing power is inherent in the modern financial system. But even so, there is still ground for believing—so the argument runs—that a deficiency is likely to develop in a society in which bankers have a “monopoly control of credit.” Bankers, says Douglas, being dealers in a commodity called money, are fundamentally concerned to make that commodity as valuable as possible; hence they deliberately make it scarce. Thus the deficiency of purchasing power is at last explained as arising, not from any inherent flaw in the financial system, but from the perverse action of bankers! The truth is that at times the banking system has provided too much credit, and at times too little.

The administrative difficulties involved in putting into practice the retail discount (Just Price) would be very great. A detailed federal supervision of the accounts of the one and one-half million retail dealers in the United States would be necessary. This would involve a rigorous control of all retail costs in order to prevent padding. How serious this would be, becomes plain when one clearly grasps the fact that under the Just Price proposal, retailers, as a class, would have no interest whatever in keeping costs down. To be sure, could one assume vigorous competition, each individual retailer would have an interest in keeping his *own* costs down, thereby enabling him to sell at a lower price than his competitor. But the scheme would enormously increase the tendency toward combination and monopoly. As a group, retailers would, under the plan, welcome higher costs. For the higher the costs, the greater would be the necessary discount, and hence the larger the governmental subsidy. This situation might in turn lead to collusion with wholesalers and manufacturers to raise their prices to retailers. Thus federal accounting supervision and control would have to be extended to every one of the antecedent suppliers—in other words, to all private enterprise. Once the government enters

upon such a wholesale scheme of regimentation and supervised control, and at the same time engages to make good all losses suffered by retailers for selling below cost, as provided in the Just Price scheme, it had better throw overboard private enterprise altogether and assume the whole function of entrepreneurship itself.

As we have seen, it is argued that the retail discount would be adjusted so as to prevent inflation. Indeed the discount might be wholly discarded and, instead, a sales tax introduced to check any extreme price advance. Further examination indicates, however, that even though the scheme were operated with the utmost scientific accuracy, it does not provide any certain defense against inflation. This is true for the reason that the scheme provides no check against a continuous rise in costs. If we could assume that costs could be rigorously kept constant, then a scientific application of the scheme might indeed prevent inflation. But while the demand for higher wages meets quickly, under the existing system, an inexorable limit in sales resistance when cost and prices rise, such is not the case under the Social Credit proposal. Under the Just Price scheme, sales resistance would altogether vanish, and the pressure for higher earnings from all productive groups could not be resisted. Indeed there would be no reason for resistance. In consequence, costs could be expected to mount rapidly. Rising costs would require that goods would have to be sold at higher and higher prices, or else the retail discount would have to be progressively increased to cover the growing losses. Mounting costs would necessitate an ever-expanding supply of money and therefore, in effect, a price inflation. A price discount of 100 per cent is the equivalent of an astronomical inflation of costs.

It is not clear what are the maximum limits which it is intended would be placed on the issue of new government

money.⁴ In places it appears that the aim is to limit it to the amount needed to stabilize prices, but more generally the intent appears to be to issue as much new money as is necessary to operate the community's productive plant at full capacity. But these two goals would almost certainly prove to be quite inconsistent with each other. Wholly at variance with either of these standards is the hocus pocus of setting up a national credit account, based on the "real wealth" of the country. The quantity of national credit to be issued each year is supposed to be in a certain proportion to the amount of "real wealth." Now, "real wealth" is measured, so it is argued, by the value of all tangible wealth, both public and private, and by the capitalized value of the human resources. Thus in the case of the plan set up for the State of New Jersey (based on Douglas' Plan for Scotland) the tangible wealth is estimated at 12.5 billion dollars and the human resources at 50.0 billions. But these valuations are of course themselves dependent upon the level of prices, which in turn is related to the money supply. If the money supply is increased, the valuation placed upon "real wealth" would rise, whereupon the money supply could be further increased, ad infinitum. Obviously, one is here operating in a circle.

Social Credit aims to make it possible for all producers to sell all they can produce. Unfortunately, this is quite a Utopian proposal. In a changing world there are bound to occur shifts in demand which cannot fail to cause a falling off of sales and losses to certain declining industries or regions. In many cases the retail discount would have to reduce the Just Price to almost zero in order to maintain the sales and output for such industries. Who is to decide what indus-

⁴ American Social Credit advocates have suggested an initial monthly dividend of \$5 per capita. This would amount to an issue of \$7,500,000,000 of newly created money each year.

tries are to be allowed to die off and at what rate? The industries that meet the greatest sales resistance need the largest retail discount, but they are likely to be the decadent industries which society cannot afford to keep indefinitely alive. The current extreme economic nationalism throughout the world leaves agriculture in some countries, and certain industries in other countries, overdeveloped. These shifts have removed whole markets formerly available. Should such industries be allowed a subsidized retail price discount sufficient to maintain their output capacity intact indefinitely in the face of the changed world situation?

Or take the case of the capital goods industries. The era of transcontinental railroad building was finally finished. The current era of road building is nearing the end. Over and over again in our history, a whole new outlay of capital structures has been built up and completed. Upon completion the demand ceases, or falls to the level of mere replacement. Dislocations of this sort have loomed large in the history of depressions. New technological developments open up vast fields for investment and business expansion. But they cannot last forever. New industries grow, reach the saturation point, and decline. Readjustments are inevitable, involving loss of old established markets. Unemployment and business depression are deeply rooted in *technological change*. The total productive capacity of existing producers simply cannot be maintained, for the existing capacity in the various industries cannot permanently fit the facts of a rapidly changing world.

The proponents of Social Credit, as of all panaceas, fail to recognize the all-important fact that no kind of economic device can be clamped on the economic machine which will henceforth make it run smoothly forever. Eternal change, and the difficulty of quick readjustment to change owing to frictions and rigidities in the economic structure—these are

the ultimate causes of that lack of balance which prevents the full utilization of economic resources.

Major Douglas has stressed again and again in his writings that each act of production should be matched by an act creating money. He complains that the farmer who grows a ton of potatoes does not grow the money whereby the ton of potatoes may be bought. In his remedy the government should match each new batch of goods with a new batch of money, in order that the producer may always be able to find a market and to recover his costs including his normal profit. Now in point of fact it would be quite impractical to "monetize" all goods produced. There are plenty of mistakes made even under the existing system, where errors of judgment are severely penalized by losses and bankruptcies. All manner of consumers' goods, buildings and equipment are produced which ought never to have been produced. Were all goods "monetized," the assortment of fantastic and useless goods appearing in the market would surely multiply. The market could not absorb them, simply because the public would not want them. Yet, in the meantime, the assured "monetization" of all output would have given these misguided producers control over a part of the productive resources, and these resources would then simply have been wasted. Inevitably, some sort of restraining influence must be applied. Under the existing financial system that restraining influence is exerted by the banks. The borrower must prove that his venture is sound and likely to turn out profitably. If the banker makes too many mistakes, financial failure is the penalty. Here then is an automatic system of control. Were it not operative, the government would have to institute a wholesale system of regimentation. This Social Credit advocates decay. But it is difficult to see how it could be avoided.

The more or less complete substitution of government

credit issues for bank credit would, it is alleged, afford a great saving to the community since it would no longer be necessary to pay interest to banks. There would be created a supply of government credit money, issued without anybody borrowing it, which would be left permanently in circulation. The issue of credit money would no longer be based on loans.

Let us assume that government money were wholly substituted for the current volume of "bank money" and that banks were thereafter denied the privilege of issuing bank credit. Let us assume further, for the moment, that no new issues of money are made even by the government. Under these circumstances, if anyone wanted to borrow, the funds would have to come out of someone else's savings. You could not go to the banks and get "new funds." But interest would have to be paid for these savings. You cannot abolish interest simply by prohibiting banks from creating new "money" (i.e., bank credit). Interest is the price which must be imposed in order to restrain borrowers from an unlimited access to the productive resources of the community. These resources are limited in quantity and producers cannot have freely all that they might wish. Competition among borrowers establishes a rate of interest just adequate to hold the borrowers in check, so that *at the rate charged* the demand can be supplied. This, indeed, is quite understood by the best writers on Social Credit, but by implication, at least, in some of the literature the reader is likely to be confused.

The real difficulty arises in the case of an issue of *new* money. If the banks issue the additional money (deposits), the borrower—whether governmental or private borrower—will have to pay interest. If, however, the government issues it, either to defray its own expenses or as a retail discount subsidy, no interest need be paid on the sum issued. And if it remains permanently in circulation the principal sum

need never be repaid whether by taxes or otherwise. This, it is argued, would constitute a net saving to the community.

This argument overlooks, however, offsetting losses which the plan would encounter. If the banks are forbidden to issue new money in the form of bank deposits based on a percentage or fractional reserve, they would be compelled to make charges for handling all checking accounts. Moreover, the privilege of issuing deposit accounts on a fractional reserve ratio gives the banks a profit which enables them to pay higher interest on deposits. If it be argued that, because of lack of competition between banks, the deposit creation privilege in practice yields abnormally high banking profits, a remedy is ready at hand either in the regulation of interest payments to depositors, or in the taxation of excess profits.

The situation then sums up as follows: Under existing practices, the whole community enjoys the convenience of checking accounts, without having to pay special charges (except for very small accounts) for the checking privilege; on the other hand, interest is paid for any new issue of money—by private individuals for new loans, or by the government for bond issues sold to the banks. Under Social Credit, depositors would have to pay banking charges for the checking privilege; as taxpayers they would be saved the interest on new money issued by the government either to defray its expenses or as subsidies to retailers. But those who decry the interest cost to the government for new money issued by the banks, forget that the deposit-issue privilege enables the banks to offer free checking services to the community. The saving of interest on new money which could be kept permanently in circulation without causing inflation, is quite insignificant. Of far greater importance is the question whether government printing press money could, in practice, be kept within bounds.

RECENT TRENDS IN BUSINESS-CYCLE
LITERATURE

NO ATTEMPT is made in this brief chapter to give any systematic classification of the voluminous literature¹ on business-cycle theory which has appeared in recent years, or to appraise the work of individual writers; and certainly no good purpose could be served by a mere summary statement, even if such a project were possible. We shall, however, consider several topics which have played important roles in current discussions.

"Neutral" money continues to command much interest and attention in business-cycle thinking. During the Great Depression there developed, from the general background of the neutral money philosophy, a proposal for banking reform, designed to stabilize business fluctuations, known as the "100% reserve plan." Credit for originating this plan is usually given to a group of Chicago economists who circulated a mimeographed memorandum in 1933. It is strange that most of the leading writers on this proposal should quite overlook the fact that the hundred-per-cent reserve plan had been publicized several years earlier by Sir Frederick Soddy.²

¹ See "A Selected Bibliography of the Literature on Economic Fluctuations, 1930-36," by R. A. Gordon, *The Review of Economic Statistics*, February, 1937, No. 1, Part 2, pp. 37-68.

² No mention is made of Sir Frederick's work in any of the following leading articles on "hundred-per-cent money": Albert G. Hart, "The 'Chicago Plan' of Banking Reform," *Review of Economic Studies*, II, pp. 104-116, Feb-

In his *Wealth, Virtual Wealth and Debt*, published in 1926, Soddy advocated the retirement of public interest-bearing obligations and the issue in lieu thereof of a sum of national money sufficient to furnish full backing for the outstanding bank credit. "The new money has in future to be held by the banks, £ for £ of deposits in current account, so that instead of their keeping a *safe* proportion of their depositor's money as at present, they must keep the whole." "The banks would then only be permitted to lend money genuinely deposited into their keeping by its owners. . . ." ³

Professor Angell has, however, pointed out that the idea is really an ancient one both in theory and in practice. Indeed, the practical reform goal, which current proponents appear to have chiefly in mind, had its counterpart, nearly a hundred years ago, in the Peel Bank Act. What is perhaps new is the belief of some of its advocates, notably Simons, that some such plan is necessary to preserve "the orderly functioning of a system based on economic freedom and political liberty," and is of "paramount importance to the survival of a system based on freedom of enterprise."

In Mr. Simons' view, the problem of synchronous, industrial fluctuations is exclusively one of price rigidities and perverse flexibility in the effective money supply. The catastrophe of the Great Depression is viewed without cognizance of the serious post-war international complications or of the grave maladjustments flowing from the war. Even Professor Angell, while admitting that the plan would not eliminate business cycles or other major economic fluctuations, believes

ruary, 1935; James W. Angell, "The One Hundred Per Cent Reserve Plan," *Quarterly Journal of Economics*, L, pp. 1-35, November, 1935; Fritz Lehmann, "One Hundred Per Cent Money," *Social Research*, Vol. 3, pp. 37-56, February, 1936; and Henry C. Simons, "Rules versus Authorities in Monetary Policy," *Journal of Political Economy*, XLIV, pp. 1-30, February, 1936. Irving Fisher, however, does list Soddy's book in his bibliography.

³ Frederick Soddy, *Wealth, Virtual Wealth and Debt*, New York, 1926, pp. 198, 298.

that keeping the "quantity of money fairly stable over time . . . would impose a quite different and probably much stabler pattern of behavior in the economy than any we have hitherto experienced, and would certainly have greatly altered the developments of the years before and after 1929," and that this change would "go far toward making economic activity reasonably stable."

Starting from the supposition that it would be desirable to make money "neutral," the hundred-per-cent proposal simmers down to the device of simply fixing outright the quantity of money, or else merely adjusting it to the growth of population. Thus Angell says that, apart from variations required by the "secular growth of the population" and of "gradual secular changes in the circular velocity," the quantity of money should be held substantially constant, while Simons thinks that a "rule calling for outright fixing of the total quantity of money" is "perhaps the preferable solution in the more distant future." Much is made of the alleged desirability of divorcing the quantity of circulating money from its dependence on the quantity of commercial bank assets, while others hold that the doctrine of the "elasticity" of currency and credit should be definitely expunged (Angell).

Thus, in effect, it is argued that the way to cure, or at least alleviate, the rigidities from which capitalism now suffers, is to impose still another rigidity—an inflexibly constant money supply. That expansion of bank credit facilitates, if it does not engender, the boom, is of course admitted by almost everyone. And since the boom is, as Juglar pointed out, the progenitor of the depression, it is not an unnatural thought that greater stability might be achieved by fixing rigidly the quantity of money and credit. But this sort of reasoning is dangerous. Granted that violent fluctuations in bank credit have intensified industrial fluctuations, it does

not necessarily follow that a fixed quantity of credit would eliminate business fluctuations or even temper them. Moreover, even though it were demonstrated that an inflexible credit supply would stamp out every boom, it does not follow that stability of economic life would thereby be achieved. For it may well be that modern capitalism as a system of free enterprise could not survive unless it were permitted to launch forth periodically in just that kind of expansive activity which characterizes the usual boom. Certainly a good case could be made for the thesis that the surest way of destroying the system of free enterprise would be to restrict its access to "free air," to prevent expansion, growth, and progress, by strait-jacketing it in a regime of "neutral" money, or, worse yet, an inflexible money and credit supply such as is proposed in many of the hundred-per-cent reserve plans.

The boom, facilitated by bank credit expansion, gives the private enterprise system a measure of elasticity in a price structure which otherwise tends, under modern institutional pressures and controls, to become ossified and rigid and to close the margin between costs and prices without which the system cannot survive. With the closing of this margin, escape is sought, under our modern corporate organization, in monopolistic restriction of production—which results in unemployment. In this direction lies ultimate destruction of the system of free enterprise. Technical innovations, aided by bank credit expansion, alone appear capable of loosening up the joints and releasing a fresh flow of invigorating blood throughout the economic organism. Indeed, whenever in the past progress has slowed down, as in the stagnation of the 1870's and the 1890's, capitalism has faced revolution and destruction. Without a flexible credit system, making possible spurts of progress, it seems probable that capitalism

would quickly have become rigid, senile, and sterile. Karl Marx was partly right. Capitalism cannot live without ever expanding, without continued economic progress. It is a notable fact that *progress* is at one and the same time both a characteristic feature of the capitalistic order and also the essential basis of cycles of prosperity and depression. If we succeed in choking off economic progress, we may, indeed, eliminate industrial fluctuations, but we may also thereby destroy the system of free enterprise itself.

The neutral money theory, and the bifurcating "100% money" proposal, have recently occupied the business-cycle stage almost to the point of exclusion of any consideration of the *real* phenomena. Thus we have been shunted off, for the time being, from the promising approach suggested in the work of Spiethoff, Cassel, Robertson, and Schumpeter. Here the moving power underlying industrial fluctuations is sought in technical progress, inventions, discoveries, and innovation. Robertson reminds us: (1) that important fluctuations in industrial output are *relatively* desirable; (2) that the causes of these fluctuations are deeply embedded in the technical and legal structure of our actual society; (3) that this instability of output can hardly fail to be accompanied, as a general rule, by a certain instability in the level of general prices; (4) that the remedy, even if practicable, might be worse than the disease; and (5) that therefore the aim of monetary policy should be not to prevent all fluctuations in the general price level, but to permit those which are necessary to the establishment of appropriate alterations in output.⁴

The neutral money, and even more the hundred-per-cent money proposal in the form advocated by many of its proponents, would place the community in a monetary strait

⁴ D. H. Robertson, *Banking Policy and the Price Level*, London, 1932, pp. 2, 3, 39.

jacket.⁵ It would restrain, if indeed not wholly destroy, growth, development, progress. "I do not feel confident," says Robertson, "that a policy which, in the pursuit of stability of prices, output and employment, had nipped in the bud the English railway boom of the forties, or the American railway boom of 1869-71, or the German electrical boom of the nineties, would have been on the balance beneficial to the populations concerned." ⁶ Indeed, in the long struggle against the debasement of the currency, just as in the age-long struggle against drunkenness, foolproof schemes of strict monetary sobriety were, from time to time, imposed. But the victory of the "hard money" deflationists was always short-lived. The onward sweep of technical innovations, industrial growth, and expansion invariably snapped the fetters imposed by the monetary prohibitionists. This often led to a quite disorderly and disastrous "drunk" in the form of privately-issued means of payment or wild-cat banking. But these sprees only show that business expansion refused to be thwarted by monetary limitations. This was never better illustrated than in the events following the passage of the Peel Bank Act. "Private and joint stock bank note issues were strictly limited . . . and manufacturers and traders had to look for other means of payment. They were not to be beaten; they found their needed instrument in the bill of exchange which multiplied in importance to such a degree that by the middle of the nineteenth century the volume of bills outstanding was several times larger than the total volume of currency." ⁷ Later came the monetization of private credit in the form of deposit currency. "Before the end

⁵ The hundred-per-cent money plan would, of course, not of necessity involve a fixed money supply. Indeed, some proponents, as, for example, Soddy and Fisher, favor an expanding money supply adequate to maintain a stable price level.

⁶ Robertson, *ibid.*, p. 22.

⁷ R. McKenna, *Midland Bank Monthly Review*, January-February, 1936, p. 3.

of the century, the cheque had far surpassed both bills and currency. . . .”⁸

At just this juncture in business-cycle theory, the English translation of Schumpeter's *The Theory of Economic Development* is an event of no small importance. For even to those who were already familiar with the older German version, its appearance calls attention again from the more superficial and semi-mechanical monetary institutional factors to the deeper, dynamic forces underlying economic development. Particularly significant from the standpoint of the business-cycle approach which we are here considering, is the fact that Schumpeter stresses not only innovations and economic progress but also the great role played by bank credit in economic development.

“Neutral money” might indeed very probably prove the appropriate monetary arrangement in a static equilibrium in which a continuous production process was constantly being maintained—Schumpeter's “Kreislauf” or “circular flow.” But in a dynamic society in which “development” is going on, a more flexible money system is necessary. “Development,” in Schumpeter's sense, is something quite distinct from and foreign to the circular flow. It is spontaneous and discontinuous change in the channels of the circular flow. These changes appear on the side of production, not on the side of consumption. They are technical innovations in the production process. Development means the carrying out of new combinations. And for the carrying out of these combinations, credit is primarily necessary. The detachment of productive means, already employed elsewhere, from the circular flow and the allotment of them to new combinations—this is the function of credit. These necessary funds are obtained through the creation of purchasing power by the banks. With the help of these credit means of payment,

⁸ *Loc. cit.*

innovators who carry out new combinations are able to gain access to the existing factors of production. The banker, therefore, is "essentially a phenomenon of development." It is through the issue of credit that the carrying out of new combinations is made possible. Swarms of innovations have periodically in past history been floated into their places in the new structure of production on the tide of an expanding volume of bank credit.

The essence of economic development, Schumpeter explains, consists in a *different* employment of *existing* productive resources. New combinations require the withdrawal of primary factors from their previous employments, and this "cannot be achieved otherwise than by a disturbance in the relative purchasing power of individuals." It is this function that credit performs. The purchasing power which the entrepreneur—the innovator—needs "does not flow towards him automatically as to the producer in the circular flow, by the sale of what he produced in preceding periods." In the circular flow, there is no need of credit; only for development does it play a fundamental role. The quantity of credit "operates as an order on the economic system to accommodate itself to the purpose of the entrepreneur." Credit bridges the gap between products and means of production in the carrying out of new combinations.

The process of introducing innovations into the productive process is the essence of the boom. But these new methods cannot become incorporated into the circular flow, cannot become integrated into a new equilibrium system, without an intervening period of readjustment. This process of absorption is, according to Schumpeter, the essence of the depression. In the depression, the economic system is struggling towards a new equilibrium position following the disturbances caused by the boom. Contrary to the neutral money theory, neither the profits of the boom nor the losses

of the depression are to be deplored as meaningless. They perform an essential function. Without them, the process of economic development would be seriously crippled.

Among those who have been sympathetic in general to the neutral money proposal, the trend of thought appears definitely to be away from acceptance of the ideal of a fixed ⁹ effective money supply (M/V) toward support for a stable per capita money income. This represents clearly an advance. Surely it is important to distinguish sharply between an increase in production owing (1) to a gain in the *efficiency* of the factors and (2) to an increase in the *supply* of the factors. It is in the first-named circumstance that the best case can be made for a stationary effective money supply. Lower unit costs may make possible a lower price level without necessitating any reduction in the money income of the productive factors.¹⁰ If, however, increase in output results from an increased supply of factors, unit costs cannot be reduced unless earnings of the factors are deflated, and this is apt to be a painful process.

Stabilization of per capita income is, however, not identical to stabilization of factoral income. The issue is complicated by the unequal rates of growth of the various agents of production and the resulting changes in their relative marginal efficiencies. These complications have not yet been adequately explored.¹¹

⁹ Except for changes in the coefficient of money transactions occasioned by business integration and the like, and for changes in non-monetary media of exchange such as commercial bills and book credit.

¹⁰ A stable money supply, or even a stable per capita money income, would, however, necessitate a reduction in piece rates—certainly a serious matter under modern conditions of wage payment, and one which continues to be disregarded by proponents of these stable money plans.

¹¹ The work of Myrdal in the *Beiträge zur Geldtheorie* (F. A. Hayek, ed., Vienna, 1933) gives a stimulating insight into this problem, but it affords no conclusive solution. See also E. F. M. Durbin, *The Problem of Credit Policy*, London, 1935; Karl Bode and G. Haberler, "Monetary Equilibrium and the

Moreover, the stable income proposal does not take adequate account of cyclical variations in the utilization of idle factors. Such utilization surely justifies an expansion of the money supply. This case must be carefully distinguished both from that of lower unit costs and from that of a secular increase in output incident to a growth of the factors. If idle resources are set to work, it is difficult to see any reason why such additional production processes should not be supplied with a quantity of money, sufficient to take care of the new business turnover without encroaching upon the circulating media already at work in the established circuit of production. Indeed, if this is not done, the previously functioning chain of production would have to be deflated in order to squeeze out, through a forced lowering of prices and costs, a sufficient quantity of money to serve the new business activity. Were the needed money so secured, this would amount to a kind of "forced saving" in reverse. Factors, idle during depression, should, upon re-employment, be equipped with adequate circulating medium without disturbance to the previously employed factors. It cannot be charged that a multiplication of currency under these circumstances deprives the former holders of purchasing power, since the injection of the new money serves an additional productive set-up and therefore, from the standpoint of the money supply, leaves the old undisturbed.

With respect to public finance policies, the literature shows a more realistic appreciation and a clearer formulation of (1) the conditions under which governmental expenditures in excess of tax receipts may result in a larger national income, and (2) the conditions under which no benefit, or even

Price Level in a Progressive Economy," *Economica*, New Series, II, pp. 75-81, February, 1935; Harold Barger, "Neutral Money and the Trade Cycle," *ibid.*, pp. 429-47, November, 1935.

a net loss, may be sustained.¹² Emphasis on the importance of the position of the country in question with respect to international equilibrium, upon the state of the capital market, the credit of the government, and the state of confidence has tended to create an increasing body of moderate opinion with respect to this problem and to push farther into the background the extremist views that range from those, on the one hand, which regard public works, financed from loans, as under all circumstances beneficial, to those, at the opposite pole, which hold that under no circumstances can such expenditures prove desirable.

More disagreement exists with respect to the value of public works as a "pump primer." The view is gaining ground that such expenditures do not "prime the pump" but merely keep purchasing power from falling as low as would otherwise be the case. Here the issue simmers down essentially to a difference between monetary theorists, who stress the price maladjustments, and those who stress the *real* phenomena—a point which has not generally been recognized. Those who believe that cost and price maladjustments constitute the essence of depression are of course inclined to put more faith in public works, or more broadly in unbalanced budgets, as an effective pump primer. Those who stress depreciation, obsolescence, invention, new products, and innovations as the necessary bases of revival logically must hold that public works outlays can, at best, only act as a stop-gap until these fundamental technological forces come into play.

Granted that public expenditures—in excess of tax receipts—may, under given conditions, raise the national income above the level it would otherwise have reached, there re-

¹² Cf. Arthur D. Gayer, *Public Works in Prosperity and Depression*, National Bureau of Economic Research, New York, 1935; International Labour Office, Studies and Reports, Series C, Number 19, *Public Works Policy*, 1935.

mains the problem of the secondary effect of such expenditures. Considerable attention has been given to this question by various writers, particularly in the form of discussion and criticism of the so-called "multiplier" concept¹³ developed by Kahn and Keynes.¹⁴

More recent formulations of the "multiplier" principle appear in Keynes's *General Theory* and in Harrod's *Trade Cycle*. These are discussed above in Chapters I and II of this book. It may be added here that the "multiplier" is far from being a constant. The fixed progression formulation of the secondary effects makes the wholly unwarranted as-

¹³ The group of individuals who receive income in consequence of public works expenditures, in turn spend a part of these incomes and so give employment to a secondary group of producers, who would not be employed if the initial group had no incomes to spend. This is what is meant by "secondary effects." How important are these secondary effects? Suppose a million dollars of "new money" is poured out into the community in consequence of public works expenditures, over and above what would otherwise be the case. This million dollars is eventually distributed back through all the various stages—raw materials up to finished products entering into the building of the project—to ultimate income recipients, mostly wage and salaried workers and dividend receivers. But not all of the *additional* income will be spent by these recipients. A part will be used to pay debts and a part will be placed in hoards or idle bank deposits. Moreover, insofar as these expenditures help to reduce the volume of relief expenditures, they cannot be regarded as *adding* to the total income flow. These, and other leakages, result in the second line of expenditures being smaller than the initial expenditures. If the leakages reduce each successive cycle of expenditures by one-half, we get a succession of expenditures as follows: first expenditure—\$1,000,000; second expenditure—\$500,000; third—\$250,000; fourth—\$125,000, and so on. This progression approaches \$2,000,000 as the ultimate sum. If the government expenditure of \$1,000,000 is continued in each successive period, the net addition to income in each expenditure period would rapidly approach \$2,000,000. In this case the "multiplier" would be two.

¹⁴ R. F. Kahn, "The Relation of Home Investment to Unemployment," *Economic Journal*, June, 1931; J. M. Keynes, *The Means to Prosperity*, New York, 1933; J. M. Clark, *Economics of Public Works*, 1935; H. Neisser, "Secondary Employment: Some Comments on R. F. Kahn's Formula," *The Review of Economic Statistics*, XVIII, pp. 24-30, February, 1936. Bertil Ohlin, "Some Notes on the Stockholm Theory of Savings and Investment," *Economic Journal*, June, 1937; G. Haberler, "Mr. Keynes's Theory of the 'Multiplier,'" *Zeitschrift für Nationalökonomie*, Band VIII, Heft 3, 1936, pp. 299-305.

sumption that the conditions affecting the "leakages" remain invariable for all time to come, regardless of the rise and fall of business activity. The newer formulation is, however, more flexible.

Lundberg argues that, since the business cycles are mainly characterized by variations in the relation between the value of new investments and consumption expenditures, the theory must explain the changes in the "multiplier" instead of assuming that the latter is given.¹⁵ But this argument goes too far. The fact that investment fluctuates much more violently than consumption does not justify the conclusion that the "multiplier" fluctuates correspondingly. For in this connection it is important to remember that the changing ratio of investment to consumption is determined, not merely by the effect of investment on consumption (via the "multiplier"), but also by the effect of consumption upon investment (via the principle of acceleration).

Unfortunately, there are still writers who fail to recognize that savings are invested not only in producers' goods but also in durable consumers' goods. It is not possible to think clearly about business-cycle problems if one speaks of "spending" as meaning all expenditures on consumers' goods both durable and nondurable, and "investment" as meaning merely those expenditures which are made on producers' goods. The truth is that consumers' demand is directed toward two categories of goods, one of which (the durable consumers' goods) requires saving and investment. Consumption and saving are in part overlapping, since the consumption of durable goods is not possible without saving. Thus the turning point from boom to depression may be brought about by an excess of consumers' demand for durable goods;

¹⁵ Erik Lundberg, *Studies in the Theory of Economic Expansion*, London, 1937, p. 37.

e.g., huge outlays on public works may occasion such an exhaustion of available savings and such consequent advance in the interest rate that investment in producers' goods becomes unprofitable. In this case, the turning point would be reached by "over-spending."

All of the explanations of the emergence of the crisis may, as Haberler has pointed out, be subsumed under the relation of the rate of interest to the prospective profit rate.¹⁶ The rate of interest may be driven above the prospective profit rate by reason of the cessation of bank credit expansion (cessation of "forced saving"), or, as just explained, by reason of an excessive investment in durable consumers' goods. Conceivably, also, the rate of interest could be driven above the profit rate, if, at a point when bank credit expansion were no longer possible, the public decided to save a smaller proportion of its income. Stirred on by prospective profits on consumers' goods, entrepreneurs, trying to expand and clamoring for more credit, would be clubbed down by the high interest rates, and investment might therefore decline. On the other side, a decline in consumption, involving an increase in saving, tends to lower the prospective rate of profit, but also to lower the rate of interest. What the net effect will be depends upon the relative importance of these two opposing tendencies. Unless the decline in consumption is offset by an actual increase in investment, the net effect is deflationary. Only in the event that the investment in question is in very durable fixed capital could the lower rate of interest more than counterbalance the unfavorable

¹⁶ Gottfried Haberler, "Some Reflections on the Present Situation of Business Cycle Theory," *The Review of Economic Statistics*, XVIII, pp. 1-7, February, 1936. See also Haberler's *Prosperity and Depression* (League of Nations, 1937) in which is given a systematic analysis of the theories of the business cycle, together with a comprehensive exposition of his own views as to the nature and causes of the cycle. Altogether it is the most authoritative statement of this extremely complex subject which has yet appeared.

effect of a fall in the prospective profit rate.¹⁷ Finally, the profit rate may fall below the rate of interest by reason of a decline in the marginal productivity of capital resulting from an excessive volume of investment—the excess being due to errors of judgment that arise from the roundabout process of production, to the length of the gestation period, or to the ignorance of competitors. These give some of the various theoretical possibilities. Analysis and historical investigation should furnish information as to which possibilities are likely to occur and which have in fact occurred in different cycles.

Moulton's recent works¹⁸ again raise the question whether the upswing is brought about by an expansion of consumer demand, or by forces operative in the capital market—the pressure of accumulated savings, on the one side, and technological developments, inventions, new products, new resources, depreciation, and obsolescence, on the other. Theoretically both are possible, and it therefore again becomes necessary to appraise the probabilities in view of what is known of the manner in which the economy functions and in view of past historical events. Clearly, revival can come because of developments in technology and in the capital market, even though consumer demand remains stationary or in fact declines. While there is reason to suppose that consumer purchases will sooner or later reach a more or less fixed minimum, there is no good ground for assuming any independent expansion of the demand for non-durable consumers' goods with the possible exception of agricultural consumer demand incident to crop variations. But even this

¹⁷ See Erik Lundberg, *Economic Expansion*, London, 1937, pp. 227-229, 248-249, 253-255; and Oscar Lange, "The Rate of Interest and the Optimum Propensity to Consume," *Economica*, February, 1938. See also p. 157 of this book.

¹⁸ Harold I. Moulton, *The Formation of Capital*; and *Income and Economic Progress*, The Brookings Institution, Washington, D. C., 1935.

case is not very probable, owing to the apparent unit elasticity in the demand for agricultural products as a whole. The expansion in the demand for durable consumers' goods stands on a different footing, since it involves a kind of investment financed partly from idle funds and partly from consumer credit.

With respect to the "acceleration principle,"¹⁹ the effect of fluctuations in the rate of "consumer taking" upon the output of producers' goods, the validity of the various assumptions that are involved have been weighed especially by Tinbergen and Kuznets. Through the utilization of more realistic assumptions, the conclusion is reached that, in the actual functioning of the capitalistic economy; the limits of possible variation are very great, ranging all the way from a considerable precedence in the decline of demand for producers' goods relative to the decline in the demand for the finished goods, to correspondence in the turning points, or even, under certain conditions, to a lag in the output of producers' goods behind that of finished goods. Once again it is demonstrated that a beautiful theory may turn out to have only a limited application (though still remaining a useful tool of analysis), once the complex facts of the actual world are adequately taken into account.

A notable part of the recent literature relates to the measurement of the stock and output of capital goods. Owing especially to the work of Tougan-Baranowsky, Spiethoff, Cassel, and Robertson, it had become almost everywhere accepted that the essential characteristic of the business cycle was the fluctuation in the output of capital goods (durable

¹⁹ J. M. Clark, *Strategic Factors in Business Cycles*, National Bureau of Economic Research, New York, 1934; *Economic Essays in Honor of Wesley Clair Mitchell*, New York, 1935; J. Tinbergen, "Annual Survey: Suggestions on Quantitative Business Cycle Theory," *Econometrica*, III, pp. 241-308, July, 1935, and "Statistical Evidence on the Acceleration Principle," *Economica*, May, 1938.

goods). More recently such fluctuations had been described as fluctuations in investment, without always realizing that this terminology was capable of a dual interpretation. When one spoke of fluctuations in investment, did one mean fluctuations in the aggregate investment in capital goods—in other words, in the total stock? Thus discussion shifted from fluctuations in the rate of output of capital goods to a discussion of the period of investment or the time-structure of production. Fluctuations of the cycle were now conceived of as consisting essentially of a lengthening and shortening of the period of production, or (more recently) the period of investment.

This development has driven the business-cycle car into a blind alley, from which it is necessary to retrace our course and get back again on the main highway. To this end, Knight²⁰ especially has made important contributions. Whatever else may have emerged from the Knight-Hayek controversy (and the related discussions by others),²¹ it is at least

²⁰ This does not mean, however, that we agree with all the arguments advanced by Knight.

²¹ Martin Hill, "The Period of Production and Industrial Fluctuations," *Economic Journal*, XLIII, pp. 599-610, December, 1933; C. H. P. Gifford: (1) "The Concept of the Length of the Period of Production," *Economic Journal*, XLIII, pp. 611-18; (2) "The Period of Production under Continuous Input and Point Output in an Unprogressive Community," *Econometrica*, III, pp. 199-212, April, 1935; F. A. von Hayek: (1) "Capital and Industrial Fluctuations," *Econometrica*, II, pp. 152-67, April, 1934; (2) "The Maintenance of Capital," *Economica*, New Series, II, pp. 241-76, August, 1935; (3) "On the Relationship Between Investment and Output," *Economic Journal*, XLIV, pp. 207-31, June, 1934; (4) "The Mythology of Capital," *Quarterly Journal of Economics*, L, pp. 199-228, February, 1936; Frank H. Knight: (1) "Capital, Time, and the Interest Rate," *Economica*, New Series, I, pp. 257-86, August, 1934; (2) "Professor Hayek and the Theory of Investment," *Economic Journal*, XLV, pp. 77-94, March, 1935; (3) "The Theory of Investment Once More: Mr. Boulding and the Austrians," *Quarterly Journal of Economics*, L, pp. 36-67, November, 1935; (4) "On the Theory of Capital: In Reply to Mr. Kaldor," *Econometrica*, January, 1938; Fritz Machlup: (1) "Professor Knight and the 'Period of Production,'" *Journal of Political Economy*, XLIII, pp. 577-624, October, 1935; (2) "The Period of Production," *ibid.*, p. 808, December, 1935; Howard S. Ellis, "Die Bedeutung der Produktionsperiode für die Krisen-

clear that the concept "time-structure of production," or the "period of investment," has little direct application to business-cycle theory. What is indeed significant is the fluctuation in the aggregate current output of capital goods, particularly as measured by fluctuations of employment in the capital-goods industries, though, for some purposes, fluctuations in the value output, corrected by an appropriate capital-goods price index, may serve as a useful measure. Significant also is the fluctuation in the ratio of output of capital goods to the total output of goods and services, or the fluctuation in the ratio of current investment to current income.²²

Significance also attaches to the aggregate amount of the capital stock, as one element in the complex of forces which determines the marginal productivity of capital, the prospective rate of profit, the relation of the market rate of interest to the natural rate, and hence the current employment in the capital-goods industries and the output of capital goods.

theorie," *Zeitschrift für Nationalökonomie*, VI, pp. 145-69, June, 1935; Nicholas Kaldor, "The Recent Controversy on the 'Theory of Capital,'" *Econometrica*, July, 1937, and April, 1938.

²² An indication of what widely divergent views may be entertained with respect to the meaning of the phrase, "the period of investment," is illustrated by the article by John M. Thompson in *Econometrica*, IV, pp. 67-85. Mr. Thompson interprets the period of investment as the ratio of the demand for producers' goods in a given period of time to the demand for consumers' goods. If this be taken as the "time-structure of production," then a shortening of the capitalistic process would occur even before there was a decline in the output of producers' goods. This, at any rate, is true insofar as the demand for producers' goods declines before the demand for consumers' goods. In this case, a time series giving the ratio of demand for producers' goods to the demand for consumers' goods would begin to fall before the decline in the demand for producers' goods, which latter point is commonly held to be the starting point of the crisis. This definition contrasts sharply with the thesis that the depression does not begin until there is a shortening of the capitalistic production process in the sense of an actual reduction in the per capita quantity of capital goods—the view which, it seems, Hayek formerly held. (See his *Prices and Production*, London, 1931.) This latter position, however, is certainly untenable since in the ordinary depression there is no actual decline at all in the stock of capital goods.

Various measures of the aggregate stock of capital goods are available, each presenting, to be sure, its own peculiar difficulties. Thus, the stock may be measured in terms of money value corrected by an appropriate capital-goods price index. This involves the familiar difficulty of constructing a price index for goods constantly changing in form, type, and quality. Another measure is the aggregate man-hours (or alternatively man-days or man-years) required to replace the existing capital stock. This method encounters the difficulty involved in the problem of obsolescence. Another method of measurement, suggested in some of the literature under consideration, is the aggregate durability of all capital goods. This measure is vitiated by the fact that much capital construction is (at least for all practical purposes) of infinite durability, e.g., plowing up virgin soil, cutting a road through a mountain side, etc.

If the durability of all capital goods were assumed to be finite, then "average durability" would become a manageable concept for the measurement of the period of investment. If this concept is used, it is necessary to include in the "average" those production processes which are instantaneous, as, for instance, personal service. When these zero periods of production are included, every net addition to the capital stock would raise the average durability. Knight argues that the addition of a new stock of capital, whose average period of investment is less than the average investment period of the previously existing capital, will result in a new average period shorter than the old one. But in reaching this result he did not include in his previous average those employments of labor in which the process of production was instantaneous. Assume 100 labor-years available for production each year, 50 employed in maintaining capital which consists of 50 "units" of an average durability of 5 years, and 50 employed in direct production. Knight's

line of argument would lead to the conclusion that even if the zero periods (direct production) were included, the average period of production would be 5 years, $\frac{(50 \times 5) + (0 \times 0)}{50}$,

when the weights used are the number of "units" of capital in each process. We suggest that a more meaningful system of weights would be the number of labor-years used to maintain each process, in which event the resulting average period of production would be 2.5 years, $\frac{(50 \times 5) + (50 \times 0)}{100}$,

Suppose, now, 10 of the labor-years are transferred over to capital production and replacement, and are able to maintain, say, 20 units of capital of an average durability of 2.5 years. Under the first method, the average period of production shrinks to 4.29 years $\frac{(50 \times 5) + (20 \times 2.5) + (0 \times 0)}{70}$,

while our method would show an increase to 2.75 years $\frac{(50 \times 5) + (10 \times 2.5) + (40 \times 0)}{100}$.

If, in addition to the condition laid down above, we add the further assumption of a stationary society, the average durability would be equal in length to the average period required to replace the existing capital stock. Moreover, either of those two measures would equal the average period in which labor was embodied, so to speak, in capital from the point of production to the point of consumption.²³ Finally,

²³ If it requires 10 years to replace a certain capital good, then the *average* period between the point at which labor is applied and that at which the final utilities *begin* to emerge (the point at which the capital good *begins* to be used) is 5 years. If the capital good lasts 10 years (i.e., yields final utilities for 10 years), then the average period between the beginning of the use of the capital good and the emergence of each successive final utility is 5 years. Thus the average period in which labor is invested from the point of production to the point of consumption is 5 + 5, or 10 years; and this is equal to (1) the total time required to build the capital good, and (2) the total time required to consume it (i.e., its durability).

since, under these specific conditions, the average period required to replace the capital stock is merely the number of annual employments of the factors of production required to construct the capital, this comes to the same thing as the ratio of capital to income.²⁴ Thus these four measures become, under the conditions stated, identical.

One method of measuring the amount of "waiting" embodied in a given capital stock (whereby cognizance is taken of the growing efficiency of labor as an agent of production) is to calculate the number of annual employments of the existing labor force required to replace or produce the stock—in other words, the ratio of aggregate man-years embodied in the capital stock to the number of gainful workers. This method has the merit of being definite, but the demerit, among others, of taking no cognizance of changes in the proportion of skilled to unskilled labor and other changes in labor quality. Moreover, it takes no cognizance of changes in the relative importance of other factors of production. A comparable measure—one which takes account of all the factors of production—is the ratio (referred to above) of capital to income.²⁵ In terms of income, the burden of "waiting" becomes no heavier if the total income grows in the same proportion as capital. If 5 annual incomes equal the value of the total capital, and if this ratio were the same 50 years ago, then the burden of "carrying" the stock of capital has not increased.

Certain changes may be noted with respect to tools of analysis. While statistics has long served and still continues to serve as an essential implement of theoretical analysis in business-cycle studies, note should be taken that mathematical techniques are without question being increasingly

²⁴ See, in this connection, J. Marschak, "A Note on the Period of Production," *Economic Journal*, XLIV, pp. 146-51, March, 1934.

²⁵ Gustav Cassel, *On Quantitative Thinking in Economics*, Oxford, 1935.

employed as aids in this same analysis. Accordingly, one is warranted in inquiring: To what extent do the results thus far achieved justify the expectation that these methods will prove fruitful? The statistical approach has the advantage that it puts the theorist on his mettle and forces him to grapple with stubborn facts which do not always fit a comfortable, and too easily arrived at, hypothesis. In contrast to this, there seems to be grave danger that the mathematical approach in its present state of development, if relied on too exclusively, may lead the theorist further and further away from realities. The mathematician cannot as yet apply his tools except to rigorous simplifications of the facts—and the mathematical students of business cycles themselves (Tinbergen, in particular) recognize this present limitation. Of course, the employment of mathematics to aid the theorist wherever that instrument proves useful is to be welcomed. What must be vigorously resisted, however, is any tendency toward a sterile scholasticism that is more interested in elegant formulations than in the acquisition of knowledge. A reminder of the wise example set by Alfred Marshall, who purposefully subordinated mathematics to the modest role which it as yet appears capable of playing in economic analysis, might not be inopportune at this juncture.

Nevertheless, there have been at least three developments with respect to the mathematical attack which should lead the "literary" business-cycle theorist to preserve an open mind as to its value. First, the devising and improvement of mathematical methodology have already progressed so that somewhat closer approaches to reality are now possible than was true earlier. Secondly, this new approach necessitates a rigorous statement of the postulates of the system and so leads to a re-examination of fundamental definitions and concepts which may have been inexactly stated or slurred over by the "literary" theorist. And, thirdly, the mathemati-

cal method, by its requirement of stating in definite form the assumed or agreed-on relationships among the variables, has pointed out a very specific lack of factual knowledge with respect to many fundamental relationships. With these results attained, we may well await, without undue skepticism, the products which may flow from this newer mode of attack.

PART TWO

CONSUMER PURCHASING POWER AND
SOCIAL SECURITY RESERVES

THE INADEQUACY OF STABILITY IN
CONSUMER PURCHASING POWER

IN THE January 1, 1938, issue of the *London Economist* appears a truly remarkable chart. It shows an index of the consuming power of the British working class as a whole from 1924 to 1937. Looking at this chart, one gets not the faintest intimation that a great depression was raging from 1930 to 1933. The explanation, of course, is that, while employment did decline, consumption as a whole was maintained by reason of the fact that the cheaper foodstuffs and lower costs for the great majority remaining at work offset the loss in purchasing power sustained by those thrown out of work. England was, it must be remembered, extraordinarily fortunate in this respect, owing to the drastic price decline of her imported food and raw material products. With respect to output, while the production of consumers' goods was maintained, a considerable decline occurred in the capital-goods industries.

It follows from this that it is not enough to stabilize consumption. Those who believe that no depression can occur if the level of consuming power is fully maintained should study this amazing British experience. In a subsequent chapter the importance of sustaining consumption in a depression is stressed, but the conclusion is nevertheless unmistakable: Complete stabilization in terms of a steady growth

of consumption (as indicated in the British chart) will not suffice to achieve stability of output and employment.

Let us go one step farther. Let us assume that our society never fails, year in and year out, to add to its total stock of wealth. "Will it not be evident," someone will surely say, "that a society which has stabilized its consumption and which adds something each year to its accumulated stock of capital equipment must have reached a very satisfactory condition indeed with respect to business stability?" No, this happy conclusion unfortunately does not follow at all. A society *which never suffered any setback in total consumption, or even in real capital formation, might nevertheless experience booms and depressions.*

It is not enough that there shall be stability in the volume of consumption. It is not enough that there shall be no setback in the accumulation of wealth. If capital formation proceeds by fits and starts, if the *rate of progress* is not uniform, there will be booms and depressions.

The output of capital goods must be divided into two parts: (a) replacement, (b) net additions to the total stock. The first is relatively stable. It might indeed become completely stabilized, together with total consumption, without thereby achieving economic stability. The ultimate difficulty is that the *new additions* to capital equipment come by jerks. We may indeed make continuous progress in the accumulation of real wealth, but the basic truth is that the *rate of progress* is not uniform.

"The principal and sufficient cause of cyclical fluctuations should rather be sought in the fact that in its very nature technical or commercial advance cannot maintain the same even progress as does, in our days, the increase in needs . . . but is sometimes precipitate and sometimes delayed."¹ When the general business situation appears favorable, it

¹ Knut Wicksell, *Lectures on Political Economy*, Vol. II, p. 211.

is of the very nature of private industry to want its full complement of up-to-date equipment at once. Indeed, competition compels quick action. No firm can afford to spread its technical innovations in accordance with the requirements of a uniform rate of growth and expansion. Progress comes by spurts. And when new investment has caught up with the developments of technology and exploited to the limit what is economically feasible, all that remains for a while is mere upkeep and replacement. Then output and employment recede and the depression is on.

We are here concerned with the *speed* of capital formation. It is not a question of "overdevelopment." Were there no errors of judgment, no excess construction of fixed capital, no overbuilding of residences, apartment houses, hotels, office buildings, commercial structures, industrial plants, roads or public utilities—were just the correct amount of each produced which growth and progress justify, we should still suffer the depression, in the event that such construction had been concentrated in a short space of time. For if the speed of new construction exceeds the long-run requirements of growth and progress, the time inevitably comes when these requirements have been fully met. At this point it will only be necessary to *replace* the existing capital stock and to add each year the increment corresponding to the growth factor. But this involves an absolute decline in capital construction from the peak of activity enjoyed in the spurt.²

The stabilization of consumption expenditures will not alone achieve stability in the rate of investment in real capital. For investment is a function not merely of consumption, but also of many other things, such as the rate of interest, the cost of labor and materials going into capital structures,

² See my chapter on "Monetary Policy in the Upswing," in Arthur D. Gayer, *The Lessons of Monetary Experience*, Farrar & Rinehart, 1937.

and technological innovations which increase the productivity or efficiency of the round-about, capitalistic method of production.

But stability of consumption nevertheless does contribute something substantial toward stability in the rate of investment. Moreover, if in addition to current consumption of non-durable goods some considerable stability can be achieved in the rate of investment in durable consumers' capital, particularly in public capital expenditures, a very large part of total economic activity will be rendered more dependable. Thus the economy would have a large central core of stable production which in itself would establish limits to the expanding and contracting process.

THE FLOW OF PURCHASING POWER

THE stream of income which functions as purchasing power in the market is, under our money and credit economy, subject to violent fluctuations. In boom times the income stream is augmented beyond what is justified by the productive process: (1) by the creation of an excessive volume of bank credit, (2) by intensive utilization of existing bank credit, and, sometimes, (3) by the disgorging of previous hoardings of cash. In times of depression the income stream is drained off (1) by diverting some part of it into the extinguishment of indebtedness to banks, (2) by a less intensive utilization of deposits (credit hoarding¹), and, at times, (3) by actual cash hoarding.

The hoarding and dishoarding of money and credit, the extinguishment and creation of bank credit, are all alike the results of innumerable individual decisions. It is the aim of monetary and credit control to contrive schemes (discount policies and open market operations) which, by exerting pressures of one sort or another, may induce individuals to refrain from those actions so intimately bound up with the rise and fall of investment which cause fluctuations in the

¹ It should be noted that the ratio of reserves to deposits is in no way affected by the decline in velocity. The volume of bank deposits is no greater when a hundred-dollar deposit circulates from consumer to retailer, wholesaler and manufacturer than when it lies idle to the credit of the consumer. An idle deposit does not induce the bank to create new bank credit.

income stream. But this procedure is only partially effective. It may, therefore, be desirable and possible to offset individual hoarding and dishoarding of money and credit by collective and managed hoarding and dishoarding, and to offset individual extinguishment and creation of bank credit by collective and managed creation and extinguishment of bank credit.

If there is to be a leveling down of purchasing power from the boom period to the depression period, this result can be accomplished only by checking the creation of new purchasing power in boom times or else offsetting these new funds by withholding some part of the purchasing power from the market; and by creating new purchasing power in times of depression or else bringing withheld purchasing power into the market.

There are three faucets through which an increased stream of purchasing power may flow, thereby restoring the depressed income of a community: (1) through producers, in consequence of increased business activity; (2) through consumers, in consequence of the spending of hoards (cash or other forms of idle savings); (3) through the government, in consequence of increased expenditures (such as emergency benefits to the unemployed or public works) financed out of the creation of new credit.²

² Attention should be called to the fact that when new funds are put in active circulation, whether through increased producer activity, or through increased spending of consumer hoards, or through government expenditures, the total community income is likely to be increased by more than the amount originally injected into the market. Money thus thrown into the market runs the complete gamut of production from consumer down through the retailer, wholesaler, and producer in all the various stages of fabrication. Each stage in the process retains a part of the initial expenditure as income. A thousand dollars first injected into the system and passed through all the various stages become finally a thousand dollars of net income for the various persons who co-operated in the whole production process. These persons now find themselves possessed of a thousand dollars of income which they otherwise would not have had. If now they, in turn, make additional purchases

Under the system of private enterprise and the prevailing financial institutions, the money income of a community is paid out, for the most part, from banks through business entrepreneurs. If businessmen are optimistic and see prospects of making profits, operations are expanded, idle bank credit is utilized, more money is paid out to labor and the owners of other factors of production, and the purchasing power of the community (in terms of money) is increased. If, on the other hand, owing to unfavorable developments of a non-monetary character—such as the termination of the construction of a transcontinental railroad or of the fixed plant of a new giant industry, the decline of major industries due to technological developments, disturbances to world trade arising from political interferences, or, as is commonly the case, an artificial expansion in the means of

the initial thousand dollars start on a new circuit of production and become income for another set of co-operating producers. Thus the injection of new money into the market will raise the money income of the community not by the initial expenditure, but by this amount multiplied by the *income velocity of money*, or the number of times this initial money passes through a related sequence of production in any given period, for example, one year.

The income velocity of money is the number of times money passes through a chain of production and again becomes income in a given period of time. Pigou (*The Theory of Unemployment*) estimates that the income velocity of money is about three per annum. This checks with American experience in boom times. Thus, in 1929 the total amount of money (cash and deposit currency) was about \$27,000,000,000, while the national income was about \$81,000,000,000. It follows that the income velocity of money must have been about three per annum. It is important to distinguish sharply the income velocity of money from the *transaction velocity of money*. The latter is obviously many times greater.

During a depression, of course, this newly created income would not all be utilized in further purchases, or at least not with the rapidity experienced in good times. At each stage a part would be held idle or would be used for the payment of debts. The income velocity of money in depression is not likely to exceed two, but under the stimulus of new additions to the income stream, the *average* income velocity is likely to rise. Thus, it may probably be expected that the injection of a given quantity of new money into consumers' markets in bad times will increase the money income of a country by an amount somewhat greater than the previous average income velocity.

production as a whole—the outlook for making profits becomes gloomy, pessimism cumulates among businessmen, less of the available credit is utilized, less money is paid out to the community, the volume of spendable funds actively functioning in the market is diminished, and a vicious spiral of deflation is started.

In consequence of the world-wide depression the price system has more than ever before been brought to the bar of judgment, and is being widely challenged. Under this system, fluctuations in the money income of the community come about chiefly through the rise and fall of investment. The fluctuations of investment, we know from Wicksell, come about, on the one side, through changes in the prospective rate of profit, due in large part to technological developments, and on the other side, through changes in the market rate of interest. If violent changes are taking place in these factors, enormous fluctuations may occur in the output of capital goods and in the money income of the community; and this is likely to bring about profound changes in the price level, in the internal price structure and thence, in turn, in the prospective rate of profit, so that this set of reactions, once started, tends to develop a cumulative process of economic instability.

The banker-producer bottleneck is the vital point in the modern price structure. It was the hope of Wicksell, and more recently of Keynes, that unfavorable developments in the *real* phenomena could be offset by a vigorous counteracting monetary policy. If the prospective rate of profit were falling, it was thought that by making the terms of lending more favorable, the bottleneck would not be contracted and producer credit could be made to flow steadily at an undiminished rate.

According to Wicksell, new investment will be undertaken (and therefore purchasing power will increase and

prices will rise), if the prospective rate of profit rises above the market rate of interest. The flow of purchasing power (and hence the price level) could, he believed, be controlled by adjusting the market rate to the natural (productivity or profit) rate. If the market rate is below the natural rate, prices tend to rise; if above the natural rate, prices tend to fall.

This analysis of tendencies is theoretically sound, but as a practical means of securing a steady flow of purchasing power Wicksell's proposal is quite ineffective. During a depression the prospective rate of profit on new investment is likely to be a minus quantity. In order to bring about an increased flow of purchasing power, therefore, it would be necessary to establish a minus rate of interest in the money and capital markets. This it is not possible to do.

Moreover, the Wicksellian thesis fails to recognize sufficiently the factor of uncertainty in entrepreneurial investment calculations. Under certain conditions the anticipated rate of profit on new investment is subject to numerous uncertainties; while at other times the future appears to be much more dependable. The spirit of enterprise is ruled in large part by the state of confidence. No matter how high the prospective rate of profit, entrepreneurs may still be deterred from making new investment if confronted with numerous uncertainties.

In our view, the monetary mechanism suggested by Wicksell, directed to stabilize the flow of effective purchasing power, cannot alone accomplish the desired result. In the final analysis, the essential problem is that of stabilizing investment in new capital goods, both durable consumers' goods and producers' goods. We know that the rise and fall of activity in the capital-goods industries is the essence of prosperity and depression. It is of the utmost importance never to lose sight of this fundamental characteristic of

business fluctuations. There is reason to believe (though past experience is none too encouraging) that monetary weapons may be made reasonably effective as a check upon an excessive burst of new capital investment. But once the investment in new capital goods has been overdone, no matter how plentiful the funds for new investment may be made by monetary means, there appears to be little that can be done to bring private investment again to a plane which will restore the purchasing power of the community. One has to wait until depreciation, obsolescence, new inventions, and the development of new products and new industries have done their work. At best, monetary measures can only prepare the soil for the growth of new investment.

Supplementary to monetary measures, aimed at counteracting the loss of business confidence occasioned mainly by non-monetary disturbances, are the inevitable pressures upon costs forced tardily but eventually by unemployment and hard times. Historically this, indeed, is the essential process by which confidence is restored. It is a common fallacy that cost reduction necessarily has the effect of causing a further fall in prices, and so an endless spiral of deflation. This view may indeed be true in the event that a further decline in costs is anticipated. But if it is believed that the drastic fall in costs has reached bottom, the entrepreneur again begins to feel solid ground under him. Courage to carry on is restored, stocks of commodities are liquidated in smaller volume, some new investments in fixed capital are made, and so the commodity market is improved. Under these circumstances it is just the drastic readjustment of costs that operates powerfully to restore confidence and to stop the decline in selling prices.

Expansion of new investment depends not merely upon the rate of interest, but also on the cost of materials and

labor. The longer the life of the capital or investment goods, the more significant the rate of interest becomes. But the rate of interest can never be equally as important as the materials and labor costs. In the case of housing, the interest rate accounts normally for about one-half the rental. If the interest rate were cut in two, rents could be reduced by 25 per cent. But if the cost of construction (materials and labor) were cut in two, rents could be reduced by 50 per cent. This is true because the total interest burden depends not only upon the rate of interest, but also upon the construction costs. At any assumed rate of interest, the total interest burden will vary proportionally with the cost of construction or the total capital investment.

If the material and labor costs of construction are relatively rigid, as appears to be the case,³ comparatively slight changes in prices (or rents) may cause violent fluctuations in the prospective rate of profit on new investment. In a period of depression, a drastic reduction in the rate of interest (the Wicksellian remedy) will surely tend to restore a higher level of constructional (investment) activity. But a sharp reduction in the cost of construction (materials and labor) would be even more effective.

Applying the Wicksellian analysis to wage rates, Dr. Jorgen Pedersen of the University of Copenhagen⁴ concludes that fluctuations in the flow of effective purchasing power may be traced to the divergence of actual wage rates from natural (or productivity) wage rates. If the actual wage rates are below the natural wage rates, new investment is made, more purchasing power is thereby put in circulation, and prices tend to rise. Thus a revival in business activity may be stimu-

³ See F. C. Mills, "Aspects of Recent Price Changes," National Bureau of Economic Research, *Bulletin* 48, October 31, 1933.

⁴ Cf. Jorgen Pedersen, "Wicksell's Theorie des Zusammenhangs zwischen Reallohn und Geldwertschwankungen," *Archiv für Sozialwissenschaft und Sozialpolitik*, May, 1933.

lated. If the actual wage rate is pushed above the natural wage rate, a boom may be checked.

Either one of these proposals (Wicksell's or Pedersen's), if rigorously applied to the limit, would doubtless go far to stabilize purchasing power, prices, profits, and production. Each suffers, however, from the serious defect that it seeks to offset the complex maladjustment in the whole internal price structure by the manipulation of a single cost factor. The interest rate (or the wage rate) is made to take the whole shock of the derangement caused by the failure of the various cost factors to adjust to the changed data. This is the chief difficulty. An arbitrarily severe burden is placed upon one strand in the cost structure. What is needed is to make all costs, or at least the more important ones, flexible.

This could be done by systematic economic planning, by deliberate institutional arrangements. Economic planning need not necessarily run in terms of the fixing of prices and production quotas. This way lies a restriction of output and lower real income. Economic planning can, if we will, be directed toward the creation of a more flexible economic structure, not a more rigid one.

It is a striking fact that the gross money incomes of farmers and of urban wage-earners declined in like proportion from 1929 to 1933.⁵ Urban incomes were influenced by cost rigidity with consequent sharp reduction in industrial output and employment. Rural incomes were affected by sustained output with sharp reduction in prices. If a systematic scheme of cost flexibility could be incorporated into our whole industrial structure, then employment and real income would not suffer the devastating declines which have recently been experienced.

We are not unfamiliar with the system, adopted in many

⁵ See Evans Clark, *The Internal Debts of the United States*, 1933, p. 62.

collective agreements, of adjusting money wage rates in accordance with some price index. Such schemes are not inimical to the modern trend of organization. Indeed only on the basis of well-developed trade associations and trade unions is the mechanism at hand to build the systematic machinery for an orderly internal adjustment of the cost-price structure.

A large measure of flexibility could be achieved by the orderly adjustment of some five or six fundamental cost groups. The following are suggested for consideration: (1) interest rates; (2) depreciation allowances; (3) railroad and public utility rates; (4) basic iron and steel prices; (5) taxes; (6) wage rates.

Much research is available on the precise mechanism by which adjustments could be made in a number of basic costs. For others additional work needs to be done. But the problem is far from an impossible one, if we definitely set ourselves the task of deliberately securing, through systematic planning, an orderly scheme of economic flexibility.

Two general measures, therefore, are available to enlarge the stream of purchasing power flowing into the market through the first faucet—that of private enterprise. They are (to sum up): (1) monetary measures (central bank policies operating in the money and capital markets) by means of which the terms of lending are made more favorable, and (2) cost reductions, particularly those which affect the capital-producing industries. Both measures are designed to stimulate new construction and new investment, thereby increasing activity in the field of durable goods, the decline of which is always chiefly responsible for the curtailment of purchasing power.

Yet, at best, the stability of investment is, under modern conditions, rendered extraordinarily difficult as a result of: (1) rapid shifts in industry such as those of the last decade,

(2) violent disturbances in the international field such as have arisen in the post-war period, (3) the growing importance of durable goods, and (4) the slowing down of the growth factor, due to population stabilization.

In the face of serious disturbances—whether occasioned by rapid changes in technology or by political disorders affecting the industrial intercourse of nations—the confidence of businessmen is likely to be so shaken, the prospect of a reasonable rate of profit is made so gloomy, that new investment, stimulated by central bank action and cost adjustment, is inadequate to maintain purchasing power. The shocks to which modern capitalism is subject appear to be so great that the gloomy outlook for profit-making cannot be effectively overcome by these means. Either they are not powerful enough, or they operate too slowly. The flow of purchasing power is dammed up before it reaches the consumer, since the entrepreneur has not sufficient confidence in the future to utilize the available credit resources. Thus the banker-producer credit mechanism appears no longer adequate to provide a reasonably steady flow of spendable funds. There is, accordingly, a growing insistence that purchasing power must be transmitted to the consumer through some other channel.

It has been urged, therefore, that the purchasing power of the community should be maintained by opening other faucets—faucets which connect bank credit directly with consumers without the intermediary of the producer. Instead of making consumer purchasing power wholly dependent upon the action of entrepreneurs, it is proposed to invert the relationship—at least in times of emergency—and control producer optimism through the maintenance, by direct methods, of the volume of spendable funds.

In consequence of this striving for stability of purchasing power, however, forces have been set in motion which, un-

less carefully administered, will tend to intensify the instability of the price structure for capital goods. It is sought (faucet No. 2, for example) to achieve stabilization of consumer income by building up reserves in good times to be drawn upon and distributed in periods of depression.

The first important development in this direction was the accumulation of corporate reserves intended to insure stability of dividend payments to stockholders. This development is of comparatively recent date but by now has assumed fairly large proportions.

In periods of prosperity profits are not distributed in large part but are pumped into the capital market, thereby stimulating an abnormal development of capital formation. And in periods of depression the invested reserves are dumped on the capital market in order to supply the cash needed for dividend payments. Thus the effort to stabilize the incomes of dividend receivers has the effect of lowering the capital market rate in times of prosperity and raising the capital market rate in times of depression.⁶ This, in turn, tends to stimulate investment during the boom and to retard the return of investment during the depression phase. In other words, the effort to stabilize the incomes of stockholders affects the market rate of interest in a manner precisely opposite to that which Wicksell has so clearly shown is needed to secure stabilization of income and of the price level. The policy of modern corporations, therefore, is in danger of working directly counter to what has by now come to be generally regarded as sound banking policy.

We are now entering a period when other reserves similar in character to dividend reserves are being widely urged and already in large part adopted. I refer to the accumula-

⁶ There arises, however, the question of the effect of this action on consumption and thence upon investment. This relationship is discussed later in this chapter.

tion of unemployment reserves in good times to be paid out (faucet No. 2) in benefits to the unemployed in periods of depression, and to public finance budgetary arrangements which are intended to make possible the postponement of large public works programs (faucet No. 3) to periods of depression. It makes no difference, from the standpoint of the argument in hand, whether such budgeting of public works is made possible by the accumulation of prosperity reserves to be expended in constructional programs in periods of unemployment, or whether the public works are financed in the depression period by an issue of public bonds to be redeemed in the succeeding period of prosperity.

The larger the proportion of the total income available for expenditure on capital goods, the greater is the *possibility* of violent cyclical fluctuations. The greater the surplus of a community over and above a bare subsistence level, the more is it liable to instability. Insofar as the building up of dividend reserves and unemployment reserves (we may call these "Consumers' Reserves") stimulates saving, this presents a danger, but there is another side to the story. When a country "guarantees" to all its citizens a decent minimum of subsistence, a bottom is thereby put to depressions. For a depression is not due to a lack of purchasing power but rather to a lack of willingness to bring into effective use the purchasing power which is available. Capital goods need not be purchased when the outlook is pessimistic, but current non-durable consumers' goods will be purchased insofar as the individuals are able to do so. If, now, the basic current needs of the unemployed are definitely maintained by unemployment insurance, the minimum of purchasing power which will continue to flow into the market will thereby be raised.⁷

⁷ To be sure, it is always possible that reserve schemes may be so mismanaged that funds which would otherwise flow into industry would be drained

The progressive decline of income during the depression tends to widen the disparity between income and capital-goods capacity. An excess capacity which may have accumulated toward the end of the boom thereby becomes, in relation to income, even greater. The decline in income outruns depreciation. Destitute families crowd together in small apartments and houses, thereby creating more and more vacant dwelling space. Unemployment insurance tends to prevent this overcrowding, and thereby helps to put a definite bottom to the decline of residential construction.

With unemployment insurance in the background, the whole wage-earning group feels a sense of security which is quite absent in countries without such safeguards. Where no provision against destitution obtains, a fear psychology becomes dominant. Employed workers save a disproportionate part of their income at the very moment when savings can find no outlet in new investment and must therefore "run to waste." Idle savings represent withholding of purchasing power from the commodity market, prices fall, and the total money income in the succeeding period of time is thereby reduced. If a minimum of subsistence were guaranteed, the decline of purchasing power occasioned by this fear psychology could be stopped. Thus such a sustained minimum helps to set a limit to a depression.

It is always possible that new funds injected into the market through the second and third faucets outlined above might cause a contraction of the flow coming out through the first faucet—that of private business activity. Suppose, for example, that the Consumers' Reserves had been invested in bonds, and suppose the liquidation of these bonds (for the purpose of securing cash with which to pay unemployment benefits) caused a deflation of bond values, weakened

off or dammed up. But this result (as we shall see) is by no means inherent or necessary.

the capital market, and made still more pessimistic the outlook for investment. In this event, the money injected into the market through the second faucet might be offset by a contraction of the flow of funds through the first faucet. Worse yet, there would be no assurance that the money drawn from the second faucet was really *new* money. It might have been drained off from the income stream flowing through the first faucet. It would be new money only when it was drawn from idle funds or from newly created bank credit.

The manner in which reserve funds are administered is therefore a consideration of utmost importance. The payment of unemployment benefits, for example, increases the stream of purchasing power which flows through the second faucet. This is a direct gain, but one must be careful that the funds are not so administered that the stream from the first faucet is either drained off or blocked.

Broadly considered, what is needed, if we are to sustain a fairly even flow of purchasing power, is to open the second faucet when the first one dries up. This means that as fast as producers' credit is contracted (bank loans being liquidated in consequence of reduced business activity) new bank credit will be created through increased investment in the assets formerly owned by the Consumers' Reserve Funds. To illustrate: the loans of all member banks declined from \$26.2 billion in October, 1929, to \$12.9 billion in June, 1933, while investments increased from \$9.7 billion to \$11.9 billion. While there was some slight offset on the side of investments to the decline in loans, this was far from adequate.

It would make little difference in the final analysis whether the commercial banks bought the additional investments directly from the Consumers' Reserve Funds or from savings banks with which the Funds had been deposited. By and large the fundamental facts are the same

whether or not the savings banks come in as intermediaries between the Consumers' Reserve Funds and the ultimate investment of these Funds in suitable obligations. What is important is that bank credit shall not decline, and this could be accomplished by substituting investment for loans as business activity diminished. The increased flow of bank credit to consumers would thus offset the diminished flow to producers.

In effect the industrial system would set itself the task of maintaining a fairly even flow of dividend and wage payments whether business was active or not. When times were good, the commercial banks would be relieved of a portion of their investment portfolio, leaving them free to put funds in loans to finance increased business activity. When times were bad, the banks would be called upon to take on more investments, and this they would be quite able to do, owing to the diminished business demands for bank credit. In effect, as business activity declined and credit to producers diminished, the banks would step into the breach and supply the funds with which to maintain wage and dividend payments by exchanging consumer credit for the assets of Consumers' Reserve Funds. The total volume of bank credit would thereby be measurably sustained. When business was good, the bulk of the total volume would flow out to the community through credit advanced to the producer; when business was bad, producer credit would decline, and relatively more would be paid out directly to consumers through advances made on investments previously accumulated by Consumers' Reserve Funds.

Except for the phenomenon of cash hoarding by depositors, there appears to be no good reason why banks should not be able to offset a decline in loans by increased investments. The elimination of cash hoarding awaits the develop-

ment of a thoroughly sound banking system. This is an absolutely necessary prerequisite for the maintenance of purchasing power. It is, however, probable that even though hoarding is eliminated, the banks will find it expedient in periods of low business activity to maintain larger cash balances. To the extent that this is the case, in order to maintain a fairly constant level of bank credit, it would be necessary for the Federal Reserve Banks, through open market operations, to supply the banks with the requisite surplus cash balances. Thus the Reserve Banks would indirectly help to bolster up the market for the assets of the Consumers' Reserve Funds.

But there would always be the danger that the member banks would not take all the funds offered by the Consumers' Reserve Funds. To make sure that the market would be well sustained and that the needed cash resources would really be obtained from new credit (and not simply drained off from current income) it might prove desirable, if, indeed, not necessary, to establish a new Federal bank which would be prepared to purchase these securities. Such a bank should, in common with member banks, have at its disposal the resources of the Federal Reserve System.

The serious difficulty which the modern industrial system encounters in the effort to maintain purchasing power in the face of declining business activity is the lack of avenues through which credit may be put directly into the hands of consumers. Only as really large Consumers' Reserve Funds are built up can this be accomplished.

Yet even though such funds should eventually be built up in large volume, there would never be any assurance that they would be adequate or would not eventually be drained dry. There must, therefore, always be in the background the third faucet—that of federal expenditures through

public works and emergency benefits to the unemployed, supplemental to state unemployment insurance systems.

The great merit of the development of Consumers' Reserve Funds on a large scale, in contrast to public expenditures, is that they offer a means by which purchasing power can be got out into the community without placing a strain on the public treasury. The third faucet (public expenditures) has the demerit that the funds it pours out tend to exhaust the public credit and constitute a levy on the future.

The accumulation of Consumers' Reserve Funds may, of course, have the effect of raising (at least in times of prosperity) the ratio of saving to spending. The relative decline in consumer demand would tend to reduce the prospective rate of profit on new investment. Counteracting this tendency, however, one must not forget the stimulus to real investment incident to the expanded volume of savings. Thus, as a first rough approximation, one may say that the accumulation of these Funds during the prosperity phase is neutral, everything considered, upon the volume of investment. But since consumption is curtailed, it follows that the total rate of expansion is somewhat slowed down.

An increase in saving is thus usually deflationary, since investment will ordinarily not increase sufficiently to offset the decline in consumption. Indeed, investment may even, under certain circumstances, decline. The net effect of the two opposing factors—diminished consumption and a lower interest rate—upon investment expenditures will vary according to the durability of the fixed capital in question. If the capital goods are short-lived, the rate of interest will have relatively little effect, and so investment might fall in consequence of the decline in consumption. Investment in extremely long-term capital goods may, however, be affected more by the rate of interest than by the level of con-

sumption, and under these circumstances investment might rise.⁸

In the depression period these Reserve Funds provide a resisting wall to hold back the receding tide of deflation, and to maintain a higher rate of activity in both consumers' and producers' goods industries during the depression.⁹

For once it is recognized that in mid-slump the speedy restoration of full activity in the instrumental trades is in any case out of the question, the alleged objections to the maintenance of consumption at the maximum level seem to crumble away. Under such conditions a policy of reflation designed to maintain the purchasing power of consumers seems to contain little danger of a pernicious "warping of the structure of production"; and at the same time to offer the best hope of eventually restoring "rentability" to the capital structure left stranded by the receding tide.¹⁰

It may, of course, be admitted at once that all programs of stabilization should concentrate on the prevention of serious maladjustments in the prosperity period and thus stave off, as far as may be, the depression. Nevertheless, with the best of intentions and institutional control we can be certain that maladjustments, in a progressive society, will develop in greater or less degree. How to prevent past maladjustments, however caused, from running riot and developing into a cumulative spiral of deflation—this is the problem which we must necessarily face. We must recognize that while every effort needs to be directed toward *prevention*,

⁸ See Erik Lundberg, *Economic Expansion*, London, 1937, pp. 227-229, 248-249, 253-255. See also Oscar Lange, "The Rate of Interest and the Optimum Propensity to Consume," *Economica*, February, 1938.

⁹ The essential point is that the Consumers' Reserves provide a basis for the expansion of money directly to consumers. The method suggested is admittedly more clumsy than outright fiat money, but it is much safer. See, in this connection, J. E. Meade, *Consumers' Credits and Unemployment*, 1938.

¹⁰ D. H. Robertson, "Der Stand und die nächste Zukunft der Konjunkturforschung," *Festschrift für Arthur Spiethoff*, 1933.

we must also learn, if possible, to *check the spread* of the disease, once the patient is affected. Instead of permitting the disturbances in special branches of industry to spread to the whole economy like a deadly poison, they should, as far as possible, be localized. A new balance could be built up through the maintenance of the totality of monetary purchasing power without passing through a general deflation. The adjustments that would have to be made before a new equilibrium could be reached would be facilitated through the stimulus given in this manner to the rapid development of those industries the expansion of which is called for by the new conditions. It is a common fallacy of many economists to suppose that deflation is the necessary medium through which the new balance is reached. What is needed is a *transfer of factors*, and this can most speedily be effected by safeguarding the general purchasing power.

Business enterprises cannot be responsible for the maintenance of purchasing power. Self-preservation and continuance of private enterprise demand that they look to the profit margin. It is gradually coming to be recognized, however, that it is a responsibility of the central banks to prevent, as far as possible, general collapse of purchasing power. Yet it is doubtful, as we have seen, whether they can perform this function alone, without the aid of Consumers' Reserve Funds and of the government. It may be that we have reached a stage in the development of modern industry in which free enterprise and the price system cannot continue to function unless we develop new institutions, in co-operation with the central banks, to safeguard the maintenance of *purchasing power as a whole*. Without this, in a state of general collapse of producer confidence, each entrepreneur in self-defense contracts his operations—a policy which, if pursued by all, is suicidal to the general economy.

It is becoming a serious question whether modern com-

munities can escape the dilemma either of undertaking the maintenance of total purchasing power (leaving private initiative to carry on the great bulk of economic activities) or else of taking over the operation of all enterprise itself.

What is needed is the guarantee that industry *as a whole* shall not suffer losses by reason of the failure to maintain on a failure-sustained level the total flow of purchasing power. This does not mean to guarantee each individual business against loss. If this were done, it would spell the end of the system of private enterprise, the very essence of which is that each business must undertake the risks involved, win profits if possible, but assume the losses if any are incurred. If the government guaranteed each business against loss it would of necessity have to assume control of management. If, however, the total purchasing power of the community could be maintained, though individual businesses would suffer losses, profits would not disappear *en masse* in the whole system.

Unfortunately, any proposal directed to this end is fraught with economic difficulties and, frequently, political dangers, particularly in modern democracies which have so often demonstrated a lack of capacity in self-control. But whether we turn to a planned economy (capitalistic, socialistic, or communistic), or to a regulated price system, a high order of political wisdom and efficiency is essential to success.

THE INVESTMENT OF UNEMPLOY-
MENT RESERVES

UNTIL recently it has too frequently been taken for granted, without much economic analysis, that it is quite a simple matter to transfer purchasing power *over time* from a period of prosperity to a period of depression. The methods most commonly proposed to secure this end are (1) the deferment of public works from boom to depression periods, and (2) the accumulation of unemployment reserves in periods of prosperity, to be paid as out-of-work benefits in the subsequent periods of depression.

The theoretical aspects of the public works problem have, however, been considered by various economists. And during the Great Depression the monetary and credit implications of a program of unemployment reserves have attracted increasing attention.

The Social Security Act of 1935 provides a method for investing the funds accumulated from the taxes imposed. This method will be discussed in a later section of this chapter. We shall, however, understand more fully the implications involved if we consider first the various methods which might be employed in the management of these funds.

It is proposed in the discussion which follows to consider concretely and concisely various possible procedures in the administration of unemployment reserves and to test the

effectiveness of each. The accumulated reserves might be administered by any one of the following methods:

1. The funds might be placed in deposits
 - a. With commercial banks
 - b. With Federal Reserve banks
 - c. With savings banks
2. The funds might be invested in commercial paper and short-term obligations of the federal government purchased in the open market.
3. The funds might be invested in United States government bonds
 - a. Purchased and sold in the open market
 - b. Purchased from and sold to the Federal Reserve banks
 - c. Purchased from and sold to the United States Treasury
4. The funds might be kept in whole or in part in money hoards.

It is proposed to discuss the effect of each type of administration of unemployment reserves from the standpoint of its influence on the national income stream,¹ both in the boom and in the depression. This procedure will enable us to compare the tendencies of each of these measures upon the stabilization of booms and depressions.

The first method is that of placing the unemployment reserve funds as *demand deposits in commercial banks*. The suggested procedure would tend to curtail the active volume of purchasing power in the boom period. There are two reasons for this. First, there would be a tendency on the part of the commercial banks to increase the ratio of cash reserves

¹ It is perhaps worth while to note that when individuals let their incomes "run to waste," in credit or money hoarding, the national income in the succeeding interval of time is thereby reduced.

against this type of demand deposits. It would be felt that deposits of this character are more likely to be withdrawn heavily, if not, indeed, *in toto*, should a period of considerable unemployment occur. And in view of the fact that it is quite impossible to predict when a period of considerable unemployment may arise, banks would always feel themselves obligated to stand in readiness to meet such withdrawals. There is already ample precedent in banking practice for such action. When a large depositor is likely, by the nature of his business, to vary the size of his deposit account violently, the bank earmarks this deposit and tends to hold a disproportionate cash reserve against it. Prudent banking would require that this be done in the case under consideration. The method of keeping the unemployment reserves as deposits in commercial banks would tend therefore to encroach upon the total quantity of bank credit that could be placed at the disposal of business borrowers.

The procedure under discussion has, moreover, the effect of slowing down the velocity of turnover of demand deposits during the boom period. It is evident that these deposits would lie idle at the bank so long as prosperity continued and there was little unemployment. The effective utilization of the available purchasing power in the community would, therefore, be curtailed by the failure of the Unemployment Reserve Fund to utilize the sums so deposited.

It is evident, then, that the active purchasing power would tend under this procedure to be contracted during the boom phase of the cycle partly by a curtailment of the volume of bank credit and partly by a reduction in the velocity of deposit turnover. What is the order of magnitude of this contraction in purchasing power? In 1928 the total demand deposits of all banks constituted about 25 billions of dollars. It is estimated that if unemployment reserves were adopted throughout the United States with contributions equal to

4 per cent of payrolls,² the funds might possibly accumulate toward the end of a major period of prosperity to a total of about 3 billions of dollars.³ In view of the fact that these deposits are presumed to lie idle during a considerable part of the period of prosperity, it will be seen that the volume of active purchasing power would thereby be reduced by perhaps 10 per cent. If we assume, further, as indicated above, that the total volume of demand deposits

² Three per cent from employers and 1 per cent from employees, as in some current state plans.

³ This is the maximum reserve that might be built up in a long period of prosperity such as the years 1923-29. This estimate is based on the hypothesis that plans had been adopted by all the states, and by the federal government for interstate workers. The payroll of workers who would have been insurable was calculated for these years from the estimates made by Willford I. King and the staff of the National Bureau of Economic Research of wages and salaries drawn from the various industries (agriculture and government were omitted). King's estimates were deflated to allow for employees of firms employing less than six employees and to allow for clerical employees earning more than \$60 a week. On the basis of these deflated payroll figures, the combined contributions of employers and employees (equal to 4 per cent of the first \$37.50 of the weekly earnings of insured employees) were calculated. The expenditures in benefits were based on Leo Wolman's estimate of the number of unemployed workers from 1920 to 1927. This was corrected on the basis of the 1930 census because of Wolman's too generous estimate of the yearly increase in gainful workers, and was projected for the years 1928 and 1929. The loss in wages and salaries of these unemployed workers was calculated from the estimated average annual pay of insured employed workers. The amount of benefits paid in turn was assumed to be 25 per cent of the wage loss (allowances being made for waiting period, benefits at 40 per cent of former wages with a maximum of \$15 a week and dependents' allowances not to exceed \$5 a week, maximum benefit of 26 weeks and disqualifications for voluntary quits and discharge for misconduct). Cost of administration was estimated on the basis of \$1.00 a year for each employed insured worker and \$2.00 a year for each unemployed insured worker. An average interest rate of 2 per cent was allowed on surplus accumulated. On the basis of these calculations it was found that from 1923 through 1929 a surplus reserve of 3.3 billions of dollars would have been built up. If the prosperity phase of the cycle had lasted for only six years instead of seven, somewhat less than three billion dollars would have been accumulated. See, however, the estimate of only 1.6 billion dollars, by Arthur J. Altmeyer, in Senate Hearings on Unemployment and Relief (S. Res. 36), 1938. This estimate is based on current state plans which in general call for lower contributions and a shorter waiting period than is assumed above.

would be somewhat reduced by the necessity of providing a higher cash reserve ratio for the unemployment reserve deposits, it is not unlikely that the total reduction would be in the neighborhood of 15 per cent.

Should the administrator of the Unemployment Reserve Fund choose therefore to place the accumulated sums in demand deposits, a genuine infringement upon the credit needed by the business community might result. The Federal Reserve banks might, in some measure, be compelled to step into the breach and, by increasing the reserves of the member banks, accommodate business with such funds as would seem to them appropriate, in view of the general business situation. Yet in a real boom the Reserve banks might well welcome this automatic check to undue expansion and permit its full restrictive pressure.

TABLE

ESTIMATE OF INCOME AND EXPENDITURES OF UNEMPLOYMENT INSURANCE FUNDS
FOR INSURABLE OCCUPATIONS IN ALL INDUSTRIES IN THE UNITED STATES
EXCEPT AGRICULTURE, 1923-1929 ^a
(In thousands of dollars.)

YEAR	INCOME IN CONTRIBUTIONS ^b	EXPENDITURES FOR BENEFITS ^c	COST OF ADMINISTRATION	INTEREST EARNED AT 2 PER CENT	NET SURPLUS, DECEMBER 31
1923	\$ 999,560	\$562,487	\$24,381	\$ 4,127	\$ 416,819
1924	1,010,040	736,990	26,186	10,805	674,488
1925	1,066,840	567,214	25,938	18,227	1,166,403
1926	1,129,610	487,268	26,015	29,492	1,812,252
1927	1,147,880	548,694	26,674	41,970	2,426,734
1928	1,162,800	730,252	27,769	52,582	2,884,095
1929	1,198,840	742,182	28,309	61,965	3,374,499

^a Based on an assumed plan including all nonagricultural wage workers and salaried workers earning \$60 a week or less; contributions 4 per cent of the first \$37.50 of weekly earnings of insured workers; waiting period 4 weeks; benefits 40 per cent of wages to a maximum of \$15 a week; 26 weeks' maximum benefit period; cost of administration on basis of \$1 a year for each employed worker and \$2 a year for each unemployed worker; average interest earned, 2 per cent.

^b Based on Willford I. King, *The National Income and Its Purchasing Power*, pp. 132, 133, 138 and 139; and a confidential report of "Preliminary Estimates of Total Realized Income in the United States, 1925-1930" prepared by the National Bureau of Economic Research, Inc.

^c Based on *Recent Economic Changes*, Vol. II, p. 478, Table 37.

There is one consideration that would be likely to deter the Federal Reserve banks from offsetting too far the action of the administrator of the Unemployment Reserve Fund. The Federal Reserve banks can increase the reserves of member banks only through discount policies and open-market operations. They will not wish to load themselves up with a large volume of rediscounts, commercial paper, or government bonds during the prosperity phase of the cycle. An enlightened Federal Reserve policy would indeed require a sufficient supply of investments to provide adequate ammunition to check the inflation when desired, but the Reserve banks will not wish to hold more than the amount deemed necessary for this purpose. Should they load themselves up with a vast surplus of investments, they would be in no strong position to counteract the deflationary tendency of a serious depression by open-market purchases. Besides the inherent unsoundness of any great extension of Reserve credit during boom periods, account must also be taken of the traditional attitude toward member bank borrowing. There is, therefore, a fairly definite limit to the extent to which the Federal Reserve banks may feel willing to go in counteracting the restrictive policies of the administrator of the Unemployment Reserve Fund.

But it is notably in the depression period that the Reserve banks are in need of assistance. It is easier to check expansion when funds are eagerly borrowed than to prevent continued contraction and decline of purchasing power in the depression phase. It is, therefore, all the more necessary to devise some new mechanism to sustain the flow of spendable funds during the depression. It is in this phase of the cycle that the Reserve banks should welcome any outside aid to help raise the effective purchasing power of the community.

Now the method under discussion would in some measure

affect the velocity of circulation of demand deposits in the depression period. While the unemployment reserve deposits would, for the most part, lie idle during the boom phase, they would be withdrawn and spent during the depression phase. Thus, at the moment when other demand deposits suffer a serious decline in velocity, the unemployment reserve deposits would become active and thus increase the flow of spendable funds.

Moreover, it is possible that the spending of these funds might actually tend to increase the velocity of deposits *other* than unemployment reserve deposits. To the extent that consumers' prices are increased by the spending of unemployment reserve deposits and business thereby stimulated, individual and business deposits, which otherwise would lie idle, would be in some measure utilized. Furthermore, this very stimulation might to some extent actually lead to an increased volume of bank loans and therefore of bank credit. In these various ways the active purchasing power might be maintained at a higher level.

Offsetting these favorable influences is the unfortunate fact that the withdrawal of these deposits will occasion some liquidation of loans and investments. Thus the funds for the payment of the unemployment benefits may in part be obtained by tapping the existing income stream. And to the extent that this is done, the total income stream is not enlarged. To the extent, however, that the securities are sold to individuals who otherwise would have held idle deposits, the flow of purchasing power is increased.

Let us consider next the method of placing the unemployment reserve funds as demand deposits in the Federal Reserve banks. Under this procedure the funds would accumulate as deposits with the Federal Reserve banks during the prosperity phase and would be withdrawn in the depression period. The effect of this procedure is precisely the same as

that of Federal Reserve open-market operations. When sales of bonds are made in the open market by Federal Reserve banks, the effect is to reduce the reserves of member banks and thus check credit expansion. Similarly, when the Unemployment Reserve Fund places deposits with the Federal Reserve banks, the sums are transferred from the member bank balances in the Federal Reserve banks to the new accounts, and the reserves of member banks are thereby reduced.

On the other hand, when the Unemployment Reserve Fund withdraws deposits in the period of depression, the Federal Reserve banks pay out drafts to the Fund. These drafts are then deposited with member banks, which in turn send them back to the Federal Reserve banks for collection. The ultimate effect is that member bank reserves are built up. The sums so deposited are in turn withdrawn to pay unemployment benefits, are spent, and for the most part are redeposited. Except insofar as the spending of unemployment benefits draws out a somewhat larger amount of cash in hand-to-hand circulation, the member bank reserves are thus permanently built up by the amount of withdrawals of deposits from Federal Reserve banks. It will be seen, therefore, that the effect of this procedure is to expand and contract member bank reserves exactly as when the Federal Reserve banks engage in open-market operations.

This method of caring for the unemployment reserves operates, it must be noted, with tremendous restrictive and expansive power. The Unemployment Reserve Fund might, as we have seen, reach a maximum of 3 billions of dollars. Now the entire reserve of all banks in 1928 was 3.1 billions of dollars, and of member banks only 2.3 billions of dollars. The accumulation of unemployment funds in deposits with the Reserve banks would strip the member banks of all their reserves. The credit contraction would therefore be terrific

and, indeed, intolerable. The Reserve banks would be compelled to restore the member bank reserves either by rediscounting their paper or by buying bonds in the open market. The violently restrictive influence would have to be counteracted by operations on a gigantic scale.

In the depression period, on the other hand, the withdrawal of the unemployment reserve deposits would result in a rapid piling up of surplus reserves in the member banks. If the whole of the 3 billions of dollars were withdrawn, the member bank balances, with the Federal Reserve banks, might conceivably be increased by this vast amount, creating enormous surplus reserves, unless, indeed, the Reserve banks offset this tendency by selling bonds in the open market.⁴

It is clear that the easing of the money market, facilitated by this method during the depression period, would be accelerated as unemployment increased. From the point of view of those who believe that the appropriate credit policy is to supply easy and plentiful money early in the depression, this lag is unfortunate. From the point of view of those who believe that a sharp liquidation in the early phases of the depression serves to hasten the necessary readjustments, forcing a sharp reduction in costs, this lag will be considered a favorable factor. From the latter point of view, it is in the last phase of the depression that money should be made cheap and plentiful. The procedure here under discussion would automatically provide the policy of easy and plentiful money so essential during the later stages of the depression.

⁴In its *Final Report* the Special Commission on Stabilization of Employment of the Commonwealth of Massachusetts, 1932, recommends the deposit of unemployment reserve funds with the Federal Reserve banks. The Commission, however, does not appear to have thought through the implications of its suggestion or to see the revolutionary effect which the program would have on Federal Reserve policy.

In the third place, we may consider the method of placing the funds in savings deposits. Should the administrator of the Unemployment Reserve Fund choose to deposit the accumulated reserves in savings accounts, what would be the effect upon the stabilization of purchasing power? The savings banks would in this case become intermediaries between the Unemployment Reserve Fund and the investment market. The funds deposited would be invested in high-grade securities such as are required by law of savings banks. Because of the peculiar nature of deposits, which are subject to periodic withdrawals when serious unemployment occurs, the banks would probably feel obligated to maintain a relatively larger part of their assets in more highly liquid form than would be necessary if their deposits were ordinary savings accounts. In part, this would mean carrying a larger cash reserve, and to this extent the savings banks would encroach somewhat upon the available cash reserves of the commercial banking system. If this were not to result in a curtailment of bank credit, the Federal Reserve banks would have to step into the breach and counteract this policy.

During the depression period these savings deposits would gradually and increasingly be drawn upon and paid out in unemployment benefits. This, to be sure, would involve a liquidation of a certain portion of the savings bank assets, the inevitable effect of which would be a tendency to force bond prices down. The prices of consumers' goods, however, would tend to be maintained at a higher level than would otherwise be the case. As these funds were drawn upon, the total volume of active spendable funds, the effective purchasing power functioning in the market, would be increased, and the demand for consumers' goods would thereby be favorably affected. The stimulation of business thus developed would in turn tend to increase the velocity of circulation

of deposits of individuals and of business units not directly connected with the Unemployment Reserve Fund. Moreover, the stimulation of business might also tend to increase the volume of business borrowing and thus serve to increase the quantity of bank credit outstanding.

The prices of high-grade bonds, under the forced liquidation of assets, would tend to fall. The rate of interest would be increased, and the capital market would thus furnish a less favorable basis for capital expansion and revival than would otherwise obtain. On the other hand, the increased volume of spending might stimulate loans and investments, might increase the total volume and velocity of demand deposits, might lift the price of both consumers' and producers' goods above the level that would have obtained without this stimulation. It is a question whether investment is stimulated more by an increase in the prospective rate of profit incident to an increased utilization of spendable funds on consumers' goods than it is discouraged by a rise in the rate of interest. The prospective rate of profit may be increased by an increase of active purchasing power through the withdrawal of Unemployment Reserve savings deposits and the spending of these funds by the consumers, but if the rate of interest is raised thereby, on balance total real investment may not be affected. But since consumption expenditures rise, total income is increased.

The quantitative impact of this particular method of administering the Unemployment Reserve Fund may be roughly stated as follows: In 1928 there were nearly 30 billions of dollars in time and savings deposits. If, as we estimated, the total Unemployment Reserve Fund might accumulate toward the end of a major period of prosperity to approximately 3 billions of dollars, the result, if the whole fund were withdrawn over a long period of unemployment, would be a liquidation of some 10 per cent of the assets of

savings banks. Precisely how much this would affect the bond market it is impossible to determine, since the amount varies with the degree of "bearishness of the public," as Keynes has put it. In other words, the demand curve for securities is more or less elastic, depending upon the particular state of investment psychology. It varies not only in the different phases of the depression period but also from one depression to another, according to the degree of loss of confidence in the soundness of the banking system and in the stability of the currency itself, and with other risk expectations.

It is not possible to determine the net effect of these two opposing tendencies either from theory or from experience. In these matters, which involve the operation of mass psychology, history is not likely to repeat itself. In relatively mild depressions, when financial panic does not develop, the favorable factors are likely to outweigh the unfavorable. Moreover, in countries with a thoroughly sound banking system there is little likelihood that the initial liquidation of assets will develop, because of lack of confidence, into a general liquidation. In other words, the unfavorable aspects are likely under these circumstances to be minimized.

Should the administrator of the Unemployment Reserve Fund invest the accumulations in highly liquid, short-term maturities, some interesting possibilities are presented. For the most part, commercial paper and short-term government obligations are held by commercial banks as a secondary reserve against their deposit liabilities. Moreover, it should be noted that the quantity of commercial paper outstanding is relatively small, and, except for brokers' loans, not subject to great variation. If the Unemployment Reserve Fund were invested in short-term maturities, a part of such investment would be bid away from the bankers, leaving them with a smaller volume of investments suitable for secondary reserves. Unless the volume of short-term governments is

kept at a high level, the tendency would be to force conservative bankers to carry a relatively larger proportion of primary reserves than they otherwise would. If we could assume that the Federal Reserve banks would take no counter-action to increase the volume of bank reserves, it would of necessity follow that the total volume of bank credit would be somewhat curtailed, since the ratio of actual reserves to deposits would tend to be in some measure increased. As we have seen above, however, it is not likely that the Federal Reserve banks would remain wholly passive in such a situation.

The quantitative significance of this particular procedure may be measured in part by comparing the assumed maximum of the Unemployment Reserve Fund (3 billions of dollars) with the pre-depression quantity of short-term paper. In 1928 the total volume of bankers' acceptances and commercial paper was approximately 1.5 billions of dollars and that of short-term federal obligations about 4.3 billions of dollars, while other short-term obligations (other than brokers' loans) suitable for secondary reserves probably did not exceed some 2 billion dollars. As for brokers' loans, they amounted in 1928, an abnormally high year, to about 5 billion dollars. From these figures it will be seen that the investment of the unemployment reserve funds in short-term maturities might encroach upon the secondary reserves of the banks.⁵

It is to be noted that in the depression phase it is far more favorable from the standpoint of business stability that short-term maturities should be owned by the Unemployment Reserve Fund than by the commercial banks. As this paper matures and is redeemed, the effect is quite different in the two cases. If the paper is owned by a bank, redemption

⁵ If we assume that the banks ought to carry a 20 per cent secondary reserve, about 10 billion dollars would have been required in 1928.

of the paper involves a reduction of the deposits of corporations and thus amounts to a cancellation of so much purchasing power. If, on the other hand, the short-term paper is owned by the Fund, the redemption of this paper amounts to a *transfer* from corporations to beneficiaries of the Unemployment Reserve Fund. These beneficiaries spend these deposits, but the money flows back to the banks and turns up elsewhere as new deposits.

Purchase and sale of government bonds in the open market would permit the Unemployment Reserve Fund to buy bonds either from individuals or from the banks (other than the Federal Reserve banks).

There is reason to suppose that this particular method of administering unemployment reserves would tend somewhat to limit the volume of spendable funds in the boom period. Investment expenditures, as we have seen above, may not be affected, since on one side they are checked by a somewhat lower level of consumption than would otherwise have occurred, and on the other side they are stimulated by a lower rate of interest. But since consumption is held back, total expenditures (consumption and investment) would expand less rapidly during the prosperity period.

On the other hand, the payment of unemployment benefits from the sale of bonds during the depression period would tend to depreciate the bond market and intensify the liquidation process, and to this extent increase the severity of the depression. The liquidation of these bonds would be applied progressively in large volume in the later stages of the depression. But it is precisely in the later stages of the depression that it is of utmost importance to provide a strong capital market and thus prepare the way for the expansion of capital investment. One must not, however, overlook the favorable effects on consumption flowing from

the increased expenditures incident to the payment of unemployment benefits.

It will be noted that the purchase and sale of bonds by the Unemployment Reserve Fund through the open market has an effect quite different from that of the open-market operations of the Federal Reserve banks. The effect of the latter is to expand and contract the total volume of bank reserves and thereby to stimulate an expansion or contraction of bank credit. But when the Unemployment Reserve Fund buys and sells in the open market, the reserves of the banks are in no way affected. If the Fund buys bonds from private individuals or corporations, deposits are merely transferred from the Fund to individuals or corporations, who in turn use those deposits for purchase of commodities or for investment. If the Fund buys bonds from the commercial banks, deposits are indeed reduced, but the surplus reserves of the banks are accordingly increased. This increase in surplus reserves may in turn lead to an expansion of bank loans and investments to the former level, thus offsetting the initial reduction of bank credit but causing no net expansion. If, on the other hand, purchases in the open market are engaged in by the Federal Reserve banks, a definite force comes into operation which might make possible an enormous expansion of bank credit.

Similarly, if the Fund sells bonds in the open market, the effect again is merely to transfer funds from one deposit account to another; bank reserves are not affected. On the other hand, the sale of bonds by the Federal Reserve banks reduces the reserves of the member banks and thus forces a drastic contraction of total bank credit. In brief, the purchase and sale of bonds in the open market by the Unemployment Reserve Fund does not of necessity increase or destroy purchasing power. But this is precisely the effect of Federal Reserve open-market operations.

The purchase and sale, by the Unemployment Reserve Fund, of bonds from and to the Federal Reserve banks may be considered next. During the period of prosperity the Unemployment Reserve Fund would, if this procedure were followed, invest the accumulated reserves in United States bonds purchased from the Federal Reserve banks.⁶ The effect of such purchase of bonds from the Federal Reserve banks would be to reduce member bank reserves, since payment for the bonds would be made by the Fund drawing on deposits carried with the member banks. In other words, the effect would be precisely the same as the sale of bonds by the Reserve banks in the general open market. The systematic purchase of bonds during the prosperity phase, increasing progressively with increased volume of employment, would operate to check the upswing movement of credit and business. Should the damping influence become too marked, the Federal Reserve banks could, of course, counteract such a tendency by reverse open-market operations. It should be remembered, however, that these operations might have to be on a stupendous scale.

This method would have the beneficial effect of enabling the Federal Reserve banks to reduce such excess holdings of government bonds as might have accumulated during the preceding period of depression if, through open-market operations, the Reserve system had exerted its influence to stop the deflation. The introduction of the Unemployment Reserve Fund would clearly facilitate the absorption of the surplus supply of bonds held by the Federal Reserve banks. The bonds could be sold, in consequence of the new savings made by the Fund, on more advantageous terms than would

⁶ One obvious objection is that the Reserve banks might not be supplied with sufficient bonds to meet the requirements of the Unemployment Reserve Fund. At this point the plan would break down and the Fund would be compelled to buy in the open market.

otherwise be possible. The Federal Reserve banks would probably welcome this opportunity to unload an excess bond portfolio.

If the policy here under consideration were adopted, an automatic progressive expansion of Federal Reserve open-market purchase of bonds would occur during the depression. The sums paid out by the Reserve banks to the Unemployment Reserve Fund would quickly be spent by the unemployed wage-earners and flow back to the member banks, building up their surplus reserves by a similar amount. A powerful pressure would thus be exerted upon the member banks to expand their loans and investments and thus the total amount of deposits.

This particular method of administering the Unemployment Reserve Fund would have the same effect upon purchasing power as a public works program financed by Reserve bank credit. There would, however, be the added advantage that the procedure under discussion would not involve any additional issue of government bonds, and would therefore in no way endanger the government credit or increase the load of present and future taxes.

We turn now to the method of purchase and sale of bonds from and to the United States Treasury. This device is suggested by the provisions in the recent Thomas amendment to the Farm Relief Act, which provided for the possible issue of United States notes up to a maximum of 3 billion dollars in exchange for outstanding government bonds.

Under this plan, whenever the administrator of the Unemployment Reserve Fund found it necessary to dispose of its bonds in order to pay unemployment benefits, the sale would be made to the Secretary of the Treasury. The Secretary of the Treasury would accept these bonds at par. The Secretary of the Treasury could (1) issue greenbacks in exchange for the bonds, or (2) sell the bonds in the open

market and credit the Fund with the proceeds of the sale plus or minus the difference between the market and par value.

If the Secretary of the Treasury deemed it desirable to exert a monetary influence to check the deflation, he would, of course, choose to issue legal tender notes. These would operate exactly like the open-market operations of the Federal Reserve banks discussed above, first to supply the means of payment for the unemployed consumers, which in turn would set up a circuit of further purchasing by other groups as already explained, and in addition would pile up member bank reserves by an amount approximately equal to the legal tender issue. Should it be found that the surplus reserves thus piled up eventually tended to produce dangerous inflation the Secretary of the Treasury could reverse the process, cease issuing legal tender notes and sell the unemployment reserve bonds in the open market, and, if necessary, issue new bonds, thus retiring the legal tender notes already outstanding and thereby putting a check on the inflation.

The Social Security Act of 1935 offers a procedure which in general falls under the category here under discussion, though the issue of greenbacks is, of course, not involved. The Act provides that there shall be established in the Treasury of the United States a trust fund to be known as the "Unemployment Trust Fund." The Secretary of the Treasury is authorized and directed to receive and hold in the Fund all moneys deposited therein by the various state unemployment insurance agencies. Such deposits may be made directly with the Treasury or with any Federal Reserve bank or with any member bank which has been designated by the Secretary of the Treasury for such purpose. The Secretary of the Treasury is assigned the duty of investing such portion of these funds as are not required to meet current

withdrawals. Such investment must be made in interest-bearing obligations of the United States or in obligations guaranteed by the federal government. Special obligations may be issued and sold exclusively to the Unemployment Trust Fund, and in fact this is the method which has been employed.

Thus, if it is desired to check an undue expansion, the Unemployment Trust Fund could purchase these special bonds or short-term obligations instead of purchasing bonds in the open market. If special obligations were taken directly from the government, the funds paid to the Treasury (drawn on member banks all over the country) could be held idle by the device of depositing them with commercial banks or with the Federal Reserve banks. The effect of the latter procedure would be to reduce the reserves of the member banks and act as a restraint upon the upswing of the credit cycle.

It should be noted that the issue of such special bonds to the Unemployment Trust Fund results in the government's paying interest on the bonds even though it wished to sterilize the proceeds. Such interest is paid in order to provide the Unemployment Trust Fund with earning assets; the loss to the government represents the cost of stabilization. If an undue credit expansion is to be checked, funds must of necessity be held idle somewhere. When the Federal Reserve banks seek to check an upward movement by selling government bonds they also lose income.

In the event that the Treasury did not wish to sterilize these funds, they can be used (1) to help defray the current expenditures of the government, and (2) to retire outstanding government debt. In a period of continuing government deficit they have been used, as is also the case with the Old-Age Reserve Account, for current expenses. The justification of this procedure is discussed in Chapter IX of this book.

In a period of depression the assets held by the Fund would have to be converted into cash in order to pay benefits. Under the procedure which has been adopted this conversion would be made simply by the Treasury redeeming the special obligations held by the Fund and selling such new issues—short-term or long-term—as could most favorably be floated currently in the capital market. The problem of financing benefits in the depression would then be precisely the general problem of raising funds for deficit financing. It should be noted, however, that the new issues here referred to, unlike the deficit financing issues, would not involve any *increase* in the public debt, but merely a shift in the character of the obligations and in the proportion of the total debt held by the Trust Funds and by the general public, including the banks.

Finally we come to the method of accumulating the Unemployment Reserve Fund in cash hoards. This policy would clearly operate to check the expansion of bank credit during the boom period. It could, however, easily assume proportions so large that a very definite limitation would be imposed upon the control of bank credit by the Federal Reserve banks. It will readily be seen that the Unemployment Reserve Fund, which might accumulate to around 3 billions, if hoarded in the form of gold and lawful money could drain the country of a large fraction of its basic money supply. It is obvious that if all the funds were placed in hoards of this character, the effect would be very great. But if only a relatively small proportion of the reserves were so hoarded the effect would merely be to restrain an undue expansion of bank credit during the boom period.

Should this device be used exclusively, it cannot be doubted that the administrator of the Unemployment Reserve Fund would be able largely to supplant the Federal Reserve system in the control of the credit system. Herein

lies a great danger. This procedure could certainly not be tolerated except by an act of Congress designating the Federal Reserve Board as the federal stabilization agency to control the Unemployment Reserve Fund and administer it in conjunction with appropriate Reserve bank policies.

Once this is granted, it becomes clear that this particular method of administering the Unemployment Reserve Fund is an absurdity. It amounts to the Federal Reserve Board going through the childish motion of locking up a part of its cash resources in a vault under the pretense that they thereby become inaccessible. If these cash hoards were not segregated in order to impose self-restraint upon the Federal Reserve Board, the only justification for locking up funds in this arbitrary manner would be to fool the public into thinking that the reserves of the system were lower than they actually were. There are many methods of sterilizing surplus reserves which make quite unnecessary the infantile procedure of segregating a part in special strong boxes.

There can be no question that the hoarding of a part of the unemployment reserves during the period of prosperity and the release of these sums during the period of depression would tend to iron out the fluctuations of the total volume of spendable funds. But it is important to see that this procedure is designed to accomplish the same purpose as that aimed at by open-market operations of the Federal Reserve system.

The dilemma confronting us is this: If it is argued that one cannot trust the Federal Reserve Board and that therefore it is necessary for the administrator of the Unemployment Reserve Fund to segregate a part of the accumulated funds in cash hoards, we are then confronted with the chaos of divided and irresponsible control of the credit system. If, on the other hand, we cannot tolerate handing over credit

control to the administrator of the Unemployment Reserve Fund, we are compelled to centralize the administration of these funds in the hands of the Federal Reserve system; in which event the whole hoarding procedure becomes, as we have seen, meaningless.

What now are the advantages and disadvantages of the various methods of administering the Unemployment Reserve Fund?

Consider the relative merits of placing the unemployment reserves in demand deposits with commercial banks on the one hand, and in savings accounts on the other. In both cases the use of this method would tend to curtail the volume of the effective money supply during the period of prosperity. The demand deposits method has the advantage in checking the boom, since this method would clearly compel bankers to carry a higher reserve ratio than the savings account method. In the period of depression the withdrawal of deposits would force some liquidation of long-term securities. Countering these deflationary tendencies is the new purchasing power which the payment of unemployment benefits brings into the market.

Consider next the comparative merits of placing unemployment reserves in demand deposits with commercial banks and of investing these funds in short-term maturities. Both methods tend to check the expansion of the effective money supply during the boom period, the former because the banks will wish to carry a larger cash reserve against the unemployment reserve deposits and the latter because this method encroaches upon the available secondary reserve, thus making necessary the carrying of a larger primary reserve. The likelihood is that the former method will impose a greater restraint upon bank credit expansion than the latter. The two methods appear to offer equal advantages,

however, in the maintenance of purchasing power during the depression.

If we compare the savings deposit method with the method of investment in federal bonds (the purchases and sales being made by the Unemployment Reserve Fund in the open market), we find the following: The former method imposes some restraint upon the expansion of the effective money supply during the boom period by forcing upon the banks the policy of carrying a somewhat larger cash reserve. The latter method appears to impose no restraints upon the volume of bank credit in this phase of the cycle. During the depression phase both methods involve the liquidation of bonds. The effect on bond prices will be the same in either case.

Compare next the method of placing the unemployment reserves in demand deposits in the Federal Reserve banks with the method of purchase and sale of the bonds by the Unemployment Reserve Fund from and to the Federal Reserve banks. We have seen that both methods serve to contract and expand member bank reserves. Both methods therefore tend to stabilize the effective money supply. There is, however, the notable difference that under the former method the deposit liabilities and assets of Federal Reserve banks are kept intact, the only effect of this procedure being to transfer a part of the deposits of member banks with the Federal Reserve to the Unemployment Reserve Fund. Under the method of purchase and sale of bonds from the Federal Reserve banks, however, the effect is to force a somewhat violent fluctuation in the deposit liabilities and assets of the Federal Reserve banks. The effect of placing reserves in demand deposits is to stabilize the total resources and liabilities of the Federal Reserve system, at the same time making possible as large variations in member bank reserves as are possible under the other method. Neither method insures an

appropriate adjustment of member bank reserves to the stabilization program. The operations are, moreover, on a scale so large that, without counteracting action by the Federal Reserve banks, the contraction imposed upon bank credit expansion during the prosperity phase would be far too great. Under either method, therefore, the Federal Reserve system will be forced to take steps to modify and adjust the arbitrary influence of the accumulation of unemployment reserves.

The method of purchase and sale of bonds from and to the Federal Reserve banks may be compared with the method of purchase and sale from and to the United States Treasury. The latter method relieves the Federal Reserve system of the necessity of loading up its portfolios with an excessive quantity of government bonds. The Department of the Treasury upon purchasing the bonds might be authorized to issue against them legal tender notes. This relief of the Federal Reserve banks is, as is well known, the ground on which Senator Glass predicated his remark that the greenback proposal in the Thomas amendment to the Farm Relief Act was less objectionable than the open-market proposal. Against this advantage is the obvious objection of pumping into circulation, periodically, large quantities of legal tender notes. The Treasury might, however, as in the current procedure under the 1935 Act, redeem the bonds in cash obtained from the sale of new issues in the capital market.

Compare now the relative merits of the hoarding method with the method of purchase and sale of bonds from and to the Federal Reserve system. The hoarding method imposes a powerful restraint upon bank credit expansion during the boom period—so much so, indeed, that if used to the limit it would endanger the power of the Federal Reserve system to control the situation. If, however, the hoarding is placed under the control of the Federal Reserve banks, the

method becomes a mere formality. The alternative method in contrast merely reinforces and makes more effective the open-market operations.

Consider finally the comparative merits of the hoarding method with that of placing the unemployment reserves in the form of demand deposits with the Federal Reserve banks. If the hoards assumed entirely the form of gold and lawful money, the effect clearly would be to strip the Federal Reserve system of a large part of its cash resources. This the demand deposit method does not do. The hoarding method, in short, reduces the reserves of the Federal Reserve banks; the demand deposit method reduces the reserves of the member banks. The restraining effect of the hoarding method is therefore enormously greater than that of the demand deposit method. If the hoards consisted of Federal Reserve notes, the restraining effect would be reduced considerably, since Federal Reserve notes may represent only 40 per cent in gold certificates.

The eight methods considered may be placed in four categories as follows:

1. Those methods which would produce a violent fluctuation in the reserves of the Federal Reserve banks themselves.

Only one of the eight methods falls in this category—that of placing the unemployment reserve funds in cash hoards. Obviously a method which expands and contracts the reserves of the central banks is the most powerful in its influence on the credit structure. As a method of credit control, it not only competes with the Federal Reserve banks, but it may be said to threaten its very basis. This method would indeed be so powerful that it would well-nigh usurp the throne and oust the Federal Reserve banks from control. Being purely mechanical in its operation, it might at times prove a very bad automatic device since it rests upon a single factor, namely, *employment*, which, because of lags varying

from cycle to cycle and because of variations in employment from region to region, is not always a good index of appropriate credit policy.

2. Those methods which would produce a fluctuation in the surplus reserves of the member banks.

Three of the eight methods discussed above fall in this category. They are as follows:

a. Deposit of the unemployment reserve funds with Federal Reserve banks.

b. Investment of the unemployment reserve funds in bonds purchased from and sold to the Federal Reserve banks.

c. Exchange of unemployment reserve investments against United States notes.

Each of these methods would result in an expansion or contraction, as the case may be, of member bank reserves. This procedure would therefore perform a function hitherto entrusted, since the inauguration of the Federal Reserve system, exclusively to the Federal Reserve banks. These methods make the Unemployment Reserve Fund a direct competitor of the Federal Reserve banks in the control of credit. Here again, as we have noted above, the control is not based on wide judicious observation of all sorts of business and credit indices, but is automatic and arbitrary in its operation.

3. Those methods which tend to affect the reserve requirements of the member banks, not by automatically increasing the member bank reserves, but by forcing the member banks to carry a larger reserve in view of the character of its liabilities or encroachment upon secondary reserves.

Of the eight methods considered, the following three fall in this category. They would tend to affect the reserve ratio, with a magnitude in the order given below.

a. Funds placed in demand deposits with commercial banks.

b. Funds placed in savings banks.

c. Funds invested in short-term maturities.

4. Those methods which appear to have no influence upon either the volume of reserves or reserve requirements.

One method alone of the eight appears to fall in this category. It is that under which unemployment reserve funds are invested in bonds purchased and sold in the open market.

The Social Security Act of 1935 sets up, as we have noted above, the Unemployment Trust Fund to be administered by the Secretary of the Treasury. By reason of this trusteeship the Treasury is necessarily invested with extremely important powers of monetary control. The management of this Fund enables it to exercise an important influence on the money and capital markets.

It is possible through deficit financing to bring about an expansion of the national income. The existence of the Unemployment Trust Fund, however, permits the Treasury to increase the cash income of the community in periods of unemployment without increasing the national debt. This is one of the most significant consequences of the social security program from the standpoint of monetary management.

DEFLATIONARY ASPECT OF THE OLD-AGE RESERVE FUND

UNDER the national system of old-age insurance, workers and employers are required to make contributions. The combined taxes amount to 2 per cent of total payrolls beginning with 1937, and this is increased in three-year intervals by 1 per cent until by 1949 the total will reach 6 per cent, half deducted from wages and half paid by the employer.

These contributions will for a number of years exceed the benefit payments provided under the Act. Thus a reserve will be accumulated, which, it has been estimated, would reach forty-seven billion dollars by 1980. The accumulated reserve will be invested in United States government obligations yielding a minimum of 3 per cent interest. These interest receipts will supplement the 6 per cent wages and payroll tax. By 1980 the invested fund will yield an income equal to more than half of the estimated combined receipts from employer and employee contributions.

A campaign of uninformed propaganda has been directed against the Old-Age Reserve plan. Much of what has been said is quite misleading and indeed distressingly unintelligent.

The money received by the Treasury from the sale of government obligations to the Old-Age Reserve Account may

be used to finance a current deficit (i.e., to defray current operating expenditures of the federal government), to retire outstanding government indebtedness, or be held by the Treasury as idle deposits in commercial banks or in the Federal Reserve banks.

Thus far it has been used to help finance the current deficit. This procedure, it has been charged, amounts to an indefensible piece of financial legerdemain. It is said that the Treasury gives the Old-Age Account I.O.U.'s, then proceeds to spend all the money on relief, battleships or what-not, and so there is nothing left to show for the hard-earned money paid by workers and employers.

In point of fact the investment of the funds of the Old-Age Reserve Account in federal government obligations is not one whit different, so far as sound finance is concerned, from similar investments made by banks or insurance companies. If federal obligations are a good investment for financial institutions, they are equally good investments for the Old-Age Reserve Account. Nor does the soundness of the investment depend upon what the government does with the money, but rather upon the general credit of the government—at bottom its taxing capacity in relation to its total expenditures.

In the event that the federal budget is finally balanced, the funds derived from the sale of special government obligations to the Old-Age Trust Fund would probably be used to retire the public debt held by banks and the general public. Should it turn out that the public debt does not increase materially beyond the current figure of about thirty-seven billion dollars, the time would eventually come when there was no more outstanding debt to be retired. In these circumstances there is no necessity, as has frequently been alleged, that the government must perforce find extravagant and unnecessary new expenditures in order to use the money

received from the Old-Age Insurance taxes. Instead the government could, if it so desired, reduce taxes (other than the Social Security taxes) and use the money for necessary current expenditures. Whether such action is likely or not depends, of course, upon the will of the Congress. At any rate there is nothing in the Old-Age Reserve plan which compels *per se* useless expenditures.

So much for indefensible criticisms of the scheme now in effect. There is, however, one matter which deserves careful consideration and which is sufficiently serious to warrant abandonment of the reserve plan and the adoption in its place of a pay-as-you-go policy. The law as it now stands operates unnecessarily to accentuate any tendency otherwise present toward deflation.

The following table gives the estimated net excess of tax collections over benefit payments in the next ten-year period:

1937	.....	\$ 505,000,000
1938	.....	497,000,000
1939	.....	488,300,000
1940	.....	754,800,000
1941	.....	765,400,000
1942	.....	736,900,000
1943	.....	997,000,000
1944	.....	956,400,000
1945	.....	924,300,000
1946	.....	1,152,000,000
1947	.....	1,107,600,000

It will be seen that by 1947 the total excess of tax collections over benefit payments will have amounted to nearly nine billion dollars, or an average of over eight hundred million per annum. During the next two years it is true that the amount is only about five hundred million per annum. Even this figure, however, is no inconsequential amount, particularly when account is taken of the secondary effects of the

withdrawal of so large an amount from current consumption.

Plainly, the Act operates to reduce the total consumption expenditures of the general mass of the population by these minimum figures. The probability, however, is that the secondary influences flowing from the contraction of business will in turn reduce the incomes of groups that otherwise would have been employed in the production process had the initial curtailment of consumption expenditures not occurred. It is therefore likely that the total impact on the economy may be considerably more than the minimum figures stated in the table indicate.

The manner in which these taxes tend to reduce the total volume of expendable funds below what they otherwise might have been may be briefly stated as follows: Consider the situation if the federal budget is in balance. In this event the funds flowing into the Old-Age Reserve Account will, directly or indirectly, be used to retire the volume of government obligations outstanding in the hands of the banks and of the public. In the event that the bonds so retired are held by the banks, as the investment assets of the banks decline, deposits decline. In the event that the bonds so retired are held by the public, the cash received by individual or institutional investors might be used for consumption or investment expenditures. However, if a recession is already in process, it is well known that the tendency is to pay off debt or to hold such funds idle, employing them neither for consumption nor investment purchases. Thus, whether the banks' holdings of bonds decline or those of the public generally, a deflationary influence is exerted on total investment and consumption expenditures.

Assume, on the other hand, that the government deficit is exactly equal to the amount of the Old-Age Security taxes. In this event it is of course true that the funds derived from

these taxes will be used by the government to cover the deficit. Presumably, however, such deficit-creating expenditures would have been undertaken in any event, with or without an Old-Age Reserve Account. What must be clearly recognized is that by drawing in tax funds in a period of recession, deflation is accentuated, thereby calling for still heavier governmental expenditures to check the downward movement. If the country is already facing recession difficulties, the present plan unnecessarily adds to our troubles by draining off a part of the consumption expenditures which would otherwise have been made.

The continued accumulation of the trust fund forces a net addition to the volume of savings. The former holders of the government securities purchased by the Trust Account are forced to find other investments. During a depression the volume of idle funds—hoards which cannot find investment outlets—would be increased.

During the prosperity phase the accumulations through the retirement of publicly-held government debt would have the effect of pouring additional funds into the capital market. Nevertheless, this result would not inevitably follow from the present plan. The Treasury might, instead of retiring outstanding debt, sterilize, in whole or in part, the funds received from its sale of special issues to the Old-Age Reserve Account. The sums could be left as demand deposits with the commercial banks or transferred to deposit account with the Federal Reserve banks. The latter procedure by reducing member bank reserves would act as a powerful restraint upon undue expansion. In a subsequent depression the sterilized funds could be de-sterilized and used to finance public works or relief expenditures. But taxes currently received during such a depression period could only contribute to the deflationary tendencies, thereby necessitating still heavier relief and public works expenditures.

PART THREE

THE INTERNATIONAL SITUATION

THE INTERNATIONAL MONETARY SITUATION

THE French elections of the spring of 1936 proved decisive in their consequences on a major issue of great international importance—the fate of the French franc. Until this event it was always possible to believe that France might be able to achieve economic recovery on the basis of the pre-depression gold value of the franc. Even the most rigorous monetary conservatives were finally forced to abandon this hope.

The victory of the “Front Populaire” meant the end of the prolonged, painful policy of deflation. To be sure this policy had not been pursued as vigorously or consistently as the maintenance of the gold standard required. The rise and fall of one government after another made a definite and determined course impossible. Always there were those who, weary of deflation, advocated a program of expansion, while at the same time inconsistently adhering to the current gold parity. The disastrous consequences of even mild expansionist measures quickly brought the country back to reality, to the stern necessity of further deflation.

The course of costs and prices in the United States and England had proved disappointing. It had been hoped that prices, as revival progressed, would quickly rise by approximately the amount required (about 70 per cent) to offset

the depreciation of the dollar and the pound. Instead prices had risen by less than half the required amount. Moreover, since the end of 1934 the American price level had failed to rise at all, every advance in the total national income having caused, not a price rise, but instead an expansion in output and production. Thus French costs and prices (despite some painful steps toward a better international equilibrium) continued to remain seriously out of line with American and British prices with no prospect of an early adjustment.

Under these circumstances, could France continue to hold out for one or two years longer? Could she wait until recovery in the United States and Great Britain had absorbed virtually all of the idle productive resources so that any further expansion of money income could be counted on to produce a rise in prices of sufficient magnitude to bring relief to the French economy? The French elections proved this hope elusive. Indeed, had the French trade union movement had any strength at all comparable to that of Great Britain, the long process of deflation already endured could not have been possible. Now at last labor would brook no further delay. It would hear nothing more of deflation. It insisted, whatever the international situation, on an expansionary policy.

The reform measures—higher wages, shorter hours—demanded by the “Front Populaire” and reinforced by strike action, at last brought the leaders in virtually all parties to the realization that the current gold value of the franc could not be maintained. Yet for a brief period the issue was again postponed. The new Socialist prime minister, M. Blum, required the support of the Radicals on his right, and the Communist party on his left. The Communists, while insisting on measures which inevitably would raise labor costs (thereby increasing the disparity between French costs and the international cost-price structure) would hear nothing

of any devaluation of the franc. Instead they proposed to solve the intensified external disequilibrium position of France by instituting a rigorous planned economy in her international economic relations. This meant a program on the German model—exchange control, import control boards, export subsidies, and a network of clearing agreements. This program, however, was with equal vigor opposed by the Radicals, whose support M. Blum also needed. To the Radicals, a planned, regimented economy on the German model constituted inevitably the economic basis for a political dictatorship. This they were determined to resist. Driven by these two opposing factions, Blum was forced into an untenable position. On the one side he was compelled to grant the immediate demands of labor with the inevitable increase in costs with which this program burdened the French economic system. On the other side he was compelled for the moment to forego both devaluation and the planned economy.

For some months the decision could be postponed. Strangely enough, the very fact that it was now generally recognized that the current gold parity must, by open or disguised methods, soon be abandoned gave a certain temporary stability to the franc. Capital outflows ceased and some return flow set in. The bond market rose in response to lower prospective interest rates incident to eventual devaluation. Holders of foreign balances, compelled to make declaration of their holdings, preferred in many cases to reduce the assets held abroad prior to the required date of declaration. Fear of government confiscation of any profits made through devaluation in foreign holdings also caused a partial repatriation of funds held abroad. Moreover, the belief that devaluation was likely (because of the circumstances mentioned above) to be postponed until autumn compelled many export businesses, in need of current working capital, to

draw on the excessive accumulations of export proceeds held in foreign centers. For the moment, then, M. Blum was spared the necessity of taking any definite action with respect to the franc.

It was quite impossible that this situation could long continue. The concessions made to labor widened the disparity between French and foreign costs. The balance of trade inevitably moved against France. Rising labor costs had already increased the volume of unemployment, thus necessitating an enlarged program of public works and a wider gap between governmental receipts and expenditures. Already the Banc de France had been compelled to make direct advances to the Treasury. Frenchmen were well aware of the consequences in the past of such direct financing. These conditions could be counted on to produce a crisis at an early date, and to force a depreciation of the franc, whether overtly in a free market, or indirectly in a controlled market.

There were five possible alternatives: (1) an embargo might be placed upon gold exports, while the franc was permitted to fluctuate according to uncontrolled market forces; (2) a *de facto* stabilization of the franc might be introduced on a managed currency basis utilizing the well-known instrumentality of an exchange Stabilization Fund; (3) a movable devaluation within prescribed limits, but temporarily fixed at a definite point, along the lines of the American devaluation plan; (4) a definitive devaluation, as in the case of Czechoslovakia, or of Belgium; and, finally, (5) a system of foreign exchange controls on the German model.

It was the opinion of leading responsible authorities in France and elsewhere in Europe that the first method—that of freely fluctuating exchanges—would very definitely not be adopted. The uncertainties and dangers to which it would

give rise were regarded as too damaging to the French economy, regardless of whatever merits this proposal might have in terms of pressure and therefore of bargaining power with foreign countries. A system of foreign exchange control was equally regarded as unworkable in a democratic country like France. Either of these two solutions would have had deadly consequences upon the current world situation. England and the United States would have been particularly vulnerable to the first method, while the European continent would have suffered most seriously from a rigorous foreign exchange control of the franc.

Of the remaining three methods, that of definitive devaluation was regarded as least probable. Only in the event that England and the United States would join France in an international stabilization agreement in which each would accept a definite fixation of the foreign exchange value of their currencies in terms of gold, was France likely to adopt this procedure. In the then current state of British and American public opinion, such a step was not likely. The silence of the Republican platform with respect to the gold standard, and the very guarded statement of Mr. Landon, indicated that this country was not prepared to go farther in international monetary matters than the Roosevelt policy of watchful waiting. Britain, with her disastrous return to gold in 1925, at an uneconomic level and under world conditions which made the gold standard unworkable, was loath to return to any fixed parity except after long experience with a *de facto* stabilization which had in fact proved workable.

There remained, therefore, the two alternatives, either *de facto* stabilization on a managed currency basis (more or less after the model of England) or the movable gold standard after the American model.

At what rate should this stabilization be made? For some

time past it had usually been thought on the Continent, in England, and in America that a 15 to 20 per cent depreciation of the French franc would most likely approximate an equilibrium rate. Opinion in some quarters had, however, shifted by the summer of 1936, owing in part to the current French developments and in part to considerations which had formerly not been adequately appraised.

In the first place it was clear that the concessions made by the Blum government to labor had increased costs by approximately 20 per cent. The disparity between French costs and those in the depreciated currency countries had thus been materially widened. Moreover, it was increasingly recognized that the French public debt, which stood in round numbers at about 400 billion francs placed too heavy a burden upon the French economy unless the price level could be materially raised. While the French debt was smaller than the British, nevertheless, because of higher interest rates, the absolute interest burden was extremely high. When account is taken of the fact that the total national income of France is considerably below that of Great Britain, one must realize how staggering was this load of debt. Devaluation might bring some relief in interest charges, but it was unlikely that any such highly successful refunding operation as that accomplished in Great Britain could be carried through in France. Political and other uncertainties in the French situation were not likely to permit a sufficient back-flow of capital into France to make this possible. The ratio of debt to income was decisively too high. In short, it was believed that in France (as in the United States in 1933) some relief from debt charges had to be sought in a limited measure of price inflation. Moreover, it would be difficult to finance the mounting military expenditures without some degree of inflation. Thus a fairly substantial devaluation of the franc could be defended, it was believed, on both inter-

national and domestic grounds. Instead of the former figure of 15 to 20 per cent, 30 or even 40 per cent was already in the summer of 1936 regarded by some authorities as not beyond the bounds of reason.

This came, to be sure, as something of a shock to Americans and Britishers who had become accustomed to think in terms of more conservative figures. We must therefore turn our attention to the all-important question: How the devaluation of the franc (whether *de facto* or definitive) might be expected to affect the course of prices and of revival in the United States and in Great Britain?

Let us first consider the case of Great Britain. Would a considerable depreciation of the franc be likely to exert a pressure upon the sterling exchange rate in terms of gold and place a strain upon the London money market? There were several reasons why one could take an optimistic view of this matter. In the first place there were large gold hoards in France which were likely to come out of hiding following devaluation. A very considerable monetary expansion in France was thus possible without any effect whatever upon the British money or foreign exchange market. Moreover, there were large French holdings of gold in London. The withdrawal of these gold hoards would have no effect whatever upon sterling or upon British credit. In addition, the existence of the British Exchange Stabilization Fund, with its enormous gold holdings, permitted large withdrawals of French balances held in London without any effect either on the sterling foreign exchange rate or upon the current easy London money market. One must also not overlook the important fact that the world was producing about \$1,250,000,000 of new gold annually, a large part of which normally flowed to the London market. With an abundance of gold, created partly by almost universal currency depreciation, and fed annually by a level of gold production three times

as high (in terms of the new price of gold) as the pre-depression production, it was not regarded as probable that any moderately excessive devaluation of the French franc would cause any serious difficulty for England. Finally, one must not forget that the process of adjustment to any existing disequilibrium in the international cost-price structure could be made more speedily and easily in a situation in which many countries were enjoying an expansion in production, income and prices. England would probably welcome a pronounced recovery in France even at the cost of some excess devaluation. The continuing deflation in France had proven a severe drag upon world recovery.

In the United States there was genuine fear in many quarters that French devaluation, if carried beyond very modest proportions, would tend to depress the prices of agricultural products and other internationally traded raw materials. This reasoning rested on the assumption that just as the depreciation of the dollar in terms of sterling and the franc carried the dollar price of cotton, and some other products, up by a percentage approximately corresponding to the degree of dollar depreciation, so now an appreciation of the dollar in terms of the franc would tend to depress American prices.

There were, however, some very important differences between the two cases. When the dollar depreciated in 1933, it did so against the currencies of virtually the entire world. Under these circumstances it was inevitable that those commodities which were sold largely in foreign markets should experience a marked rise in price in terms of dollars. For example, approximately 80 per cent of the annual world supply of cotton is normally sold outside of the United States. With the depreciation of the dollar against the leading currencies of the world, the dollar price of cotton inevitably rose. But the devaluation of the French franc meant,

not the appreciation of the dollar in the whole world market, but only in the limited French market, or at the most in the markets of France, Holland and Switzerland. These areas consume only a small fraction of the world's cotton supply. The dollar price of cotton could therefore not be seriously affected by French devaluation. Moreover, since France had of late imported no wheat, the price of wheat was not likely to be affected at all. In general, the French market was not of sufficient importance for American agricultural products to occasion serious concern.

The depreciation of the franc, which began in September, 1936, has had a curious history quite unlike that of other countries. The so-called Blum experiment has left the country in a chaotic situation. Wages were raised sharply, as we have seen, in the summer of 1936 without changing the value of the franc. Industry could not move forward on this basis. After deflation in September, 1936, trade improved. But the public finances presented apparently insoluble problems and business confidence was never restored. At the close of 1936 and in early 1937 the legal working week was sharply reduced, nearly 20 per cent, to a forty-hour basis. This resulted in a scarcity particularly of skilled labor. Thus, despite the fact that total national production was at a low level, a check was placed upon any further recovery.¹

In general the French economy has not been able to expand its output in response to an expansion in demand. Instead, monetary expansion has resulted in rising prices. This situation, together with the volatile capital movements and the difficulty of financing the governmental outlays—all of which explains the lack of business confidence—accounts in large part for the close relation, unlike the experience in

¹ See Robert Marjolin, "Reflections on the Blum Experiment," *Economica*, May, 1938.

other countries, between the depreciation of the franc and the movement of commodity prices.

Exchange depreciation offers no relief for the international position of France, since the expected benefits are all wiped out by higher wages and higher costs. Some relief from the debt burden, to be sure, has come through the rise in the price level. But in the meantime rearmament compels a further increase in indebtedness. Confronted with a dangerous international situation, a sharp internal struggle between labor and capital, and an unmanageable load of debt, the franc is drifting on a sea of inflation.

It remains to consider how Germany might fit into the new monetary situation. Will Germany also eventually devalue? Indeed in a certain sense Germany has already devalued her currency. As is well known, the official gold value of the reichsmark has been for several years past in large measure only a nominal figure. A variety of special marks have been available at depreciated rates. These depreciated marks have, moreover, been supplemented by export subsidies. For Americans, doubtless the best known of the numerous depreciated marks is the so-called "tourist mark" which could be obtained at a 40 per cent discount below the official rate. These marks were sold to Americans from funds owed by Germans to American creditors. Through the sale of tourist marks against dollars, the American creditors have been able gradually to liquidate their frozen assets in Germany at a discount. The American tourists have thus in fact been subsidized by other Americans who held non-transferable funds in Germany.

This simple illustration brings into clear relief the brilliant, though ruthless, strategy of Dr. Schacht. By blocking the transfer of funds to foreign creditors, he was able, in effect, to repudiate a large proportion of the German indebtedness abroad, and at the same time utilize these frozen

credits to stimulate the exports of German merchandise or tourist services.

Not only has the short-term indebtedness been reduced from 6 billion marks to about $1\frac{1}{2}$ billion through these devices, but the long-term indebtedness has also been drastically cut down. Because of the rigorous exchange control and the transfer restrictions, German bonds were selling on the New York market at sacrifice prices. This enabled Germans to repatriate their bonds on exceptionally favorable terms. The foreign exchange required to purchase these bonds was made available by means of German exports subsidized by the profits made from buying the bonds at sacrifice prices in New York and selling them at higher prices in Berlin.

Thus, because of Germany's position as an international debtor, particularly to the United States, and by means of a rigorous control of foreign exchange, Schacht was able to introduce what in effect amounted to a devaluation of the mark, but in a manner which made the foreign creditor pay the losses from devaluation. Open devaluation, on the contrary, amounts to a redistribution of income in the country which devalues its money. Income is transferred from importers and those who owe debts abroad to exporters. Had this device been used, had Germany devalued (instead of blocking the transfer of accounts and instituting exchange control), the burden of German foreign indebtedness would have increased in proportion to the amount of the devaluation, a 50 per cent devaluation, doubling the weight of the foreign debt.

Fortunately for Schacht the policy which he has followed could be applied against the United States without fear of reprisal. Not only was the United States by far the largest German creditor; it also has normally a large excess of exports over imports in its trade relations with Germany.

Other countries, which regularly buy more from Germany than they sell to Germany, were in a position to offset merchandise debts against debts on capital account. This the United States could not do.

Had the German foreign indebtedness run in terms of marks, she could easily have repudiated this debt, in large part, by devaluation. Thus, for example, foreign creditors with balances in London lost heavily when England abandoned the gold standard in 1931. But the American creditors of Germany thought they had cleverly forestalled such an eventuality by stipulating that the debt should be paid in terms of dollars. They had not foreseen the clever device by which Schacht circumvented their apparently cautious plans. Particularly had they failed to take note of the fact that creditors are in a dangerous position vis-à-vis a country with whom the trade balance is active.

But now that Germany's foreign indebtedness is rapidly being reduced to manageable proportions, it becomes a question whether it may not soon prove profitable for the German economy openly to devalue and free the foreign exchange. Considering the discount on the various kinds of depreciated special marks, Germany has already, in a sense, devalued by about 30 or 40 per cent. Moreover it is interesting to note that this figure, compared with the 40 per cent depreciation of the dollar and of the British pound, corresponds closely with the level of wholesale prices in Germany in relation to the price levels of England and the United States. Thus it would disturb international equilibrium comparatively little if Germany slipped into an overt devaluation of 40 or 50 per cent. Owing to the lack of substantial gold holdings, however, it is not likely that Germany could hope to maintain a stable foreign exchange rate except by continuing exchange control. Germany must in some manner be provided with a reasonable proportion of the

world's gold supply before she can risk freeing her exchanges. Upon this development awaits also the liquidation of the numerous clearing arrangements which, whatever merits they may have had for the German economy operating under the abnormal conditions of the last few years, are certainly very costly in terms of the prices paid by Germany and the quality of the goods received. So long as autarchy, however, remains an essential part of the Nazi program it is difficult to see how Germany can function effectively in the international trade and monetary system.

THE SITUATION OF GOLD TODAY IN RELATION TO WORLD CURRENCIES

DURING the last quarter century we have witnessed important changes in the function of gold in the world's monetary systems. Prior to the war, the gold standard, in view of the limited functions it was designed to perform, operated with relatively high efficiency. The conditions underlying its successful operation are well known and need in our discussion here only a passing reference. The pre-war system can indeed, with substantial accuracy, be described as one operating under the play of automatic forces. There was, outside of England, virtually no monetary management. In the United States there was no central banking system which stood between the gold reserve base and the superstructure of credit. The quantity of money—I use the term in a broadly inclusive sense—was determined mainly by the play of self-regulating forces. There was no central, deliberate, or conscious monetary policy.

Under the favorable investment outlets of the two decades preceding the World War there was a tendency for the automatic money economy to utilize to the limit its monetary resources. There was some flexibility in the power of commercial banks to create deposit currency. But with the automatic tendency to extend credit as far as the reserve ratios

would permit, this flexibility was in large measure a function of the ebb and flow of lawful money into and out of the vaults of the banks, to and from hand-to-hand circulation. There was some flexibility also in the inflow and outflow of gold to and from the outside world. More important still was the rise and fall in the intensity of utilization of the available quantity of money—the velocity of circulation. Within the limits of elasticity thus afforded, the factors tending to create cyclical expansion and contraction were free to operate.

Equally on the international plane, automatic forces prevailed. Redeemability of money in gold insured, within narrow limits, stability in the foreign exchange rates. Persistent gold movements flowing over a prolonged period in one direction indicated a maladjustment in the international price structure whether in terms of factoral efficiency-earnings, commodity prices, security prices, or interest rates. Insofar as the reserve ratios in the various countries were fully used up, gold movements exercised a controlling influence upon international price relationships. The drain of gold from one country forced credit contraction and price deflation, and the inflow of gold into another country tended to create credit expansion and a rise in prices. Gold flows regulated the international price system.

The price adjustments, incident to gold movements, tended to drive the international cost structure into an equilibrium position. Here also the automatic functioning of the system was evident. In the separate national economies, costs were relatively flexible and followed price movements. Thus a high-cost country could not for long continue to remain so. The earnings of the factors in each country were brought into line with their relative marginal efficiencies. Forces were continually at work tending toward international equilibrium.

The successful functioning of the pre-war automatic gold standard was greatly facilitated by the circumstance that it operated in a rapidly expanding economy and under the favorable condition of an upward trend in prices. Maladjustments can more easily be corrected in a society which is rapidly reaching out into new areas, developing new resources, creating new industries, and supplying the growing needs of an increasing population. Maladjustments can also be corrected more easily in a society enjoying high investment activity and moderately rising prices.

This era ended with the World War. In the post-war period a new gold standard was erected, but under conditions widely divergent from those prevailing in the pre-war period. These conditions were in part abnormal, being incidental to the war upheaval. In large part, however, they were the result of deep-seated structural changes in economic institutions, changes which are not likely to pass when the disturbances thrown up by the war have spent their force. I shall examine these structural changes presently, for it is my conviction that they must be taken serious account of in any consideration of the future position of gold in the world's currencies.

At the present moment there are two sharply opposing views with respect to the kind of monetary system that ought to be established in the world today. There are first those who wish to re-establish an international gold standard, modified in certain respects, but still substantially similar to the old gold standard. Those who take this position plainly believe that the gold standard was crushed under the impact of abnormal post-war forces which we need not anticipate in the future. They believe that the structural changes which have grown up in the post-war period are of little significance and, at all events, do not threaten the workability of a fixed and rigid gold standard. This is the conserva-

tive view. The second view is that put forward by the monetary nationalists. This group believes that the international gold standard is dead, that there must be instituted in its place a system of managed national currencies with quite free and flexible foreign exchange rates. It is my conviction that neither of these views takes sufficient cognizance of current realities.

Standing in between these two positions is the trend of current practice which looks in the direction of international collaboration. When rationalized, this development represents the view that it is necessary, in order to make a private enterprise economy workable in the modern world, deliberately to establish a managed international monetary system—a system which is neither automatic in the sense that fixed exchange ratios are set up once and for all and thereafter left to the play of divergent, separatist, and nationalistic pressures, nor yet automatic in the sense that exchange rates are completely flexible, seeking from moment to moment their so-called natural level.

The special disrupting forces which played so disastrous a role in the collapse of the post-war gold standard can quickly be disposed of. The international war debts, the reparations, the foreign loans and investments, the wrongly chosen gold parities—these post-war artificialities have been more or less liquidated. In appraising the set-up of an international monetary system for the future, however, it is incumbent upon us to consider with care those structural changes which, so far as we can see into the future, are here to stay, and which we must take account of as more or less fixed and permanent factors in the current world situation. Some of these newly developed tendencies operate to produce divergent trends in the various national economies and thereby threaten the workability of an international monetary system. A part operates to produce short-run disturb-

ances, temporary upheavals which are violently upsetting to economic stability no less in a world operating on a flexible exchange basis than in one operating on fixed exchange rates.

First to be considered are the institutional arrangements which under modern conditions may cause divergent cost trends in different national economies, thereby creating a lack of balance in the international cost structure. Most important of all, perhaps, is the unequal development in different countries of trade unionism and social legislation affecting labor costs. Broadly speaking, prior to the war we could assume that the wage rates in each country would quickly become adjusted to productivity in conformity with the principle of comparative advantage. Even in England, prior to the advent of unemployment insurance, wages were reasonably flexible, rising and falling with the volume of unemployment, and, in the export trades, with international price adjustments. Now, however, in a number of important countries wage rates have become highly inflexible, and no longer subject to a downward adjustment. The depression has taught us that in certain countries in virtually all industries, and in other countries in certain sections of the economy, deflation of wage rates is not possible without seriously threatening the social order. In considerable areas of the world economy we can no longer count upon the attainment of any swift equilibrium in the international structure of costs. England, with her powerful trade unions and social legislation, cannot adjust her labor costs to those countries where wage rates are established under substantially free competitive conditions. A powerful upward thrust, a determined, aggressive movement for higher wages, may make England a high-cost country and undermine her international position. No less important from the standpoint of cost rigidity is the growing development of price mainte-

nance, cartelization, and monopolistic elements in our industrial structure.

In conjunction with the development of cost and wage rigidity, it is evident that divergent trends in technological progress in different national economies become highly important from the standpoint of international stability. If one important country makes more rapid technological progress than is made in competing countries, the international cost structure may be thrown out of balance.

To these factors must be added another, of growing significance in the post-war world. The fixed burdens which modern industry must bear in the form of taxes and interest charges weigh unequally in different national economies, and, over a considerable period of time, may result in rather wide divergences in costs. In a flexible economy the incidence of these fixed charges would fall somewhere on factoral earnings, and the international cost equilibrium would not be disturbed. But in a rigid economy such transfer becomes difficult if not impossible, and, in consequence, divergent trends in taxation and public debt burdens may become disturbing to international equilibrium.

So much for divergent cost trends. Consider now separatist, nationalistic monetary and fiscal policies. Formerly such divergent policies were quickly corrected by the automatic gold flows and the ensuing credit and price adjustments incident to these flows. The development of central banking in almost all modern countries interposes, however, a high degree of insulation and prevents the application of salutary checks on nationalistic action. Central banking has destroyed the former close relationship between gold reserves and credit. This makes it possible for a country to pursue a monetary policy utterly inconsistent with the maintenance of international stability. Fiscal policy, including tariff measures and the management of the budget, may, in conjunction

with separatist central bank action, permit a country to drift far out of line with the world economy, eventually developing a serious cumulation of strains in the international structure.

Consider also the extraordinary structural adjustment which agriculture must make over the next few decades in view of the rapid decline in population growth, the continued improvement in agricultural technique, and the persistence of agricultural protectionism in the older industrial countries. This major structural change presents a threat to international stability. The terms of trade are likely to run persistently to the disadvantage of preponderantly agricultural countries since their export prices are likely to prove unfavorable in relation to their import prices.

The rapid spread of modern industrialization, particularly the development of certain standardized, mechanized industries in backward countries just emerging from a handicraft society, presents a comparatively new problem. A new phrase, "social dumping," has been coined to describe this disequilibrating factor. The orthodox economist, arguing on classical lines in terms of perfect price flexibility, may insist that there is no such problem. But the plain fact is that social dumping is a very real thing in the modern world. Japan, with her deadly combination of low wages and highly mechanized and efficient textile industry, can undersell the older industrial nations. This is not a case of gradual industrialization of a whole national economy and the consequent lifting of wage rates in accordance with a generally rising productivity. One notes here a sudden leap—the almost instantaneous importation of a highly standardized and mechanized industry into a low-wage country. It is this which the phrase social dumping describes. It is now, and is likely to prove in the next few decades, disturbing to international stability.

Forces of a short-run character, scarcely present at all in

the pre-war world, are now seriously disrupting. The security market has come to play a role in the modern economy which enormously overshadows the modest one played in the pre-war period. An ever-increasing proportion of total investments find their way into the security market. Long-term investments thereby enjoy an unprecedented measure of liquidity and marketability. Thus, while international capital loans were usually, in the pre-war period, placed more or less permanently in the borrowing country, under current conditions international capital movements are highly sensitive to all manner of temporary factors which may cause sudden wholesale liquidation of foreign holdings. Easy marketability and high liquidity have made this possible. Foreign investments are no longer fixed and permanent. They are highly volatile and shift from center to center in accordance with the play of speculative forces and shifts in short-run expectations of profit. Moreover, while in the pre-war period short-term foreign balances were largely limited in volume to the demands of traders who kept funds in this or that center according to the requirements of commerce, in the current world short-term capital funds shift about hither and yon, driven by fears and rumors about the industrial and political outlook of this or that country. Liquidity preference, the desire for security in a world subject to extraordinary risks, a world which facilitates the contagion of fear by highly developed systems of communication—in such a world short-term capital movements, instead of serving as an equalizing factor steadying seasonal swings, become a seriously disrupting factor.

These conditions are deeply rooted in the modern world economy. We have and we shall continue to have institutional arrangements making for wage rigidity; no democratic country can root out trade unions or turn its back on social legislation. We have and we shall continue to have our cen-

tral banking systems. We have and we shall continue to have powerful centrifugal forces tending to break up the international system. Nationalistic management of money, tariffs, public expenditures, taxation, public debt, and wage rates make an international system unworkable so long as these policies diverge into as many directions as there are nations.

Confronted with this situation, a return to the automatic gold standard is, to say the least, precarious. It will not do for nations simply to reach an agreement on gold parities and then retire, each to its separate national domain, leaving the international monetary system to run its course. The automatic gold standard may be likened to a loose federation of nations in which each country agrees unconditionally to remain pacifist at all costs, regardless of acts of monetary aggression perpetrated by other countries. But monetary pacifism is perhaps almost as unrealistic in the current financial world as sentimental pacifism is in the current political world. If we could indeed be reasonably sure of favorable economic conditions in the years which lie before us, the risk might perhaps be taken. If we stand at the beginning of a period of moderately rising world prices, a rigid gold standard would probably have a better chance of survival than was the case in the decade of the twenties.

An alternative course lies along the path we are currently pursuing—international collaboration through exchange stabilization funds. So far as short-run disturbing influences are concerned, the function of the funds is a comparatively easy one. Armed with abundant gold resources, it will be a relatively simple matter to crush speculative raids on the exchange market and to iron out seasonal and short-run fluctuations. But long-term exchange stability is not possible without securing international equilibrium. The real task confronting the exchange funds is therefore very far-reaching. International collaboration through these funds must

set itself the task of preventing to the utmost the development of permanent long-run international disequilibrating tendencies. We have reached a point of international interdependence at which enlightened nations must realize that their own internal security is bound up with international stability. An important industrial nation may, with its tariff policy, build up an increasing disequilibrium which will finally wreck the international structure. No less is this true of monetary and fiscal policies. On more than one occasion during the last sixteen years the United States has been, so to speak, a bull in the international china closet. Nor have we been the only sinners. We have learned, or at least should have learned by now, that domestic policies which destroy the international balance react as a boomerang upon internal stability. The long-run interests, therefore, of the separate national economies are surely to be found in the maintenance of international equilibrium.

Yet, whatever may be done toward moderating and restraining divergent nationalistic policies, it is too much to expect that divergent cost trends can be wholly prevented. With the unequal pressure of trade unions on wage rates in different countries, with unequal rates of technological progress, with divergent monetary and fiscal policies arising from special conditions in the separate national economies, one would be excessively optimistic if one failed to recognize that divergent tendencies, despite sincere international collaboration, are likely to develop. Should the world be fortunate enough to experience a moderate upward trend in prices in the next two decades, this circumstance would indeed tend to ease the necessary adjustments. It is not so difficult for an economy to adjust its cost-price structure to another economy if such adjustment merely requires a somewhat slower expansionary movement. It is outright deflation, and the unemployment ensuing therefrom, which is so dis-

astrous to the modern economic structure. In a general upward movement the lag of one national economy behind another, sufficient to correct cost divergencies, is no serious matter.

It should be the function of international collaboration between the stabilization funds to maintain exchange stability for a considerable period beyond the point at which it became reasonably evident that long-term disequilibrium was developing. If a country's stabilization fund were losing its gold supply to a point which threatened encroachment upon the gold reserves designed for internal monetary use; if a country experienced the continued pressure of deflation incident to abnormally large imports or too severe import price competition; if a country experienced a slow but progressive outward movement of capital indicating a flight from a high-cost and low-profit country to a lower cost and higher profit country—if these tendencies were present, they would indicate a deep-seated condition of disequilibrium. To preserve stability for a considerable period despite the development of such strains is a major function of gold in the new international monetary system. The exchange stabilization funds must be ready to use their gold stocks courageously, not merely as a cushion to stabilize short-run exchange fluctuations, but also to preserve exchange stability as long as practicable despite more deep-seated disequilibrium conditions. For in the meantime it is always to be hoped that sufficient adjustments might be made between the various national economies to rectify the lack of balance and to create a new equilibrium. If, however, it finally appears that the necessary readjustments cannot be reached except at the risk of costly sacrifices of deflation and unemployment, then by international collaboration and agreement the international value of the currency under pressure should be altered. It should, however, be possible to achieve

over prolonged periods substantial stability of exchange rates leaving in the system sufficient flexibility to provide, in the event of utmost necessity, a moving equilibrium—one that takes account of fundamental disparate trends in the national economies too deep-seated to be removed by internal adjustments.

The overshadowing difficulty which such a system must face is, I think, the impact upon the monetary structure of the demands of labor and of monopolistic price policies. Can democratic institutions exercise the needed restraint to make the price system workable? Will the labor movement and the political instruments of social control be able to develop sufficient self-discipline to prevent periodic breakdowns in the money economy? Labor will not brook a fixed gold standard that requires from time to time deflationary readjustments. But what is the alternative? If the door is opened to devaluation, to currency readjustment, every time labor presses its claims, will not a vicious spiral be set up which must end in the chaos of inflation? The fact is that controlled monetary flexibility no less than monetary rigidity presents grave dangers and pitfalls. Yet it is probably in this direction that we shall be compelled to seek our salvation. If we cannot learn through compromise and self-restraint to solve this problem, democratic institutions will in the end be forced to give way.

Just as the development of central banks introduces a cushion between the gold reserves and the superstructure of money and credit erected thereon, so the development of exchange stabilization funds serves to cushion the pressure on exchange rates. The monetary gold stock of each country is, so to speak, divided into two compartments, one internal, one external. The function of the external gold stock is to shelter the internal economy from international forces which drive toward either inflation or deflation. But

the external gold stock can only serve as a first line of defense. If the disrupting forces cannot be conquered, resort must eventually be had to a readjustment of the exchange ratios.

The allocation of the world's monetary gold into two separate funds—one for the use of central banks for internal monetary reserves, one for the use of exchange stabilization funds for the maintenance of exchange stability—is clearly possible only under conditions of a plentiful gold supply. Fortunately, this is just the situation in which we find ourselves today. Indeed, the segregation of a large fund of gold into exchange stabilization funds serves the dual purpose of providing a means for the maintenance of exchange stability without encroachment upon the internal monetary reserves, and at the same time of sterilizing, so far as internal monetary use is concerned, a portion of the superabundant gold supply created partly by the vast new production of gold, partly by the disgorging of private hoards, but mainly by the revaluation of gold. Without such sterilization of the current monetary gold stocks, we stand in danger of an extreme inflation of prices in the next decade. It is indeed true that the mere existence of a monetary basis for expansion does not of necessity produce an expansion. Should, however, favorable investment outlets develop, stimulated by continued technological progress, a marked rise in commodity prices is certainly possible unless action is taken to counteract this tendency. From the standpoint, therefore, of internal stability no less than external stability, it is important that the gold in the current exchange stabilization funds shall not be released for internal use.

The new use of gold, called forth by the emergence of stabilization funds, amounts to an increase in the monetary demand for gold. There remains, nevertheless, a net surplus.

But a whole arsenal of weapons is available to hold inflation in check. The money market may be tightened by numerous devices, including the sale of central bank assets in the open market, raising the discount rate, raising the reserve requirements, and lowering the price of gold.

Tightening the money market is the old standard device of monetary management. It has, however, we know now serious defects. The deflationary pressure falls with quite unequal force upon different parts of the economy. Those which should be hit the hardest—the speculative branches—are the least affected. The general run of staple industries—those which do not enjoy spectacular profits—quickly feel the pressure. It is scarcely possible to check an inflationary boom by tightening the money market without creating an unnecessary unemployment.

Raising the margin requirements for borrowers who use listed securities as collateral ought, perhaps, to be used to the limit before resorting to a general tightening of the money market. This device hits just at the point where the hardest blows need to be struck. To check an inflationary boom it is especially urgent that capital expansion shall not be subsidized by flotation rates which are made artificially low by speculative activity. Real estate loans need also to be brought under more rigorous control.

But there are other devices. Theoretically an appropriate wage policy could be very effective were it not that in a democratic country there appears to be no satisfactory manner in which such a policy could be implemented. An authoritarian state could doubtless manipulate a wage policy to good advantage were it not that such a state has at its disposal more direct means of controlling economic processes.

There remains for democratic countries, however, one powerful weapon—that of taxation. Unlike the device of

tightening the money market, this weapon need not cut at the roots of productive activity; rather it cuts at the roots of monetary inflation. What is wanted is to prevent the depreciation of the value of money by reason of a runaway demand. This the taxation device can do if properly managed. It will not do, however, merely to use the funds for debt retirement, for this might only feed to excess the capital market. Debt retirement should be made during the upswing of the cycle, but not at the final stage when the boom is entering the inflationary phase. At this point in the cycle the excess receipts should be held by the Treasury as idle balances at the commercial banks. If subsequently it became necessary to impose the cruder monetary check of tighter money rates, these funds could be transferred from the member banks to the Federal Reserve banks, thereby reducing the member bank reserves. The policy of holding tax receipts idle at commercial banks would have the further advantage that an impending depression could be counteracted by expending the sums so held on public works without resorting to borrowing either from the public or from the banks.

Keeping the monetary unit from abrupt depreciation or appreciation, from inflation or deflation, is of course the same thing as regulating the value of gold so long as there is an established legal price for gold. The United States is now the only large country that maintains provisionally a fixed price of gold. So long as the United States maintains a legal price of gold no other country could change its legal or market price of gold without changing the dollar value of its currency. If we may assume that the dollar-sterling rate will be held fairly near the old parity, it may then be taken for granted that the American price of gold will tend to become a norm for the world price of gold. This price, however, has no special significance other

than that it establishes the number of monetary units which a given physical quantity of gold is taken to represent. The price of gold is one of the determinants of the monetary gold supply. In this manner the price of gold tends to have a long-run influence on the value of gold unless conscious management intervenes to determine its value.

The program of international collaboration through exchange funds stands between the proposal on the one side to re-establish rigid and definitive exchange ratios and the proposal on the other side to go over completely to nationally managed paper currencies and freely flexible exchange rates. The latter plan calls for brief comment. It is said by those who favor it that only through the development of free exchange rates can internal stability be achieved. It is said that the gold standard with fixed exchange parities, far from facilitating world commerce, has in fact resulted in the setting up of outrageous obstacles to international trade in the form of quotas and exchange control. It is indeed true that once serious international disequilibrium is present, the gold parity can be maintained, in certain circumstances, only at the price of imposing these quantitative restrictions on the flow of trade and capital movements. These restrictions are introduced, however, as protective devices against the prevailing monetary chaos. We have seen how they have been imposed in this depression after the international gold standard had broken down. They are the consequences, not of the operation of the gold standard, as sometimes alleged, but of its collapse.

Under a system of freely fluctuating exchange rates, however, not only is external stability thrown to the winds, but repercussions are likely to develop which destroy the sought-for internal stability. For under such a system the international value of a currency is at the mercy of the erratic internal policies of every other country. This one fact alone is

enough to condemn it. Moreover, uncontrolled exchange rates, determined wholly by the play of market forces, are likely to become the prey from time to time of intense speculative activity. Fluctuations in the international value of a currency are not consonant with internal stability. The internal prices of raw materials and basic commodities, widely traded in the international market, are directly affected by changes in the foreign exchange value of a country's monetary unit. No internal monetary management, no matter how successfully applied, can prevent violent swings in the price movement of these commodities so long as the foreign exchange value of the currency is fluctuating. And fluctuations in the prices of these commodities may materially upset the balance in the internal price structure. The world has become too interdependent to achieve internal stability without securing first of all a workable external stability.

Let it furthermore be noted that while a country on a free exchange basis can temper the fluctuations in the foreign exchange value of its currency so long as the rest of the world is largely on a gold standard, no effective method of control is available except that of international collaboration once a fixed gold standard has been generally abandoned.

Finally, let me suggest that it would be very useful to combine with monetary theory more study of the social institutions which are evolving in modern democratic societies. For the money mechanism is called upon to drive the economic car upon the kind of a highway that modern democracies are constructing and indeed without which they could not continue to survive. The degree of success attained by future monetary management will, in large part, determine the extent to which the system of private enterprise can continue to operate under a price economy as distinguished from that of authoritarian states. It is for demo-

cratic countries that the institution of money is of overshadowing importance. Totalitarian states have more significant instruments of control. For them, money can quite readily be reduced to a mere unit of account. But for democratic countries money is an essential institution. Only through its functioning can individual choice in economic decisions be preserved.

GOLD STERILIZATION

FIVE billion dollars of gold have come to the United States since the establishment of the new price at \$35 an ounce in January, 1934. This country now has a total of over twelve billion dollars of gold—a half of the total in the reserves of central banks and government treasuries throughout the world. An inflow of gold either adds to the surplus bank reserves, thereby creating a monetary basis for possible inflation, or else, as under the gold sterilization plan of 1937, it becomes an idle and therefore expensive asset of the American government.

This extraordinary situation throws into bold relief the continuing world monetary disequilibrium. But what the precise nature of this disequilibrium is, is not as easily unraveled as might appear from many current offhand explanations.

It is widely asserted that this unfortunate situation is wholly a consequence of the fixation of the price of gold at \$35 an ounce. It seems to be largely forgotten, particularly by extreme monetary conservatives, that the overwhelming demand of the financial community in January, 1934, was for a definite fixation of the price of gold. This was regarded as the all-important matter, the question of the exact price fixed upon being relegated to a position of secondary importance. It is now argued in many quarters that the United

States should have followed the example of England in establishing a free and flexible gold market. While this suggestion (which is included in Mr. Keynes's suggestions to the President in his open letter of December, 1933) has merit from a theoretical standpoint, it is more than doubtful whether this procedure would really have been desirable for the United States, owing to certain practical considerations. Public opinion and general business confidence were in a state of nervousness that required fixity. It may well be argued that the progress made after 1934 in business recovery could not have occurred had the dollar been allowed to wobble about under the play of the highly explosive forces inherent in American political conditions. The offhand solutions now glibly offered would not have sounded so well in the disturbed atmosphere of late 1933.

An examination of the balance of international payments of the United States is revealing. Let it first be noted that in the decade prior to the American abandonment of the gold standard in 1933, the average "favorable" balance on commodity and service account was \$400,000,000 per annum. That is to say, foreigners, year in and year out, during this decade, owed on balance to Americans \$400,000,000 which had to be settled either by an import of gold into the United States or an export of capital from the United States. During this decade, therefore, while the price of gold was \$20.67 an ounce, the United States was out of balance with the outside world on current account to a degree which in the absence of foreign lending would require an inflow of gold of \$400,000,000 a year.

This lack of balance on current account was reduced by 1935 to \$200,000,000 and by 1936 a credit was available to foreigners on total current transactions (including goods, services, and interest and dividend payments) of \$130,000,-

ooo. For the first time in the entire post-war period the United States stood in debt to foreigners on current account. So far as current transactions in trade and services were concerned, one might have expected in 1936 an export of gold from the United States of \$130,000,000. Clearly, no facts could be found in our international balance of payments which would indicate the existence of any such maladjustment as was evidenced by the huge gold inflows which actually occurred. Admittedly the drouth and the consequent decline in agricultural exports and increase in agricultural imports accounted in part for the 1936 foreign credit on current account. But a still more important cause, probably, must be sought in the revival of American prosperity, the attendant increase in tourist travel abroad and in the imports of raw materials needed for the expanded production. In 1937, we owed on current account \$50,000,000.

Plainly the imports of gold were a result not of a lack of balance in international trade and service transactions but of an enormous inflow of foreign capital into the United States. What were the causes of this inflow?

It has been argued in the first place that the inflow of foreign capital was a consequence of an excessive devaluation of the dollar. While there was general agreement that the dollar was indeed undervalued in 1934, subsequent price changes and other readjustments leave one in doubt whether or not there was any substantial disequilibrium in the international position of the United States. The prevailing balance in the international trade and service transactions of this country tend to support this conclusion.

Let us assume for the moment (without necessarily prejudicing the case) that the dollar was not undervalued in 1936 and early 1937. Can one still find adequate explanations for the huge inflow of capital and the consequent inflow of gold? I think one can.

A major explanation for the large inflow of foreign capital in recent years was the extraordinary depth of the American depression in 1931-33. This resulted in a tremendous collapse of property values in the United States. Starting from this extremely low point, the recovery brought prospects for a very sharp advance in security prices and real estate values. Even though the dollar had never been devalued, recovery from the extraordinary bottom to which we fell would have made this country a very favorable place in which to buy securities and real estate. Thus the capital and gold inflow was in large measure a function of the unprecedented collapse of security and property values in the United States in 1932 and early 1933.

One needs only to mention a second important cause of the capital inflow, namely, the general political uncertainty in Europe and the belief that the United States was in contrast a relatively safe place in which to make investments.

The high prevailing world price of gold (in effect established by the fixed price in the United States) had enormously increased the liquid funds in all parts of the world available for investment in the United States. In the first place, it had increased gold production from some 20,000,000 ounces a year to 35,000,000 ounces a year. It had, moreover, stimulated the disgorging of gold hoardings in India. And, finally, it had furnished a strong inducement for Russia, after building up her own gold reserve, to sell her surplus gold at the current, extremely favorable, world price.

Finally, the policy of gold sterilization adopted by the Treasury in December, 1936, doubtless was itself a factor stimulating the inflow of foreign funds during the subsequent year. This is true because foreigners, not unnaturally, were led to speculate on the probability that the United States would not indefinitely go to the expense of borrowing funds with which to sterilize an unearning asset. The

belief that the flood of gold imports into the United States must eventually force a reduction in the price of gold, itself stimulated the gold inflow.

Turning to the problem of dealing with this situation, it was of utmost importance to determine whether the causes of the gold inflow were of an essentially temporary character or whether they were rooted in deep-seated fundamental conditions that were likely to last. If the former were the case, the policy of gold sterilization could be more easily defended. If, on the other hand, it were true that the causes were of a fundamental, long-term character, the sterilization policy clearly would become unworkable. The difficulty of arriving at a definitive answer to this fundamental question made it far more difficult to select suitable remedies.

Why should one worry about the price of gold? Should we not simply change the foreign exchange value of the dollar in terms of sterling and the franc? Was it not said by the critics of Warren that the price of gold is of itself of no significance, but only the resulting changes in exchange rates?

It was believed by many that a rectification of the dollar-franc ratio would minimize, if not stop, the inflow of gold into the United States. The collapse of the gold bloc and the lower value of the franc in relation to the dollar, however, had no such effect. But this, it may be said, was partly due to the fact that French prices rose roughly in proportion to the fall in the exchange value of the franc, and that therefore the disequilibrium was not removed. Those who believed that there existed a serious disequilibrium in the international cost-price structure, particularly with respect to France and the United States, might logically propose as a remedy for the gold situation the further fall in the franc, with perhaps some partial corresponding readjustment of the sterling dollar rate. Such action would, of course, not

necessitate any change in the dollar-gold ratio. Moreover, whether any disequilibrium did or did not in fact exist, it would nevertheless be true that a rise in the foreign exchange value of the dollar would tend to increase the credit balance of foreigners in our international balance of payments in goods and services.

What would be the effect of a reduction in the price of gold, and ought such a policy to be recommended? Let it be noted in the first place that a lower price of gold would not, in and of itself, entail any change in the foreign exchange value of the dollar. This is quite a separate and independent matter having no necessary relation to the price of gold so long as sterling and the franc are not tied to any definite gold content. The main significance of the high price of gold is its effect upon gold production. As we have noted, gold production has increased from 20,000,000 ounces a year to 35,000,000 ounces. (It may be noted in passing that the percentage increase corresponds precisely to the increase in the American price of gold.) The current and the prospective volume of gold production is clearly in excess of normal needs for the world currencies. Such excess production would be a pure economic waste in a rational, economic world; but the world is not rational. Gold production does give employment to resources that otherwise might remain idle. Moreover, taking a long-run view of the matter, it may facilitate a moderate rise of purchasing power and prices sufficient to offset the pressure for higher money rewards of the agents of production, notably labor. To this extent, capitalistic production would find somewhat easier its struggle against secular stagnation.

A more fundamental solution—but one which operates in the same general direction—would be a general (but nevertheless selective) reduction in the American tariff rates. This bold action by the United States could well be offered to

leading countries in terms of a multilateral arrangement (though implemented by bilateral agreements, as in the Ottawa arrangements) on the condition that they take broadly similar steps to reduce tariff rates or loosen quantitative restrictions. Such action not only would have the merit of resulting in a general expansion of world trade, but would also furnish an enlarged market for countries having inadequate gold reserves, thereby facilitating a more normal distribution of the world's gold supply. Moreover, in our own market, it would serve as a check to price increases which are out of line with the income level.

In February, 1938, it was announced that only the excess of incoming gold over and above \$100,000,000 in any one quarter would be sterilized. Since the gold accessions did not exceed this figure in the subsequent months, no gold was actually sterilized under this ruling. In April, 1938, the sterilization program was, temporarily at least, entirely abandoned. Indeed it was decided to desterilize altogether the \$1,400,000,000 then in the inactive gold account of the Treasury. This action involved the deposit of gold certificates to the amount indicated in the Federal Reserve banks, thereby creating a deposit account against which the Treasury could draw checks either to pay off maturing notes and other obligations or finance the proposed expansion of federal projects and loans to state and local governments for the construction of public works. As these funds are expended either for the retirement of maturing obligations or for public works, the checks drawn by the Treasury against the Federal Reserve banks are deposited with commercial banks and sent back to the Federal Reserve banks for collection. In this manner the expenditure of the inactive gold account ultimately results in an expansion of member bank reserves.

Whether the policy of gold sterilization was a mere passing episode or will again be used by the Treasury depends

upon future developments. At the moment, the inactive gold (financed at the time when it was sterilized by the issue of government obligations) permits large government expenditures without further increase in the government debt. Thus gold sterilization and subsequent desterilization may prove a useful means of managing the distribution of the government deficit over the various phases of the business cycle.

THE STERLING AREA AND THE STABILIZATION PROBLEM

AN INTERNATIONAL monetary system presupposes the existence of well-established international relations if not of a highly international economic structure. Such a structure had indeed developed to a rather remarkable degree in the nineteenth century and in the decade prior to the great war. But the pre-war international world was in a sense not international at all; it was essentially a British world. London was the commercial and financial heart of the whole system. Not only was England the center of a world-wide exchange of goods but she also was the major source from which flowed vast capital funds into North and South America, the Orient and other parts of the globe. Moreover, in the migration of populations, one of the leading characteristics of the pre-war century, England played by far the most important role. Finally the British pound sterling was essentially the world monetary unit, since commercial bills were regularly drawn in sterling. All the factors affecting the balance of international payments, foreign trade, the movement of long- and short-term capital, and gold shipments converged at London.

The pre-war international system, which as I have indicated may properly be termed a British international system, was destroyed by the war. The post-war efforts at inter-

national co-operation sought to rebuild a new world structure on a genuinely international basis. Had it been possible to escape the terrific world depression, this end might indeed have been achieved. For the time being, however, the depression shattered this hope.

It is surely no exaggeration to say that of all the world-shaking events which have come out of the depression none is more revolutionary or far-reaching in effect than the withdrawal of England from the world international system, and the erection instead of a more limited British system, a system which is not world-inclusive in scope, but restricted to an area more directly and immediately subject to British control.

I refer, of course, to two striking events, one having to do with monetary matters and the other with trade matters. The establishment of the sterling area in 1931 meant the emergence of a limited international monetary system covering, however, an important part of the modern financial and commercial world. Logically and consistently this event was shortly followed by the erection of a systematic scheme of imperial preferences at Ottawa in 1932. The groundwork for this structure had already been laid in part by earlier Dominion preferential tariffs and by the definite adoption of outright protectionism by England early in 1932. To complete the trade structure and make its area substantially co-ordinate with the sterling area, the Ottawa preferences were in turn supplemented by special trade arrangements, notably with Scandinavia and Argentina. Thus there was built up a closely knit international system composed of ten or a dozen sovereign and, to all intents and purposes, independent nations. This new British international world, the sterling area, while less ambitious in scope, is more homogeneous in its institutional arrangements and therefore more likely to prove workable. With its own monetary system, it is rap-

idly developing complementary and interdependent channels of trade. It constitutes an integrated world of its own, separated from the general world chaos.

It is quite impossible to view current world international problems realistically without having first of all a clear recognition of the existence, strength and probable continuity of this new entity. Future international developments will be determined mainly by the answer to the question whether this entity will become the focal point from which there may be developed a new and inclusive international system, or whether this new entity will prove the starting point of the development and continuation of a group of preferential systems, each striving for self-sufficiency and aiming to minimize its contacts and relations with other corresponding areas.

The breakdown of a truly international system and the formation of preferential and more or less separatist areas explain, at least in part, the current explosive international situation. Take the problem of raw materials. Access to essential raw materials has become again a leading source of international friction and conflict. This is so because of the breakdown of the international system. Access to raw materials could not possibly be a matter of concern to any country so long as we had a well-functioning international structure. The raw-material-producing countries cannot be charged, except in the rare case, with monopolistic restriction of output or with an arbitrary, selfish or nationalistic appropriation of natural resources. In general they are eager to sell their product in the world market, frequently even at ruinously low prices. The difficulty does not come from this side. The difficulty arises from a breakdown of the world currency and from inequality of treatment in commercial policy. A shattered, disorganized world does not

afford ready pathways or easy access to the raw materials needed by modern civilization.

In a recent pamphlet Sir Norman Angell says that it is of course open to Germany to get wheat and wool on exactly the same terms as a Britisher gets them.

The Britisher cannot get them without paying for them, and if the German could manage to change places politically with the Britisher, the former would still have to pay. And the point is that he would have to pay just the same price at which he could obtain the wheat without having to conquer the country at all. The change of political situation would not alter the fundamental economic situation in the least. . . . Argentine, Brazil, and Australia supplied Germany with food and raw materials in exchange for manufactured goods quite irrespective of the fact that they are not German colonies, nor part of a German empire. Australia supplied Germany with wool on exactly the same terms as it supplied Britain.¹

All this is certainly not true. In this argument Sir Norman overlooks altogether the all-important fact that a country cannot buy unless it has the means of payment. In order to buy, you must also be able to sell. Thus political boundaries, involving preferential tariffs or other preferential trade treatment, become of immense importance. Germans can certainly not obtain wool from Australia on equal terms with Britishers for the reason that Germans cannot sell in Australia on equal terms with the British. Sir Norman's argument *would* be thoroughly sound in a genuinely international world, but it is utterly fallacious in the kind of world that, in recent years, is being built up all about us. At one point, indeed, it appears that he is just about to state the case correctly. He says, "Our problem is not to overcome any difficulty of access to raw materials arising from the refusal of the foreign producer to sell them; it is

¹ *Raw Materials, Population Pressure and War*, p. 21.

to find the means of paying for them," and then instead of going on to point out that the means of payment is seriously interfered with by the erection of preferential areas, he says, instead, that this problem is not going to be solved by the rearrangement of frontiers. With this latter statement, I should, of course, not quarrel, but the really important thing is left unsaid.

The truth is that very many countries in the world today find access to raw materials well-nigh blocked, not because they cannot buy but because they cannot sell on terms of substantial equality. You cannot buy raw materials unless you can pay for them, and you cannot pay for them unless you can sell goods in exchange. Thus, of necessity, an effort is made to offset the development of preferential areas by similar or equally effective methods. One preferential area breeds another. As in the case of so many human problems, one rapidly becomes enmeshed in a vicious circle. The world factors which have accounted for the formation of the British preferential area can, of course, be readily understood. But it is also not difficult to see that this action has stimulated unfortunate developments elsewhere.

We in the United States are in no position to cast bricks at the British imperial preference system. The British Empire has as much right to its preferential tariff system as we have to our high tariff policy, or at any rate to our preferential arrangements with Cuba and the probable impending preferential arrangements with the Philippine Islands following complete independence. Indeed, viewed realistically from the strictly economic standpoint, our American tariff system amounts to a preferential arrangement between more or less sovereign states. Moreover, the adamant tariff position taken by this country in the decade of the twenties played, as everyone knows, an important role in the events which led to the general world breakdown.

England's abandonment of the gold standard was, as one can by now fully appreciate, a bomb loaded with enough dynamite utterly to shatter the international price and monetary structure. This concussion in turn set off fresh explosions, of which the chief was the depreciation of the dollar and the relinking of it to gold at an undervalued rate. After such shocks, the world will not soon recover its equilibrium.

The impact of sterling and dollar depreciation upon the commercial policies of Continental Europe is well known. Preferential quotas and clearing arrangements, which in effect work to establish preferential markets—these are the answers of Continental Europe to the erection of the sterling area, the imperial preference system established at Ottawa, and dollar depreciation. Germany's network of clearing arrangements amounts to a highly artificial and complicated set-up of preferential markets designed at whatever cost to feed Germany's great industrial machine with raw materials. The leaders of her commercial policy, indeed, insist that without this mechanism her access to raw materials would have been virtually closed. Whether or not this is true, it is at any rate clear that these preferential arrangements have violently shifted the established currents of world trade. Countries which through long decades have been the major sources of important world raw materials are now confronted with sharply reduced markets. In the face of accumulated stocks and ruinously low prices in the established raw-material-supplying countries, other parts of the world are rapidly producing substitute supplies. This could not have happened in an organized international world. It is, however, a brutal fact today. There could be no more conclusive demonstration of the grave error of assuming that access to raw materials presents currently no serious problem.

In France, and in the then remaining gold countries,

quota allotments have served as the leading instrument by which preferential arrangements have been built up. In Italy the trend has progressively been toward a close regimentation of foreign trade more or less comparable to the German system involving exchange and clearing controls. Thus on the continent of Europe generally there no longer exists in any real sense a price system so far as international trade is concerned.

What is the situation in other parts of the world? In Russia there prevails a complete government monopoly of foreign trade. Obviously the price system in international trade is non-existent for this large area. If we turn to the Orient we observe the increasing penetration of Japan into China. Larger and larger areas are coming definitely within the sphere of influence of the Japanese Empire. Moreover, the announcement and determined prosecution of the "Japanese Monroe Doctrine" point toward the weakening, if indeed not the complete disappearance, of the Open Door policy in the Far East. Thus there appears to be in process of development an oriental preferential area under the hegemony of Japan.

As one surveys the general world picture one cannot fail to be impressed with the fact that in place of a general international system there have already been created a number of preferential areas with the tendency toward a minimization of commercial relations between each of these groupings. One can divide these preferential areas into two main classes. On the one side, there are those which have been created and are functioning by means of rigorous regimentation and direct government control in the form of clearing regulations, fixed quantitative restrictions or outright governmental monopoly. In all these types the price system no longer functions so far as international trade is concerned. In the second main category are those preferen-

tial areas, such as the British system, in which the price system does continue to function.

In view of the present deplorable state of economic international relations, what may be done to rebuild a genuinely organized economic world? The beginning will have to be made in those areas in which the price system is still functioning, namely, the sterling area and the United States. The British sterling area and the United States are not only in the freest position to re-direct the world back to an international system, but they also have a major responsibility, because of the impact of their past policies, to insure for other countries reasonable access to the rich raw materials contained within their boundaries. Only by establishing again a workable international system can nations be made to feel secure in their access to needed raw materials.

Desperate conditions call for bold action. I am well aware that such action is difficult in international relations. Too often timid action alone appears to be practicable. An example of what *can* be done under very difficult conditions is the trade agreements program so persistently carried forward by Secretary Hull. Twelve ² bilateral agreements were completed in less than two years, a really remarkable achievement when one considers the obstacles in the way. The agreement with England now in process, in view of American-Dominion competition in the British market, is obviously not easy to execute. Such an agreement might well be supplemented by a more general approach. I have in mind a broad multilateral agreement between the United States and the whole British Empire, the Scandinavian countries, and all those countries with which bilateral trade agreements have already been signed.

Together these countries could now take an important forward step leading toward the eventual development of a gen-

² By early 1938, seventeen agreements had been made.

eral international system. Such a multilateral convention might take the form of a commitment on the part of each country to reduce the tariff 10 per cent each year for a period of three years on those commodities of which 75 per cent of the total imports come from the combined countries joining the convention. These reduced rates would, however, be made available to all countries with which the contracting parties now have *de facto* most-favored-nation relations. This plan amounts in fact to the application of the principle of the leading supplier, which has already been made the guiding rule in the bilateral agreements concluded by this country. Such an arrangement would enable the contracting parties to reduce the tariffs chiefly to the advantage of each other without resorting to discrimination, with respect to the commodities in question, against non-contracting countries. At the same time, it would give a powerful incentive to non-contracting countries to join the multilateral agreement in order that tariff reductions might also be made on those commodities for which they are the leading suppliers.

A general forward movement by the United States, the British Empire, the Scandinavian countries and those countries which have thus far made bilateral pacts with the United States toward the re-establishment of an integrated international system covering such a large part of the world would become a powerful magnet attracting other nations to its orbit and gradually leading to the breakdown of the isolated preferential areas which are now being fastened and are in danger of becoming fixed, frozen entities within the world economy.

The United States and Great Britain alone could lead the way in such a movement. Moreover, in the interest of world peace and indeed of their own fundamental prosperity, they must make available freer access to those raw

materials with which they are so abundantly endowed. The solution cannot be any rearrangement of political boundaries or the wholesale transfer of colonies, but rather an organized and workable international system. This involves the reconstruction of an international monetary standard and sufficient leveling down of tariffs and other trade barriers so that countries can pay for the raw materials by means of exports. The markets of this great area must be made reasonably free and accessible to all nations. We cannot face reality without accepting these economic necessities.

Fortunately under the able leadership of Secretary Hull, the United States has taken a firm and unflinching stand in keeping alive the most-favored-nation policy in a world which is being swept rapidly toward the preferential system. Had this country also embarked upon preferential arrangements, the outlook for the reconstruction of an international world would be far blacker even than is the case. The United States can, moreover, make its contribution by continuing, as a permanent measure, the program of trade agreements, and by making this the vehicle toward a progressive reduction in trade barriers. Finally the cause of world peace and security would be immensely strengthened if Great Britain should be able to modify her imperial preferential structure in the direction of a more international system, instead of strengthening the tendency toward a closed imperial economy. Preferential arrangements create their counterpart elsewhere and they sound the death knell of the international system. Equality of treatment in commercial policy is essential to meet the problem of access to raw materials and to minimize the international frictions arising out of the unequal distribution of natural resources.

ECONOMIC BASES OF PEACE

I SHALL begin the discussion in this chapter by raising the question: Are the dissatisfied nations by nature bellicose, or are there economic causes for their discontent?

The dissatisfied nations maintain that they have a just grievance, and I shall try to present their case briefly, although it may well be that I shall not be able to state it in a manner acceptable to a German, an Italian, or a representative of Japan. These countries argue, as I understand their claims, that the world's economic resources are very unevenly distributed. It so happens, partly by accident and partly by reason of the extension of political power, that the bulk of the world's natural resources of mineral and agricultural raw materials is to be found in the United States, the British Empire, Russia, and, to a much lesser extent, in France and her colonies. Dr. Goebbels enumerated recently a convenient list of six raw materials which are basic for modern industrialism: iron, coal, oil, copper, cotton, and rubber. There are many others, but these six are of special importance. Germany has coal, Italy water-power, but for the most part they lack the world's basic raw materials. The United States alone produces over a third of the world's total output of raw materials, the British Empire nearly as much; when you add that of Russia,

whose natural resources are comparable to those of North America, you have the bulk of the world's supply.

The causes of the discontent of the dissatisfied nations are usually stated in terms of population pressure, of lack of sufficient territory in which to expand (hence the demand for colonies), or of inadequate access to raw materials. It is not that the satisfied countries will not sell their raw materials; rather, so the argument runs, they refuse to take the manufactured goods which the deficit countries wish to give in exchange for raw materials. These are the economic causes of international discontent.

Consider first the question of population pressure. What has happened in recent years in contrast with the situation in the pre-war era? The United States has rigidly restricted immigration. Since 1921 and especially since 1924 we have admitted only a very small proportion of the vast numbers that formerly came to our shores; indeed, during the depression we had a net migration from this country. In 1924 and 1930 we reduced drastically the quotas from eastern and southern Europe. Many Europeans believe that these restrictions have enormously heightened the political tension in that part of the world. In a recent visit to Vienna I was somewhat shocked to discover how emotional even coldly intellectual people can be on the subject of America's immigration laws. I had supposed that European resentment was directed chiefly against our high tariffs, but I found that our immigration laws also were held to be responsible for a large measure of unrest, and I encountered the feeling that it was within our power to ease the situation greatly by more generous admissions, if indeed not free immigration.

Prior to the war Germans were not migrating to America in any considerable numbers, yet this was the period in which spokesmen for Germany had much to say about the

importance of achieving a "place in the sun" in order to provide for her teeming millions. In earlier decades, when Germany was largely an agricultural country, we received a large number of German immigrants. After 1890, however, German migration declined, and indeed for a period prior to the war Germany was a considerable importer of labor. There was no such thing as an unemployment problem. There was a rapid rise in the standard of living. There was, properly speaking, no German overpopulation problem.

Let us consider the present German situation. Something has happened in the post-war decades of which I think many people are not fully aware. Yet it is nearly ten years since Dr. Kuczynski published his book on *The Balance of Births and Deaths*. Germany has rapidly been approaching a situation in which she may well face in the near future a declining population. Properly speaking, the German population is not replacing itself. There is at the moment an abnormal age distribution, a disproportionate number of people from twenty to fifty years of age. This results from the fact that Germany is passing through a transition from a period in which there was a rapidly growing population to one in which the population will be stationary or even declining. Except for this age distribution, her population would now be rapidly declining. Calculated on the basis of the existing fertility and mortality rates, the net replacement rate in Germany at the present time is only 70; this means that unless these rates change, the population of Germany will decline in the ratio of 100 to 70 from one generation to the next. Well-informed Germans are well aware of this situation. The net replacement rate in Germany today is lower than in any other part of the world except Austria. France has in contrast a net replacement rate of 82.¹ Ob-

¹ A. M. Carr-Saunders, *World Population*, Oxford, 1936.

viously this is a matter to be considered before one speaks loosely of population pressure in Germany today.

If we look now at Italy and Japan, we find that the situation is different. In Italy the net replacement rate is about 118. The population, calculated on the basis of current fertility and mortality rates, is still growing from generation to generation in the ratio of 100 to 118. If we consider the excess of births over deaths, Italy is growing at the rate of 400,000 per annum. Japan, also, has a rapidly growing population. The birth rate is high and there is a sufficiently large margin between births and deaths to bring about a population growth of 800,000 or 900,000 a year. The birth rate and the death rate have been falling in recent years at approximately the same rate, and there is no likelihood that the net increase will shrink materially for some years. Thus it can scarcely be denied that in Japan and Italy there is a population problem.

If we consider colonies as a possible solution of the population problem, it is well to recall that in pre-war days only about 20,000 Germans lived in the German colonies. Also bear in mind that in all colonial Africa today there are fewer whites than a single annual increase in the Italian population. Japan has not succeeded in inducing her people to migrate to the areas that are open to her. The Japanese would, of course, like to migrate to the United States and to certain parts of the British dominions, but where migration is open to her she has had little success. In Formosa there are only 250,000 Japanese and in Korea some 500,000 or 550,000, largely middle-class persons.² In fact, so far as labor is concerned, the movement has been from Korea to Japan. Japan has made an effort to send some of her people to South America, notably to Brazil, but in no year did the movement exceed the insignificant figure of 25,000 and in

² Grover Clark, *A Place in the Sun*, Macmillan, 1936.

some years the backflow was almost as large as the outflow. This effort was accordingly totally unsuccessful.

Let us now turn specifically to the problem of raw materials. We have said that it lies *mainly* not in the inability of the dissatisfied nations to buy raw materials at reasonable prices but in their inability to sell enough finished goods in exchange. It is true that from time to time the raw material countries have restricted output and raised the prices of raw materials. We have instances of government or monopoly controls, and of restriction of output of such products as coffee, tin, and rubber. There are a vast number of international cartels supposedly aiming at "stabilization" but usually resulting in some artificial increase of prices. So one cannot say that there is no raw material problem whatever from the standpoint of freedom to buy at reasonable prices, and it may be that this problem will become more important in the future, since we are entering a period in which, apparently, monopolization, both in domestic and in international markets, is on the increase. It may thus well be that it will actually become increasingly difficult to buy raw materials in the international market at reasonable prices.³

Nevertheless, for the most part, this is not the difficulty. As a matter of fact, the complaint of the dissatisfied powers is usually expressed in terms of the difficulty of getting the necessary foreign exchange with which to pay for the raw materials. It is at this point that we uncover their most serious grievances. The United States tariff acts of 1922 and 1930 raised the American protective tariff to the highest point in history. Indeed, in the 1930 act the guiding principle seems to have been that wherever a dribble of imports of manufactured goods was coming in, rates were increased.

³ Eugene Staley, *Raw Materials in Peace and War*, Council on Foreign Relations, 1937.

Thus the relative proportion of finished goods coming into our markets has been steadily reduced. But these are just the goods that countries like Germany export and which they hope to exchange for needed raw materials.

The dissatisfied countries point to certain other unfavorable recent developments, notably the extension of the British Imperial Preference System at Ottawa in 1932. It is pointed out that it is not true that Germany can buy wool in Australia on the same terms as England. She can indeed get the wool at the same price, but she cannot sell her finished goods in Australia on terms of equality with England. The Ottawa agreements increased the scope of preferential relations between the various dominions, and the general tariff which England created early in 1932 made it possible for her to participate on her side in a highly protective imperial system. As a result of this development the imports of the United Kingdom from British dominions have increased in recent years. In 1929 the imports from Empire countries were about 30 per cent of the total British imports. At the present time about 40 per cent of the imports into England come from British countries. This is a statistical index of the formation of a closer-knit economic empire. Indeed, we could well include in the British economic empire the whole sterling area—notably the Scandinavian countries and Argentina. This larger area could well be called the British imperial economic system.

In recent years France also has been tightening up her colonial empire. Wherever international commitments (such as apply to Morocco or to certain open-door mandated territory as, for instance, the French Cameroons) have not prevented, preferential arrangements with her colonies have been extended (as in Tunis, New Caledonia, and French India), or else certain colonies (including Indo-China, Madagascar, and French Guiana—not to mention Algeria, which

is a part of France) have been assimilated within the French customs area. Thus from 1930 to 1934 French imports originating in her colonial empire increased from 12.5 to 25 per cent. The relative importance of colonial products in the French market doubled in four years.⁴

Germany has met these developments by certain specific procedures. Her answer to prohibitive tariffs and preferential arrangements has been to build up preferential arrangements of a sort for herself. She has withdrawn more or less from trade with the United States, the British Empire, and some other western European countries. Our own trade with Germany has fallen off enormously. On the other hand, she has increased her trade with Bulgaria, Greece, Turkey, Yugoslavia, Rumania, and other countries to the southeast, and with some of the Latin-American countries, notably Brazil and Chile. She has done this by means of clearing agreements with the Balkan countries and by the use of the so-called *Aski*, or compensation marks, in South America. Both these devices have had the effect of increasing the trade bilaterally between Germany and these countries. Germany has bought all the raw materials she could from the Balkan countries (often at high prices and frequently at the sacrifice of quality) and then has frozen the exchange thus created, so that these countries could not get their funds out except by buying finished products in Germany. Thus she has created for herself an artificial export market. Similarly in South America she has purchased large quantities of raw materials above market prices, and made payment in depreciated special marks (*Aski* marks), which could be disposed of only to importers of German goods. Thus German imports from these various countries have automatically forced the exportation of German manufactured products.

⁴ *Raw Materials and Colonies*, The Royal Institute of International Affairs, 1936.

The more Germany buys from countries with which she has clearing and compensation arrangements, the more these countries are compelled to take German goods.

For the rest, German foreign debts were in a very considerable measure canceled by imposing transfer moratoria on both short- and long-term obligations. Foreigners seeking to get rid of their holdings in Germany were accordingly willing to accept a heavy discount. Thus not only have the creditors of Germany had their property confiscated, so to speak, by reason of these moratoria, but these blocked funds have been made use of to subsidize German exports. The clearest example is that of tourist trade, one of Germany's important invisible exports. Foreign bankers holding short-term funds in Germany under the Standstill agreement were permitted to sell their balances to tourists at a discount. Thus the foreign creditor, by accepting the discount forced upon him by reason of the transfer moratorium, in effect subsidized the German tourist trade.

This is the twofold strategy of Dr. Schacht. Germany's closer commercial arrangements with countries to the east have made a breach in the domination of France in that region. The Little Entente is less under French influence. This is the first part of the policy, and it has both a political and an economic aspect. By means of the second part of the Schacht policies, Germany has been largely relieved of her foreign debts. Whatever may be said about such policies, Germany, under Dr. Schacht's leadership, came through with certain distinct economic and political gains in the face of very difficult conditions.

These developments are a direct and logical result of the monetary policy which Germany has been pursuing since 1931. When England abandoned the gold standard, there were some who urged that Germany should tie herself to sterling in the manner of the Scandinavian countries. Had

she done so, she could probably have retained for the most part her normal channels of trade. By refusing to follow that method (admittedly difficult because of her post-war experience with a runaway inflation) she was compelled to seek her salvation in transfer moratoria and compensation arrangements. All these are the logical result of the monetary policy she has been pursuing. Only in 1931 did she have a genuine choice of policy.

Turning to Japan, we observe a quite different situation. We may criticize Germany for pursuing a restrictive monetary policy and thus being forced into a self-sufficiency program and into bilateral trade, but no such criticism can be made against Japan. Japan has not shied off from general international economic relations. On the contrary, her monetary policy has facilitated international exchange. Japan has depreciated the yen by nearly 70 per cent as against England's 40 per cent. Thus Japan, unlike Germany (with her high value mark), has been able to undersell the world. In 1929 Japanese textile exports amounted to only half of British exports; recently they have been 40 per cent in excess of British textile exports. In recent years Japan has purchased more raw cotton from the United States than was taken by England, Italy, France, or Germany. In 1935 the industrial production index in Japan stood at about 140, and at no point in the depression was it more than 8 per cent below the 1929 level.

But while Japan has not been confronted with the handicap of high-cost exports, as Germany has, she has faced other difficulties. The expansion of Japanese exports has resulted in the tightening up of other countries' markets against Japan. Japan feels that she is a young exporting country and is entitled to enjoy an expansion of her foreign trade. An export quota on the basis of the period of, say, 1925-29, is not adequate for a young industrial country like Japan. Yet

England has imposed rigid quotas against the importation of Japanese textiles into her own markets and those of her colonies. Even in the Dutch colonies, always notable for maintaining an open-door policy, this has been done, though it must be added that the Dutch quotas are generous to Japan. The United States, too, has made many arrangements with Japan under which the latter has agreed to limit to a certain quota her exports of certain commodities to the United States. In some instances we have raised the tariff against Japanese products under the flexible tariff provision. Thus Japan no less than Germany (but for other reasons) has had her difficulties.

The question now arises, What, if anything, can be done about it? I shall try to answer this question very briefly and thus indirectly to evaluate realistically the case for the dissatisfied countries.

Consider the question of immigration. There are not many places in the world today that can absorb any considerable increase in population.⁵ The most important ones are the United States, the British dominions, the Argentine, and Brazil. Viewed from the long-run standpoint, the United States could doubtless absorb a larger volume of immigration than any other part of the world. But there are good reasons why this country could not, without endangering her own security, loosen up her immigration restrictions. For present purposes it is sufficient to say that we shall be compelled to undertake in the next decade a difficult structural reorganization of our economic life. We are, moreover, confronted even now with a serious problem of assimilation. We are passing through a serious labor crisis, and it will be years before we settle down to a reasonable system of "constitutionalism in industry." The labor problem is far more

⁵ *Limits of Land Settlement*, edited by Isaiah Bowman, American Coordinating Committee for International Studies, 1937.

complex in the United States, with its thirty or forty nationalities, than in countries with homogeneous populations, such as those of England and Sweden. Let Europeans who criticize our immigration policy take due cognizance of this basic fact. I do not see how either the United States or the British dominions can open their doors to free immigration. Moreover, so far as Italy or Germany are concerned, neither would welcome any large migration of its people to territory under foreign flags. Totalitarian states wish to find a place for their people within their own empires.

So far as colonies are concerned, it is well to remember that the share of German raw material imports coming from German colonies before the war was less than 1 per cent.⁶ These colonies were obviously of no importance for Germany economically, and while they could, by intensive exploitation, become more significant, this result could not be achieved without great expense. Now if these colonies are of little value, why not give them back to Germany, and thus at least relieve the psychological tension? While one might with good reason favor such a program, there are many reasonable arguments against the return of the colonies to Germany. I shall mention only one. If the German colonies in South Africa were returned to Germany, the Union of South Africa might have good ground for fearing encroachment upon her political security. Whatever England might be willing to do, public opinion in the dominions could not be disregarded. A solution might be found by bringing all colonies under international control.

There remains, therefore, the question, Can we solve the international problem by making it easier for the dissatisfied countries to obtain raw materials through world trade? If high tariffs, quotas, and preferential arrangements could be measurably reduced, it would be easier for these countries

⁶ *Economist*, November 16, 1935.

to sell their products, to obtain their foreign exchange, and thus to get raw materials. The international raw material problem simmers down essentially to that of obstacles and impediments to world trade.

In this country a notable beginning has been made through the Hull trade agreements. It should be noted, however, that this program does not extend beyond the limits of the democratic countries of the world—Scandinavia, England, Canada, the smaller countries in northwestern Europe, and the Latin-American countries. And many difficulties will have to be faced, it seems to me, before the Hull program can become a world-wide program.

It seems to me that there is developing in the world a number of large preferential trade areas. Regionalism is in the making; in fact, it is already here. Five great trade areas, enclosed within a common tariff wall, or welded together by preferential arrangements, are already present in the world. There is first of all the United States with its vast free-trade area—a common customs union, so to speak, between the several states of the federal union. There is the British Empire with its imperial preferences. And there is Russia, a vast economic area with rich economic resources within her own political borders and having contact with the outside world only through a state monopoly of foreign trade. Japan is extending her economic leadership in the Far East, and Germany, having already absorbed Austria, is reaching out to the countries in southern and eastern Europe. We have moved very far from that degree of freedom of trade which characterized the world before the war. The war and especially the depression have fostered the growth of economic regionalism.

Is any particular country or group of countries responsible for this development? Frequently the mistake is made of following through the course of action of a single country.

In this way a case can usually be built up against the policy of any particular country. But economic situations develop like a game of chess. The positions of the chessmen on the board at any given time cannot be explained by the action of any one player. Innumerable moves have been made, each relatively unimportant in itself, but forming a link in a long chain of causation. Bit by bit we have got ourselves into an international stalemate. We have thus reached an utter economic absurdity. There is complaint about the scarcity of raw materials, but the world is not permitted to use the resources it has. All the raw material countries are compelled to restrict their output and forced to pass through a difficult period of violent structural change in their economies. They must deflate their raw material output capacities to conform to the changed world situation. This is the condition we have been compelled to face in American agriculture. We would not have to restrict our output were it not for the extraordinary dislocation of world trade. This is, of course, a ridiculous situation: raw material countries curtailing the efficient production of high quality primary products, and deficit countries developing artificial substitutes—motor fuel from coal and potatoes; synthetic rubber, cotton, and wool—at high cost.

How shall we answer the question, "Are the dissatisfied countries by nature bellicose?" Can their discontent be explained on biological, anthropological, or psychological grounds? Perhaps, but it is very doubtful. There *are* economic grounds for discontent, but the reasons alleged are not always the real ones. The discontent has been most evident during the depression. Yet Dr. B. B. Wallace is perfectly right when he says that during a period of depression it is often a curse to possess raw materials.⁷ England has come

⁷ See *Peace or War?*, edited by Harold S. Quigley, University of Minnesota Press, 1937.

through the depression marvelously well, in no small part because she could buy food and primary products at fabulously low prices. Much of the rest of the world has been subsidizing England all during the depression. The saving thus effected in food stuffs alone exceeded by far the whole decline in British money wages.

It is essentially the Great Depression, not the raw materials problem, which has in recent years intensified international friction. We have all suffered from the depression. The United States has passed through the greatest economic depression of any country in the world, even lower levels having been reached here than in Germany. Now suppose we had been the victims of a Treaty of Versailles. Would we not have blamed the depression on it? If we had lost colonies, certainly many a politician would have argued convincingly that the whole cause of the depression could be found there. That is just what has happened in Germany. Yet despite the Treaty of Versailles, Germany staged a remarkable recovery in the post-war decade. In the face of the loss of her colonies, her merchant marine, her iron resources, her foreign investments, this recovery is one of the most phenomenal events that has occurred in the modern world. Vanquished and defeated, she built up a foreign trade which, by 1929, showed no signs of falling behind that of a victorious nation. The export of German products to the British dominions and colonies increased 47 per cent, whereas England's increased only 32 per cent from 1913 to 1929. The Treaty of Versailles is certainly not defensible from many angles, and the dislocation which the war and post-war policies have caused in the world must bear much of the blame for the world depression, but only in Germany could it be plausibly argued that her economic woes were due to the loss of her colonial possessions or to other specific grievances originating in the war settlement.

What is the conclusion? Can the nations that feel aggrieved be satisfied? Unfortunately, I do not believe that any probable adjustment of alleged grievances can really appease these powers. In the first place, as we have seen, some of the grievances most keenly felt are in reality illusory. So long as any country can find plausible grounds for blaming other countries for economic ills that are common to all countries, it will do so. Thus the Treaty of Versailles was a great blunder not merely because of the actual damage it did to the whole world economy, but because it fertilized the growth of economic mythologies. Yet altogether apart from this, it is not probable that an adjustment can in fact be made that will satisfy even a rational view of the equities in the case. I do not mean to imply that it is a rational view to expect an equal division among the several nations of natural resources. Such a program is utterly impractical; it cannot be done even within a nation. If you drive through the Dakotas and the richer parts of Iowa, you soon discover that the standard of living is much higher in the latter state. Why? Essentially because Iowa is blessed with richer natural resources. We cannot redistribute territory so that the resources of South Dakota will be equal to those of Iowa. Nor can we forever be engaged in a redistribution of national territories with a view to equalizing the control of raw materials.

A rational solution is theoretically feasible in terms of free trade. Under free trade there would be no sound economic basis for any grievance with respect to the unequal distribution of raw materials. But free trade is not within the limits of practical politics. Thus a thoroughly rational solution is not possible. Much can, however, be done to establish freer trade than now prevails. But we are in danger of stopping short of the pre-war situation. If this is so, a realistic view

demands that considerable latitude be given to the development of freer trade relations within large areas linked together either by proximity or by historical tradition. There is great danger that a formal and mechanistic application of the most-favored-nation principle will block freer trade relations within areas that could prosper under closer trade relations with one another. If England persists in maintaining her imperial preference system, if the United States cannot yield, in her highly protective system, materially below the level of rates established in 1922, the trend of international relations will be toward the development of special trade arrangements establishing preferential areas in other parts of the world. This, unfortunately, is the direction in which the world is moving. But however unsound this trend may be (as compared with substantially free trade), it is definitely to be preferred to a world broken up into numberless petty trade areas. Even the large trading areas, such as the United States and the British Empire, will profit economically from the building up of similar large areas in other parts of the world, provided such areas are established not by raising tariff walls still higher against the outside world, but by reducing the rates within. Any large interchange of products between these great areas must rest upon a high level of prosperity fostered by internal trade. A multitude of petty economic areas with barbed-wire entanglements erected against external trade is no sound alternative to free world trade.

While it is urgently necessary to move forward as rapidly as possible toward a truly international world, inclusive of all countries, it is in the meantime necessary, at least until more rational views can prevail on both sides, to police the peace of the world. It is for this reason that the prospects for European peace fluctuate with the state of rearmament in Eng-

land. The passage of time under improved economic conditions may contribute to the abandonment of "glory of the empire" ideals⁸ and promote the earnest devotion of each country to endeavors to raise its standard of living not by military aggrandizement but by rational economic procedures. To promote this development, England and the United States can contribute much—the former by liberalizing her Imperial Preference System and the latter by the extension of her Trade Agreements Program to include also the totalitarian states.

⁸ Colonial expansion, like militarism itself, may be quite uneconomic from a rational point of view. But colonies and militarism alike provide numerous jobs that reflect honor and distinction for the middle-class "proletariat" who might otherwise find it difficult, if not impossible, to obtain satisfactory employment. And it should not be forgotten that it is just this class which forms the backbone of the Fascist and Nazi regimes. Moreover, popular support can easily be aroused in almost any country for large military expenditures, thereby providing industrial employment for the masses in periods of great depression. The Von Papen government, immediately preceding Hitler, wanted indeed to engage in an expansionist program involving governmental expenditures, but found it difficult to discover projects which in the minds of the public justified huge outlays, in view of the prevailing financing difficulties of the government and the heavy burden of taxes.

THE INTERNATIONAL SIGNIFICANCE OF THE HULL TRADE AGREEMENTS

IN 1934 there was inaugurated a comparatively new method of tariff-making in the United States. In place of the familiar log-rolling methods by which Congress periodically fixed tariffs to the special advantage of certain constituents, the nation embarked upon a program of negotiation and bargaining with foreign countries designed to reverse the trend toward trade restrictions which was rapidly choking world commerce.

This change in policy was partly a result of changed world conditions which unfavorably affected our national interests. Foreign industrial countries were no longer taking freely and in large volume our agricultural products. And the younger agricultural countries were building up trade restrictions against our manufactures. Tariffs everywhere were being raised and quantitative limitations upon trade, in the form of quotas and exchange control, were rapidly spreading throughout the world. These conditions called for new trade policies.

The Trade Agreements Act of 1934 empowered the President to reduce existing tariff duties by 50 per cent or less in exchange for concessions by foreign countries beneficial to our export trade. By 1938 seventeen agreements had been made and a very important one with Great Britain was under way.

All of these agreements were made on the basis of non-discriminatory treatment. Thus any tariff reduction made by the United States in a trade agreement with any foreign country is extended automatically to all countries which similarly accord non-discriminatory treatment to American trade. Naturally, when negotiating with any country, those items of trade, in which it is chiefly interested and is a leading supplier, will be selected. Thus as more and more agreements are made, bit by bit, all the important items of trade, both on the export and the import side, gradually come within the scope of the trade agreements program.

Before the World War there existed a world economy integrated, as we look back over it now, to a truly remarkable degree. The then prevailing balance between the interdependent parts had been built up, not indeed on the basis of free trade, but on a tolerable approach thereto. The highly-developed trade in quality products between the rich industrial countries depended heavily upon the possibility of drawing raw materials from the less advanced parts of the world economy.

The pre-war international system is gone. In its place has stepped economic isolationism in the form of nationalistic self-sufficiency and preferential trade areas. Great trade areas, welded together by preferential arrangements, have emerged in place of a world economy based on an international division of labor.

A large part of the world today is quite out of touch with anything resembling an international price structure. This is particularly true of the three great totalitarian states—Germany, Italy and Russia. The great democracies of the world, together with their satellites, are still in more or less close contact with each other in an international market, a market, however, far less free than formerly, owing to quota regula-

tions, exchange difficulties, enormously higher tariffs, and imperial preferential systems.

Thus the world is broken up on trade lines into two great divisions—one still clinging, though with a weakened grip, to the international ideal; the other definitely committed to self-sufficiency. This economic cleavage is paralleled also by a political cleavage. And this is no accident. No country can remain democratic if it sets up a nationalistic economy; and no country can separate itself from the international system without developing an authoritarian state.

It is a notable fact that thus far the Hull trade program, including the agreements now in contemplation, does not extend beyond the limits of the democratic countries of the world—Scandinavia, England, Canada, the smaller countries in northwestern Europe, and some of the Latin-American countries. The survival of the democratic countries depends upon the maintenance and expansion of trade contacts. If the economic bonds between them are broken, they will perish. This is the international significance thus far of the Hull trade agreements program.

These two economic systems—the democratic international and the authoritarian—confront each other in areas not yet wholly committed to one system or the other. This is notably true of the Latin-American countries. In this area Germany has offset American and British trade pacts by *Aski* marks and compensation agreements and with amazing success.

Every effort must be made to settle points of difference between the two systems by negotiation and agreement, and not by suppression and force. We stand in great danger of a world-wide recrudescence of the psychology underlying the religious wars of the seventeenth century. The spirit of those times could not brook the thought that both Catholicism and Protestantism might continue to survive. Ideological conflicts arouse equally violent emotions today. There are

not wanting those who would refuse to join in negotiation and conference with Communist Russia, Nazi Germany, or Fascist Italy, as the case might be.

International trade, its survival and expansion, is no longer a matter involving merely private profit. It means today much more than that. It has become a necessary condition for the strength and security of the democratic countries. It has thus become a major factor in the preservation of world peace. In the face of this crisis we cannot afford to bicker about tariffs in terms of petty special interests. The hour has come when the united nation needs to stand solidly behind the Hull trade program.

The immediate objective is the development of closer trade relations between the democratic countries. But the ultimate goal must be the reconstruction of a general international system inclusive of all countries. Whether or not this objective can be reached only the future can tell. It is at any rate clear that there is no other real solution of the difficult problem of raw materials for countries with inadequate domestic supplies. Smaller nations like Switzerland and the Scandinavian countries have abundantly demonstrated that it is possible, through international trade relations, to achieve, even with limited natural resources, a standard of living and economic well-being comparable to that of the great nations richly endowed with raw materials.

PART FOUR

THE ECONOMIC OUTLOOK

THE 1937 RECESSION

A WELL-KNOWN commentator on business trends said that the recession which started in August, 1937, could not develop into a major depression because we had not yet achieved a full recovery. This comment is interesting because it reflects a view which had almost been taken for granted by the general public—namely, that a recovery once under way can be relied upon somehow to develop into a full-fledged boom. Yet history shows very clearly that many a recovery movement has been stopped halfway and thus fallen short of the goal of full employment. The history of trade cycles is replete with examples of partial recoveries.

Looking back over the history of cycles, one finds that the process of expansion has not infrequently continued until substantially full employment was reached, or even until a prolonged period of full prosperity had run its course, while others have stopped short of this goal. Some turning points have been so mild and gentle that they have scarcely been noticed by the general population, and indeed not definitely established by the specialist until after the event. Some, while long anticipated, nevertheless came at an unexpected moment, while others have stolen upon us like a thief in the night, inaugurating with dramatic swiftness a violent change in business expectations.

In former times we were more or less disposed to take things as they came. Indeed we had virtually no information on where we were from time to time in the trade cycle. Now all this has changed. Every newspaper carries charts and indices showing the progress of the recovery or of the recession, as the case may be. Almost everyone is more or less closely watching the development from day to day and from week to week. Reading the business cycle chart has become, so to speak, a national game, yet a desperately serious one, for on the turn of the cycle depend our jobs, our fortunes and even, perchance, the survival of our established institutions.

With all eyes on the ultimate goal of full recovery it is not difficult to appreciate the disappointment and chagrin felt at the sharp downturn in 1937. This swift awareness of the economic situation is a new and perhaps ominous fact in our national life.

Why should not a given level of prosperity at least maintain itself? What is more reasonable than to suppose that income earned today should be spent tomorrow, thus giving rise to new incomes of equal magnitude the day after? Such, indeed, is the experience of poor and primitive countries. Only rich countries suffer violent fluctuations in income. Rich countries spend a large fraction of their income on investment goods, the purchases of which may be postponed without affecting appreciably the current consumption of the individuals so acting. Thus a sudden and drastic decline may occur in the volume of expenditures, and so of the income, of modern communities.

Many reasons have been assigned for the 1937 recession which rapidly developed into a menacing depression. In part it was an inventory crisis. The business cycle is in essence a fluctuation in investment expenditures on inventories, fixed plant and equipment, and building structures

of all sorts. Historically one notes recessions that may be characterized as mainly due to inventory accumulations. Recessions of this type may be sharp but they are usually short-lived. In a few months the excessive inventories are again used up, productive activity recovers, and so industry again moves forward. More serious depressions usually involve a marked decline in new investment in the fixed plant and equipment of manufacturing establishments, railroads and public utilities, and in commercial and residential construction.

In the 1936-37 inventory crisis numerous factors played a part. A price inflation in raw materials was started, or at least accelerated, by the British rearmament program. The drought of 1936 shot up the prices of important agricultural commodities. Alarmist talk about inflation, together with demands for wage increases, induced many corporations to advance prices, and this was made all the easier by reason of the free public spending engendered by the soldiers' bonus. The ensuing upward price surge induced commodity speculation and a rapid accumulation of excessive inventories.

Someone ought to make a very thorough study of the maladjustments in the price structure caused by the great bulge in expenditures incident to the payment of the soldiers' bonus in the last half of 1936. Moreover, the sharp increase in hourly wage rates in late 1936 and 1937 was something quite extraordinary. Indeed, it was not unlike the spectacular rise which occurred in 1933 under the influence of the N.R.A. But this earlier increase could be regarded as a corrective of the drastic 1931-32 decline, while the 1936-37 wage upheaval carried hourly earnings 15 to 20 per cent above the pre-depression level.

These incidents illustrate how futile it is to think and plan in terms of a nicely-adjusted monetary or other compensatory control. The upswing unfortunately rarely, if ever,

proceeds by a smooth cumulative process. Instead of small increments of continuous change, huge lumps are tossed, often by mere accident, into the stream of economic development. Like the giant boulder which broke away from the mountainside and plunged into the beautiful fjord at Løen, Norway, inundating the entire village, so these unexpected, discontinuous jumps upset all calculations based on what might be regarded as a statistically conceived normal cycle development. And in 1936 four of these "accidents," if we may so call them, struck the economic system at the same moment—the European rearmament, the almost unprecedented drought, the veterans' bonus and the labor upheaval. It would in addition be very interesting if someone could tell us the extent to which the leverage, so to speak, of these four factors was multiplied by the milieu of inflation psychology which quite irresponsible alarmist talk had for four years assiduously cultivated.

The inventory inflationary boom, engendered by the forces which I have described, suddenly collapsed in March, 1937. What part the raising of the reserve requirements and the gold sterilization policy played in puncturing the bubble is problematical. Whether the three successive increases in reserve ratios adversely affected fundamental conditions is difficult to say. While this action still left large surplus reserves in the system as a whole, some banks felt pinched, especially in New York and Chicago. Moreover, since banks, rightly or wrongly, were still determined to maintain a highly liquid position, fairly large surplus reserves might not accurately measure the freedom or willingness of banks to make loans and investments.

The investments of member banks declined by \$1,263,000,000 in the twelve-month period ending June 30, 1937, while loans increased by \$1,743,000,000. This represented a net gain of \$480,000,000 of total loans and investments com-

pared with a net gain of \$3,373,000,000 in the previous year. For all banks, member and non-member, total loans and investments increased \$1,238,000,000 in the year ending June 30, 1937. The holdings of government obligations in the entire banking system, including member and non-member banks of every description and also the twelve Federal Reserve banks, declined only \$175,000,000 in the year ending June 30, 1937.

Holdings of federal bonds by Life Insurance companies and other investors had increased nearly \$2,000,000,000, an amount substantially equal to that similarly absorbed in the preceding year. Since the new government issues for the year amounted to \$3,000,000,000, there remains an additional billion to be accounted for together with the small amount unloaded by the banking system. Government Trust Funds, especially the new Social Security Reserve Accounts, absorbed \$1,300,000,000. Had it not been for these accounts, even a small unloading of bonds by the banks might have had serious consequences. From this point of view the existence of these accounts proved to be beneficial, but, on the other side, it should not be forgotten that these accounts drew their funds from payroll taxes and therefore from current consumption. Thus we are compelled to conclude that the manner in which the government deficit was financed in the fiscal year 1937 was deflationary.

There remains, however, to consider the effect of Reserve policy upon bond prices and indirectly upon the capital market. Even though the banking system as a whole unloaded very few bonds upon the outside public, it is nevertheless a fact that many of the larger banks sold bonds on a large scale. And this selling perhaps accentuated the break in the bond market, which was quickly transmitted first to corporate bonds and subsequently to corporate shares. It is probable that more vigorous action should have been taken

to sustain the government bond market, but even such limited action as was taken was at the time subjected to severe criticism as indicating a weakness on the part of the Federal Reserve Board in its effort to curtail the feared inflation.

It is at any rate clear that the vast holdings of relatively long-term governments by the commercial banks made the financial structure extremely sensitive to any restrictive policy, however mild. And this raises the difficult problem of the appropriate composition of the federal debt. A vast government deficit financed by the banking system renders it peculiarly difficult for private investment to expand in the amount required for full employment. Business expansion beyond a certain moderate limit finally evokes demands upon the banking system whether in the form of loans or investments. As these alternative employments open up, banks begin to unload their governments. This depresses bond prices. If it is anticipated that long-term government bonds will fall still farther, renewed selling occurs. Thus there is danger that the interest rate as reflected by bond yields will rise far more rapidly than justified by the economic situation. The prospect that such a rise is imminent may prevent flotations and thus check expansion. We are thus caught in a dilemma. The more private investment expands the greater the demands on bank credit; the greater the demand for credit the more banks tend to unload government obligations; with the prospect of higher interest rates there develops a scramble to sell long-term bonds; and, finally, the disturbed conditions in the bond market render any further expansion of private investment difficult. Thus deficit financing through long-term bonds, insofar as such bonds are held by the banks, imposes a limit on the expansion of private investment beyond a fairly moderate amount. If this is true, we shall have to revise our views with respect

to the assumed merits of long-term government obligations, at least insofar as fiscal operations are designed to play the role of a compensatory device.

This consideration leads to the question whether it is true, as has been vigorously and vehemently asserted by those close to the investment market, that the current depression was caused by a progressive drying-up of the sources of capital supply. Now it is certainly true that one may find an abundance of capital funds side by side with a shortage in certain sectors of the economy. It is quite possible that funds may be plentiful in the short-term market and in gilt-edged securities, while, at the same time, new issues of common stock and of medium- and low-grade bonds cannot find buyers on satisfactory terms. Risk and uncertainty deter investment. Shelter is sought in hoards of cash or deposits or in such relatively safe and liquid assets as government securities. This latter tendency is further intensified if government obligations enjoy tax exemption while extremely high surtax rates apply to income from corporate securities. Thus a "poverty" of new issues may persist side by side with a "plenty" of funds seeking investment. In these circumstances the interest-rate structure may reveal at the same moment, paradoxical as it may seem, both a scarcity of capital supply and an excess of savings.

Yet I am disposed to doubt the capital shortage argument. The level of stock market prices in late 1936 and early 1937 does not indicate a shortage of equity money. New issues of merit could be floated on very favorable terms. But there were not many such offered. It is true that "cats and dogs" could not be disposed of as easily as in the speculative days of the "New Era." But one may perhaps be pardoned for not getting too excited about the failure of this type of flotations.

No, the main obstacle to a full recovery was not inability to obtain capital; it was a failure to develop adequate invest-

ment outlets. The recovery of 1934-37 was mainly a "consumption" recovery. The recovery was based on an expanding consumer demand fed by (a) a five-billion-dollar expansion in consumer installment credit supporting purchases of automobiles and other durable consumers' goods, and (b) by fourteen billion dollars of federal expenditures on recovery and relief. The recovery vanished when these two stimuli played out. Private investment failed to carry on since business had refused to make forward commitments beyond the immediate requirements, and for special reasons which are considered in a subsequent chapter, residential construction failed.

"Consumption," says the December, 1937, *Federal Reserve Bulletin*, "was maintained." True! But the villain in the piece may nevertheless have been consumption. For when consumption ceased rising, investment declined.¹

On the Continent economists have commonly used, in lieu of the term "business-cycle," the word "Konjunktur." Particularly, in the year 1937 a conjuncture of circumstances, partly accidental, combined to produce the recession. Yet it is striking how many of the leading causes of recessions, commonly outlined in cycle theory, are exemplified in this downturn.

¹ For a discussion of this relation see Chapter XVII, "The Consequences of Reducing Expenditures."

THE CONSEQUENCES OF REDUCING EXPENDITURES

THE year 1937 presented a crucial stage in the development of industrial recovery. For several years the government had been pouring out funds into the community in excess of the funds which it had taken back from the community in the form of tax receipts. The 1937-38 shift in deficit financing represented an order of magnitude sufficiently large to have very considerable repercussions upon the economy. Whereas in previous years the net contribution made by the government to the growth in community expenditures amounted to some three billion dollars, in the fiscal year 1938 governmental receipts sharply rose in relation to expenditures, when account is taken of the Social Security taxes. It is this sudden shift, its implications and its consequences, to which I wish to direct attention.

In order to appraise the consequences of reducing governmental expenditures it will be helpful, I think, to consider the character of the recovery achieved in the United States.

Everyone will agree that the recovery to mid-1937 had been on many counts a very unusual and exceptional one. In many respects it did not follow the pattern of recovery movements in the past. One could differentiate it from earlier recovery periods in various ways. I wish, however, to

direct attention to one special characteristic which I regard as of primary significance, particularly with respect to the topic here under consideration.

The recovery experienced in the United States in 1935-37 can be characterized as a consumption recovery. By that I mean that the expansion in income, employment and output was based mainly on a rise in consumption. There had occurred, to be sure, a very considerable increase in real investment, but investment for the most part followed consumption; it did not, except in limited degree, lead the way.

Let us consider very briefly the history of the revival. It was of course quite impossible for any sustained recovery to get under way until the banking system had been placed in a position which commanded the confidence of depositors. Without this rock-bottom foundation the economy could only sink deeper and deeper into the morass of a cumulative deflation. Moreover, the change in the foreign exchange value of the dollar definitely removed a powerful price depressant and brought about an internal readjustment of prices in favor of agricultural and raw material producers. This realignment materially improved the balance in the general price structure and in the relative purchasing power of different branches of our economy. On the basis of these two changes, the reconstruction of the banking system and the realignment of the internal price structure, a foothold was secured from which recovery could go forward.

The speculative inventory boom of the second quarter of 1933 quickly collapsed at the mid-point of the year. It had been caused mainly by the prospective rise in prices indicated by the new monetary policy and partly by the prospective rise in costs indicated by the N.R.A. A fresh start on a more modest scale, but also on a firmer foundation, was made at the turn of the year. Two factors were of primary importance. The first was the rise in the demand for durable

consumers' goods of which automobiles were the most important single category; the second was the income-stimulating expenditures of the federal government. Both developments indicated a rise in the rate of consumption—the first in the durable goods field, the second in the sphere of current consumption needs.

The prolonged deflation had restrained many people from buying new automobiles, household appliances and other durable consumers' goods. Instead they had chosen to hold in suspense, for subsequent use, available or potential purchasing power. The improved psychology following the banking and monetary reforms, combined with the growing need for replacements—a need more and more urgently felt as the existing stock became increasingly obsolete—released an accumulated backlog of consumers' demand for durable goods. In large measure this new demand was financed by an expansion of installment credit. Thus it was consumption and not investment which led the way toward revival. As the purchase of durable consumers' goods increased, new investment in plant and equipment had indeed to be made not only in the industries directly supplying these products but also in all the underlying contributing industries from steel to machine tools.

Coincident with this development with respect to durable consumers' goods, the government began on a large scale to pour out new funds into the community—funds which went directly into the hands of needy consumers and which at once swelled the volume of consumer purchases. This in turn forced necessary renewals and replacements and finally some expansion in capital expenditures. Thus the initial rise in consumption caused an increase in real investment and this in turn, through the ensuing increase in employment and payrolls, lifted still higher the level of consumption.

The demand for durable consumers' goods rose through

1935, 1936 and early 1937 to ever higher levels, carrying with it an expansion of investment, income and employment. Governmental net contributions to consumption rose sharply from the close of 1933, pumping new funds into the consumers' markets at the rate of about three billion dollars per annum. Finally in 1936 the soldiers' bonus lifted the stimulating expenditures to still higher figures. In the meantime, beginning with early 1935, another major durable goods industry—residential building—began to make a belated, but halting and limited, contribution to recovery.

For our purposes it is not necessary to fill in the entire picture detailing the recovery movement. It is sufficient to press home the point that the recovery was peculiarly one based on a rise in consumption. Some considerable increase in real investment did indeed follow, as indicated, but I think it is common knowledge, and quite generally agreed upon, that throughout the upswing period new investment in plant and equipment was geared rigorously and narrowly, in a quite unusual degree, to the immediate requirements of consumption. Businessmen avoided as much as possible long-term capital commitments. They cautiously restored and expanded their production facilities to the bare limit severely required by the current and immediately prospective level of consumption. There were, of course, exceptions, but taking a general view of the matter, the statement just made may be fairly said to describe the significantly outstanding characteristic of the recovery.

In sharp contrast with these developments is the record of recovery movements in the past, particularly in the pre-war period.¹ I do not wish on this occasion to enter into the controversy regarding the order of precedence of consumption and investment in the very first initiating stage of

¹ In the twenties, however, it was mainly residential construction which led the way. See discussion in Chapter XVIII in this book.

revival. On purely a priori grounds there are strong reasons for believing that in a predominantly non-interventionist economy the upswing is likely to be initiated by new investment, with consumption following behind as income and employment rise. On balance the historical record supports this view. Especially is this true if one rules out the "terms-of-trade" argument, which has the serious defect of viewing the problem from the standpoint of a single section of the world economy. But whatever the facts with respect to the initial period, I think a consensus can be reached on the proposition that former recoveries have typically been carried forward on a wave of new investment which was *not* narrowly gauged by the current and immediate level of consumption purchases. Large bold projects, looking far into the future, have typically been undertaken in the upswing period. They were launched, not on narrow calculations with respect to current demand. Daring investments based on important technological advances, on innovations, cost-reducing improvements, and on the discovery of new resources, were projected in the faith that the forward march in capital accumulation and productive equipment would itself call forth an enlarged purchasing power. Had the rate of investment always been narrowly geared to the current rate of consumer demand, we should never have witnessed the material progress achieved in the nineteenth century.

Investment in upswing periods has typically *led* and not followed consumption. It was of the very essence of the boom that a great forward thrust was made into new frontiers of technical equipment and productive power. The developments of the boom had no relation to the then prevailing level of consumption. They were based instead on future expectations, on a dynamic conception of economic life. Revolutionary changes in technique, innovations in productive processes, the development of new products, the

exploitation of new resources—these are the factors that, from time to time, have caused important capital expenditures. The industrial revolution, the waves of railway construction, the booms based on electricity and automotive power had no relation whatever to the current volume of consumption.

“Ah, yes,” someone will say, “but that’s just the rub.” Always these bursts of investment have spent their force and left the economy prostrate and depressed. New investment had indeed lifted consumption, income, output and employment to higher levels, but these levels were never for long maintained. The advance had come by spurts and the bucket of capital formation, to borrow an apt simile from Spiethoff, had been filled to overflowing. It was now only necessary to keep it full. Investment had indeed led the way, but the violent forward leap too frequently ended in disaster. Sustained recovery, yes; but ultimately at the high cost of instability. And, it will be asked, is it at any rate not true that a recovery such as that of 1935-37, in which consumption led the way, and investment followed after like a dutiful handmaiden, is much to be preferred to one in which investment, like a dashing but reckless knight, goes forward to conquer worlds so vast as to preclude peaceful assimilation into a stable and settled society?

We are now coming to the gist of my thesis. Unfortunately, a recovery resting almost exclusively on a rising tide of consumption can go forward only so long as the consumption stimulus is applied. Worse yet, it cannot even maintain the level reached once new funds are no longer poured into consumers’ markets. For it is a peculiarity of business activity, geared closely to consumption demands, that once consumption ceases to rise, there are forces at work causing contraction. Thus it is not true, as some have asserted, that the reversal from large income-creating governmental expendi-

tures to a cessation of such stimuli will at the worst have no more serious consequence than a tapering off of the trend of income, employment and business activity. In a peculiar sense a recovery based on consumption cannot stand still.

The analysis which I have just made is, of course, merely an application to the 1935-37 recovery of the familiar principle of acceleration. But there is one aspect of the matter which I think has not been adequately recognized by economists. As I have elsewhere ² stated, the principle of acceleration has probably played a minor role in the past in the causation of the turning point from expansion to contraction. And a main reason for this is that in the typical upswing movement the rate of investment has proceeded in large part quite independently of the rate of consumption. On the other hand, what needs to be strongly emphasized is just this: if the recovery movement is of such a character that the rate of investment is closely geared to the rate of consumption, it then follows that the principle of acceleration operates with full force, subject, however, to certain qualifications with respect to variations in the degree of excess capacity, the age of the capital equipment, etc. These qualifications for the case under consideration probably weigh on the whole more heavily on the side of contraction than on the side of expansion. Therefore, it may be asserted that substantially the full implications of the principle of acceleration must be taken cognizance of in the situation under examination.

The implications of this principle, once firmly grasped, are very clear. So long as consumption is rising there is need for renewals and for more plant and equipment to satisfy the growing consumption demand; but as soon as consumption flattens out there is no need for any new investment in plant and equipment. To supply the current level of con-

² See Chapter II in this book.

sumption one has only to maintain intact the existing equipment. The output of investment goods, therefore, falls to the level of mere replacement which indeed in many lines may, for a considerable period, be wholly deferred, especially if existing equipment is relatively new. It follows that as consumption flattens out, net investment ceases and there remain only repairs, upkeep, and some essential replacement. As net investment ceases, employment declines in the capital goods industries, and in the succeeding period consumption itself, from having flattened out, begins actually to fall off. This is the dilemma which confronts a recovery reared on the stimulus to consumption. Such a recovery can proceed no farther than it is pushed. It has no momentum of its own. It has no inner power to complete its own development.

There occurred in 1937 a rapid shift in income-creating expenditures both public and private. The props which had been lifting the level of consumption were being withdrawn. The automobile boom had tapered off. We were moving toward a saturation point in installment sales. The government stimulus to consumption was in process of being completely withdrawn in a dramatic reversal from a plus of three billion dollars to zero within a single year.³ The full force of this sudden change upon the recovery had perhaps not been adequately appraised. One explanation for this is probably that the public had fixed its eyes on the formal balancing of the budget. And since this was not yet balanced, the impression was abroad that the government was still lavishly spending more than it was taking from the public in tax receipts. But this was looking at the form and not the substance. From the standpoint of consumption stimulation, the "economic budget," so to speak, in contradistinction to the formal fiscal budget, was already in balance. In other words,

³ See the chart given by Arthur D. Gayer in *Supplement to the American Economic Review*, March, 1938, p. 98.

when we took account of the Social Security taxes, including both old-age and unemployment insurance, it was found that the swing was toward a deflationary pressure on the volume of consumption.

I do not draw the conclusion that a major recession was inevitable. But I do say that either consumption had to be pushed forward or else investment had to be pried loose from the narrow limits imposed by the immediate requirements of the prevailing volume of consumption.

We could not lightly assume that consumption, unaided by government spending, would of itself continue to rise. Unsupported by the government it could go forward only on the basis of a further extension of consumer credit. But this involved obvious difficulties. There was, however, one important thing which could be done quickly and without disturbing the balancing of the fiscal budget. We could have removed the deflationary pressure exerted by impounding the old-age insurance taxes into a Reserve Account. This account could be placed on a pay-as-you-go basis. It is difficult enough to cope with recessionary tendencies in any case without inviting additional trouble; and there is no escape from the conclusion that the impounding of these funds adds strength to the deflationary forces.

But this is not enough. We can at no time facilely expect that a recovery will just automatically complete itself. There is never any assurance that business will surely carry on to a full measure of prosperity. For "carrying on" means that new investment shall be developed. Indeed, unless something positive is done, there is widespread evidence that the requisite investment will in point of fact not be made.

Many reasons have been assigned for the currently low level of new investment. There are those who are convinced that the basic cause goes very deep; that it is to be sought in a fundamental change which it is believed our social

order is undergoing. It is said that we are passing through a transition period—the implications and significance of which history alone can appraise—a transition from a free economy to a controlled economy. The framework in which private enterprise is permitted to function is becoming more narrowly circumscribed. It is said that business chafes in the new “harness”; that like a “bucking broncho” it refuses to function until its old freedoms are restored. Thus, it is alleged, we are confronted with an irreconcilable conflict between business and government. Private enterprise, operating in a free market, can, it is said, function with a high order of efficiency and even with reasonably full employment. At the opposite extreme it is conceded that a highly centralized collectivism could command and direct the productive resources. But a hybrid economy, an economy which is neither free nor regimented, cannot, it is argued, function at anything like full employment. This limping hybrid system continues to rely on private enterprise, yet the motivating and energizing forces are dampened down and at times almost wholly suppressed. From this point of view, there can be no escape from a deadlock which can be broken only by driving on toward a completely authoritarian state. The present recession is thus regarded as only a preliminary demonstration that a hybrid society, half-free and half-controlled, can succeed only to a very limited degree. Such a society, it is said, quickly gets all snarled up in its own processes. Every attempt at a solution involves it in a maze of contradictions. Every artificial stimulant saps its inner strength. Every new measure conjures out of the ground a hundred new problems.

It is safe to say that a fairly large part of the American public subscribes to the thesis just stated. It appears to be the view of a very considerable section of the business community. It is, of course, the view of the communist and the

thoroughgoing collectivist. What the verdict of history will be depends upon a great many imponderables. At any rate I do not regard the indicated development as a necessary or inevitable one.

Stepping down very far from this rather abstract level, we encounter a much more practical bit of speculation—one concerned with more immediate considerations. The recession, it is said, was due to certain *specific* governmental interferences which, even granting most of the basic aims of the New Deal, could have been avoided. The regulations of the security market, the undistributed profits tax, the capital gains tax, it is alleged, had the effect of rendering the capital market quite impotent to perform its necessary function. It was this that prevented the desired volume of new investment. The budget deficit was regarded as having been continued over an unnecessarily long period of years. Governmental issues had supplanted private issues in the capital markets. Investors had become accustomed to holding assets which offered an exceptional measure of liquidity. The capital market had lost its capacity to serve enterprise. It could no longer function as the medium through which the stream of savings was able to find an outlet in ventures that involved considerable risk. The possessors of loanable funds had been driven to shelter, to high liquidity and security. The market regulations and the capital gains tax, it was alleged, had rendered the stock market so erratic as to preclude the issuance of new securities. Modification, but not abandonment, of the machinery of governmental control was, from this point of view, believed to be adequate to bring about the necessary volume of new investment.

Such was the analysis which for a time preoccupied the public mind. No doubt it deserved careful consideration, particularly that concerned with the assumption of risk. Respecting the mechanism of the stock market, while it may

indeed explain, in part, the jerky and erratic fluctuations in the security price movements, it can never explain a sustained level of valuations. These ultimately rest, not on the character of the market machinery, but upon anticipations of future yield. From this standpoint it has not yet been demonstrated that the market did any more than to correct an earlier inflated optimism based on the expectation of a continued rapid rise in the national income and in commodity prices.

Yet even though the market mechanism were perfected, there still remains a fundamental difficulty. We are compelled to face squarely the question of how far the stock market can perform its essential function of connecting the flow of savings with investment outlets, in a situation in which the desire for a high degree of liquidity alternates with an intense desire to speculate, and in which, moreover, so large a part of the investing public is regimented into like-mindedness under the influence of the ubiquitous forecasting services—the drill sergeants of the modern speculative community.

I turn now to an even more fundamental matter. The failure of new investment was due in large part to a tendency to push costs up higher than the level of income justified. This was due partly to governmental policies beginning with the N.R.A., partly to corporate price policies and partly to labor policies. It is notorious that building material and labor costs had been pushed to a level that prevented the construction of new houses on a scale commensurate with current requirements. In addition to the uneconomic construction costs there was the high cost of borrowing. The interest rate offered under the government guarantee plan was high beyond reason in view of the abundance of savings and loanable funds seeking investment outlets. It is true that private funds could be obtained at somewhat lower

rates, but it is not clear that even these were as low as the current conditions justified. Interest rates at all commensurate with the low rate on long-term government bonds were not generally available for residential construction. The various parts of the interest rate structure were, and are, not sufficiently closely interrelated. Each is locked up altogether too rigidly in a water-tight compartment. In an era of easy money, the rates at points crucial for new investment have remained at uneconomic levels. The capital market is organized to handle certain types of financing, but we have not succeeded, with all our easy money, in furnishing capital at low cost where new investment is most needed. Even the new FHA provisions do not offer adequately low rates.

In a larger way the problem of high costs ramifies into every nook and corner of our economy. It is partly a question, as I have said, of corporate price policies. Public utilities hesitate to risk developmental rates designed to tap potential demand. Business through so-called fair-trade regulations and neo-monopolistic practices imposes a limitation on output and employment. In the case of the railroads the failure of a thoroughgoing program of rationalization together with high labor costs prevents investment expansion. In our basic industries there is danger that continued increases in wage rates may place our cost structure in a disequilibrium position with respect to the outside world. The Administration, and with it public opinion, has never faced the utter fallacy of trying to boost income, output and employment by raising costs. The question may well be asked whether certain types of federal expenditures have not in large part had the effect of boosting costs when the real purpose was to increase income and employment. We have apparently yet to learn the lesson that high *wage rates* do not of themselves guarantee a high labor income and full employment. We have too often put the cart before the

horse. The all-important desiderata are total income and employment. Had governmental expenditures been combined with a planned program of cost reduction, there might have followed an expansion of income and employment not only via a stimulation of consumption, but also via a stimulation of new investment. This program we have not adequately achieved, and now that the consumption stimulus is withdrawn, the forbiddingly high level of costs renders it difficult for investment to hold back the receding tide. Thus we are left without the necessary volume of total expenditures, whether for consumption or investment, to carry us on toward full recovery.

This is the fatal error we have made. But I must not overstate the case. For there is one other consideration that troubles me and raises uneasy doubts whether, though we had managed our affairs ever so wisely, we should even so have been safely and securely on the road to full and sustained recovery. I refer to certain technological and other conditions which in part determine the volume of investment outlets. For it is not true, as is sometimes alleged, that technological conditions have been uniformly and at all times equally favorable for new investment outlets. Not every period can be characterized as a kind of new industrial revolution. The introduction of power-driven machinery was followed by a prolonged period of difficult readjustment. In a later age, as the curve of railway construction eventually flattened out, it was discovered that there was no adequate ground for the easy optimism that plenty of promising investment possibilities would surely appear to fill the gap. In point of fact they did not appear in adequate volume, and so there ensued toward the close of the last century a prolonged period of secular stagnation. It is true that in the course of time technology gave birth to the electrical and automobile age and with it a new era of highway construc-

tion. Altogether these developments swallowed up vast sums of capital; but it is not difficult to see that this latter episode is nearing completion and, as has happened before, nothing else of equal magnitude has so far appeared above the horizon.

Add to this the wholly new fact of a rapidly approaching cessation of population growth. Let the perennial optimist reflect on the enormous masses of capital that found investment outlets during the nineteenth century for no other reason than that the population of England quadrupled, that of Europe trebled, while that of the United States increased fifteen-fold. For these and other reasons we shall do well to ponder deeply the problem of the long-waves, or, if you prefer, the problem of secular stagnation, the magnitude of which may well, in the period which lies before us, quite overshadow that of the business cycle. Viewed against this background, governmental expenditures take on a new significance.

From being purely a cyclical compensatory device, designed to stimulate consumption, public expenditures may come to be used increasingly as a means of directing the flow of savings into real investment. In this connection it may not be amiss to note that the modern network of highways, unlike the old, is publicly financed and publicly owned. It is not difficult to see that a major change in the savings-investment process is already upon us. This implies, moreover, a substantial shift in the role of taxation and of public debt in the functioning of the whole economy.

“PUMP-PRIMING,” NEW AND OLD

IT IS all too clear that “pump-priming” has not worked in the manner planned and hoped for. Pump-priming was to taper off gradually and private investment was to “take hold” with increasing vigor, carrying the economy forward to full recovery.

Now we know that this did not happen. And, as always, after the event diagnoses and explanations are rife. There are two main opposing points of view.

On the one side, it is said that business capital expenditures failed to go forward because of lack of confidence. On the other side, it is said that business investment acted precisely in this recovery as in the decade of the twenties, going along with, but not anticipating, the advance in consumption expenditures. When income stopped rising, investment declined. According to this latter view, some outside factor, or factors (pump-priming, if you will), both in the twenties and now, led the way and sustained the upswing, and when these forces petered out the jig was up then as now.

In the period of high prosperity, 1923-29, the total volume of capital expenditures amounted to the vast sum of \$128,000,000,000. Of this total one-half was expended on replacement and one-half for new capital formation.

The average annual expenditure on capital formation for this seven-year period thus amounted to \$18,300,000,000.

The total national income averaged about \$77,000,000,000 per annum. These figures suggest that reasonably full employment and a fairly satisfactory national income level, such as we had in 1923-29, require a quite extraordinarily large volume of capital expenditures. It is the margin of income which is created by the capital goods' industries that fills the gap between prosperity and depression. No high level of employment or income has ever been achieved without a large outlay on capital formation.

Eighteen billion, three hundred million dollars of capital expenditures apparently was required to sustain \$77,000,000,000 of national income in 1923-29. It is precisely because we have not been able, for one reason or another, to develop any such volume of sustained investment that we did not achieve a vigorous recovery in the last few years.

The total capital expenditures (\$128,000,000,000) for the seven-year period 1923-29 were divided as follows: ¹

- (a) Business capital expenditures, comprising replacement and new investment in the plant and equipment of manufacturing, mining, transportation, public utilities and commercial enterprises, amounting to \$68,000,000,000, or \$9,700,000,000 per year. Of this gross business investment, \$6,350,000,000 was replacement, and only \$3,350,000,000 was new investment.
- (b) Non-business capital expenditures, comprising residential and public construction, amounting to \$49,000,000,000, or \$7,000,000,000 a year.
- (c) Other capital expenditures, including changes in business inventories and foreign investments, \$11,000,000,000, or \$1,600,000,000 a year.

The striking thing to notice about the above figures is the enormous volume of non-business capital expenditures. Residential and public construction amounted in the seven-year

¹ See S. S. Kuznets, *National Income and Capital Formation, 1919-35*.

period to nearly fifty billion dollars compared with nearly seventy billion for business capital expenditures. It thus appears evident that the high level of income and employment of the twenties was sustained not alone by investment in business plant and equipment but was supplemented and reinforced by an extremely large expenditure of a non-business nature. This one fact alone is apparently of quite extraordinary significance for an understanding of the prosperity of the twenties.

Chart I, showing the movements of (a) business capital expenditures and (b) consumption expenditures, discloses clearly the intimate interdependence of the one upon the other for the entire period 1921-1937.² It is a striking fact that the relation of these two curves has not altered substantially in this entire seventeen-year period. Apparently the behavior of business capital expenditures in relation to total consumption was not widely different in the recent recovery from the prosperity of the nineteen-twenties. There is perhaps some indication that, on the whole, business investment led the way in the twenties, while in the recent recovery investment followed consumption.

Now of course a chart such as this one does not and cannot settle the argument referred to above. One side will say: "Look! All this talk about business confidence is plainly overdone. Businessmen invest if and when current demand justifies expansion. In the recent recovery they went just as far as was warranted and no farther, and precisely the same was true in the pre-depression decade." To this the opponents will say: "Ah, but the mere fact that consumption and investment have fluctuated side by side does not mean that investment is determined solely by consumption. On

² Data from S. S. Kuznets, *National Income and Capital Formation, 1919-35*; U. S. Department of Commerce, *National Income, 1929-36*; and some estimates based on data supplied by George Terborgh.

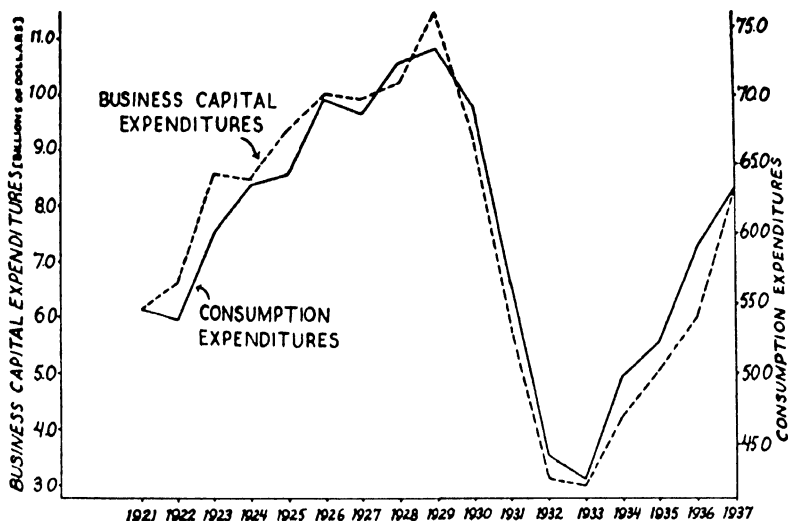


CHART I

Year	Business Capital Expenditures (gross)	Consumers' Expenditures
1921	6,112	54,660
1922	6,631	53,904
1923	8,567	60,015
1924	8,475	64,516
1925	9,349	64,202
1926	10,082	69,743
1927	9,938	68,570
1928	10,237	72,229
1929	11,489	73,342
1930	9,280	69,061
1931	5,768	56,228
1932	3,116	44,055
1933	2,987	42,270
1934	4,204	49,704
1935	5,076	52,235
1936	6,000	59,000
1937	8,200	63,000

the contrary it is more likely that each will quickly act and react on the other. It is quite impossible to say which constitutes the initiating driving force. Indeed, at least until one has accurate monthly data, the substantially synchronous movements of the two curves do not preclude the possibility that in one period (say, that of the twenties) investment on the whole led the way, while in another (say, the thirties) investment followed consumption. Indeed, a close inspection of even the annual data gives some support to this view. At all events there was always interaction between the two. Therefore, whichever was on balance supplying the motive power, it is no great surprise to find that they rose and fell together."

When one analyzes business capital expenditures more closely, one definitely finds important differences between the nineteen-twenties and the recent recovery, and these may be of some considerable significance. Replacements and maintenance expenditures counted much more heavily in total capital expenditures in the recent recovery than in the great boom of the twenties. New capital formation played a relatively smaller role. In view of the failure to maintain capital in the deep depression years, any considerable recovery necessarily called for substantial replacements. But new investment was lagging. This was especially true of railroads and public utilities where investment in fixed capital never reached, even in 1937, more than about one-half the pre-depression level.

But why did not replacement stimulate consumption and consumption in turn stimulate new investment until full recovery was reached? The answer, in part at least, is that the cumulative process theory has severe limits. Without fresh support from outside this process quickly peters out. As consumption rises, additional capital equipment is indeed required. Such new capital outlays will through the increase

in employment raise further the level of consumption expenditures and this extra consumer demand will in turn require some new capital. But if the required second batch is just equal to the first batch, then the capital goods industries will just be maintained on the new level and no *further* increase will occur. Thus the cumulative process would quickly come to an end. If the upward movement were to continue, forward-looking anticipatory investments would have to be made or consumption would have to be pushed up by other means.

In more general terms, the process of expansion can be stated in terms of the "multiplier" principle and the "acceleration" principle, the former being a statement of the effect of a given increase in investment upon consumption, and the latter being a statement of the effect of a given increase in consumption expenditures upon investment. What will be the actual course quantitatively of the expansion resulting from the interplay of investment and consumption depends, however, upon given factual conditions, having to do (1) with the "leakages" which determine the size of the "multiplier," and (2) with the actual capital outlays required to satisfy a given type and quantity of new consumption. What these factual data will be will vary under different circumstances. All that can be said is that the expansionist process, once started, will continue up to a certain point and thereafter decline. How high the turning point will be, how far it will approach full-employment of the productive resources, will depend upon the factual data referred to. Thus we could set up a variety of models, all of which would conform to the principles involved in the theory of expansion. But all would of necessity have this in common: a turning point (at, or short of, full employment) would inevitably be reached sooner or later, and thereafter a decline would set in.

We reach then the important conclusion that the process of expansion—upon which pump-priming essentially relies—inevitably peters out. Full employment in a dynamic economy which saves a part of its income cannot be maintained unless new real investments, quite independent of the factors involved in the “multiplier-acceleration” principle of expansion, are constantly being made. In an economy which consumes all of its income it is otherwise. For in a non-saving economy there would be no “leakages,” and therefore no tendency per se toward a declining income. A society, however, which saves, can escape a progressive fall in income and employment only through the continuous development of new investment outlets, such as are created by technological progress, the rise of new industries, the discovery of new resources, the opening up of new territory, and the growth of population.³

Now whatever view one may take of the interaction of business investment and consumption throughout the period 1921-37 (and there can be little doubt that important anticipatory investments were made), it is at any rate clear that in the nineteen-twenties stimulating and sustaining forces outside of business investment and consumption were present. Chart II shows how non-business capital expenditures (residential building and public construction) led and helped to sustain the post-war recovery. Add to this the important stimulus to both consumption and business-capital formation from the huge export trade financed by foreign lending. These “external” forces collapsed in 1928, and a year later the boom was over.

In the 1933-37 recovery, neither residential building nor foreign investment helped to push forward and sustain consumption and business investment. In their places stepped

³ A fall in the rate of interest may also stimulate new investment, but its efficacy is probably relatively less than the factors enumerated above.

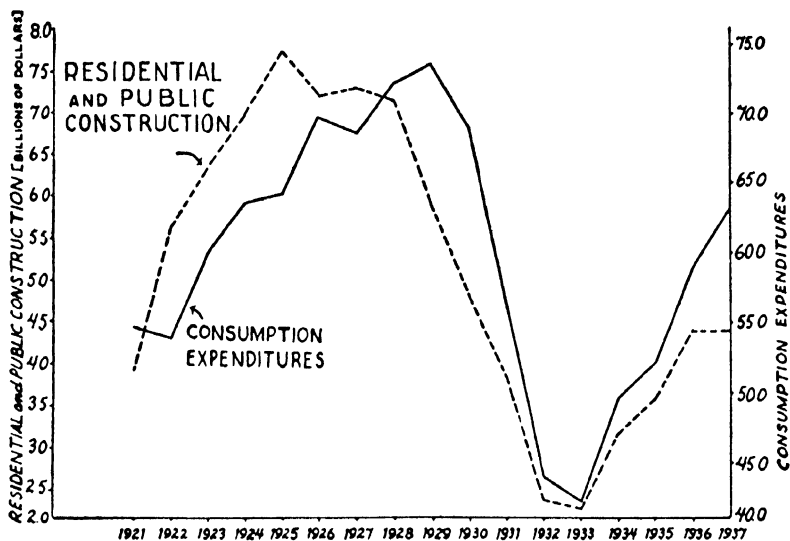


CHART II

Year	Residential and Public Construction (gross)	Consumers' Expenditures
1921	3,919	54,660
1922	5,600	53,904
1923	6,343	60,015
1924	6,977	64,546
1925	7,748	64,202
1926	7,227	69,743
1927	7,310	68,570
1928	7,187	72,229
1929	5,938	73,342
1930	4,828	69,061
1931	3,877	56,228
1932	2,399	44,055
1933	2,294	42,270
1934	3,184	49,704
1935	3,607	52,235
1936	4,400	59,000
1937	4,400	63,000

federal spending (relief, public works, veterans' bonuses, government loans, guarantees and subsidies to private enterprise).

Had there been launched by 1937 a full-fledged residential building boom, the cessation of federal income-stimulating expenditures, the increasing saturation in the automobile market, and the inventory crisis would in all probability still have produced a recession. But it would have been much less severe and probably of relatively short duration.

The prosperity of the post-war decade rested heavily upon: (1) residential building; (2) public construction, financed heavily by government deficits—witness the ten-billion-dollar increase in state and local government debt; (3) a large export surplus, financed by foreign loans; (4) the rise to full maturity of the great automobile industry; and (5) the growing importance of durable consumers' goods, financed in large part by a billion-dollar annual growth in installment credit.

How would the "new era" have fared without the accumulated backlog of housing requirements (a legacy of the war and of the rapid growth of population in the post-war decade), the large capital expenditures of state and local bodies, and the rather reckless foreign lending? Had these been missing, would business capital outlays have filled the gap? Is there not a high probability that with these stimuli removed business capital expenditures would have been made on a more restricted scale, leaving the economy stagnant if not depressed?

These considerations bring into high relief the problems currently confronting us. Business confidence is important, no doubt, but our present difficulties unfortunately go deeper. Under the most favorable circumstances it would have been difficult enough to effect without serious strain the transition from a rapidly expanding economy to one in

which "extensive" growth is swiftly coming to an end. Is it a coincidence (or is it a normal, if not necessary, part of the process) that just at this crucial moment in our history we have so frozen our economy with monopolistic practices all around that the only remaining investment outlets—the "intensive"—are seriously restricted? Clearly we are developing an institutional framework in which our productive resources, caught in the strait-jacket of an inflexible price structure, are unable to find full employment.

Rapid growth and expansion are favorable to a healthy state of competition. No producer need be particularly concerned about his competitors so long as the market is widening. Under these circumstances, indeed, competition itself acts as a powerful stimulant toward expansion insofar as cost and price reduction serve to tap potential demand. It is, however, difficult for a non-expanding, and still more a declining, industry to tolerate competition. Thus, it may well be that there is an inherent causal relationship between decline in the rate of growth and the decline of competition.

This fundamental difficulty could not be better illustrated than in the field of housing. Investment in residential construction almost automatically takes place when population is rapidly growing. Indeed under these circumstances even high construction costs and high interest rates can scarcely halt or retard a building boom. William H. Newman of the University of Chicago has shown that the major building cycles in the past have been dominated by changes in population growth in urban communities.⁴

From 1916 to 1922 the population of the highly industrialized section of the United States (comprising Massachusetts, Connecticut, Rhode Island, New York, New Jersey,

⁴ William H. Newman, *The Building Industry and Business Cycles*, University of Chicago Press, 1935. See, however, C. F. Roos, *Dynamic Economics*, Principia Press, Inc., 1934, Chapter VI, for a more complex analysis.

Pennsylvania, Ohio, Michigan and Illinois) increased 10 per cent. From 1922 to 1928 there was a further increase of 10 per cent. Then came with dramatic swiftness a change in the rate of growth. From 1930 to 1936, again a six-year period, the population of this area increased only 3 per cent. If one takes the population of the entire country into consideration, the percentage increase from 1922 to 1928 was 9.1 per cent compared with 4.3 per cent from 1930 to 1936. Thus the rate of increase for the urbanized area is less than one-third of that of the twenties, and for the entire country below one-half. During the Great Depression, accordingly, there did not accumulate any such backlog of housing shortage as had developed in the period 1916-1922, and there was not the pressure from a continued rapid growth in population, such as occurred in the period 1922-28.⁵

The "extensive," or expansionist, outlets for investment in housing, incident to population growth, are thus in large part gone. In their place we need to develop "intensive" investment, by which I mean *more* and *better* housing per person. This, however, requires progress toward lower-cost housing. Yet just when we need this most, high construction costs have well-nigh closed the door.

Compared with 1926 the all-commodity price level stood in November, 1937, at an index of 83.7, cost-of-living index at 82.5, farm products at 75.7, raw materials at 93.7, metals and metal products at 96.8, building construction costs⁶ at 101.8 and building-union hourly wage rates at 103.4. More-

⁵ Objection has been made to this argument on the ground that housing requirements depend not on the size of the population but on the number of families. It is true that the number of families (owing to the current abnormal age distribution) has increased more rapidly than population. But it may be doubted whether this is nearly as significant a fact as the rate of population growth. Young childless couples can readily "double up" with their parents, or get along quite well with one or two rented rooms.

⁶ An average of the American Appraisal Company, Associated General Contractors and Engineering News Record indices.

over, it must be remembered that building costs were already extremely high in our base year, 1926.

The housing situation only illustrates the broader problem. "Intensive" investment outlets must be found not only in residential building but elsewhere. "Intensive" investment offers greater difficulties than "extensive" investment. Monopolistic practices running all the way from the trade associations of smaller firms to the giant integrated corporations make it trebly difficult. In the twenties the automobile industry demonstrated the possibilities of expansion inherent in a dynamic price policy. Will the public utilities, and in particular electric power, demonstrate equal capacity to tap potential demand? If private capitalism cannot solve its price problem, it will inevitably dig its own grave.

The more public construction and public expenditures grow, the more difficult it becomes for fiscal policy to operate as a compensatory device. The larger the role played by government in the whole economy, the more its expenditures become enmeshed in the entire income stream. It cannot suddenly curtail its extensive operations (any more than could a giant private enterprise) without setting in motion a cumulative process of deflation. The Ford shutdown in 1927 produced a minor recession, just as the reduction of the federal deficit on a much larger scale played a major role in the depression of 1937.

If this is correct, it follows that the policy of deficit financing as a compensatory device has fairly severe limitations. The theory that large deficits could be swiftly followed by substantial surpluses rested on the assumption that a vigorous boom would surely follow once the upswing was started—a boom so vigorous, indeed, that it needed to be held in restraint. Fiscal policy as a regulatory device was designed not merely to prime the pump, but equally to control the boom. The philosophy of stabilization was nourished in the

traditional outlook of the nineteenth-century epoch of expansion. It feared the boom even more than the depression. But now, owing to deep-seated causes inherent in the essential character of a non-expanding economy, secular stagnation stalks across the stage, or at least shows its face. If there is no surging investment boom to be checked, great fluctuations in deficit financing must be avoided, lest any rapid reduction should aggravate and intensify the underlying tendency toward investment stagnation. This conclusion, however, involves no judgment with respect to the desirable *volume* of public investment.

INVESTMENT OUTLETS AND SECULAR STAGNATION

COLIN CLARK'S *National Income and Outlay* serves well as a starting point from which to consider the general subject of capital formation and its elements. This book contains a number of rather challenging conclusions. I am not concerned with the precise accuracy of the estimates; I am much more interested in trends than in the exact order of magnitude of the shifts which apparently have occurred.

I think we may say with considerable confidence that it is just those factors which affect investment outlets and capital formation that above all must be taken account of in appraising the likelihood of survival of the kind of economic system that we now have. It is not so much a question of class struggle; it is rather a question of the inherent workability of the system. I suspect that the system will survive if it proves that it can work. It used to be argued that it would collapse simply because the working classes would rise and seize control in the belief that they would thereby get a larger share of the national income, a higher standard of living than could otherwise be obtained. But it is not now so much a question of getting a high standard of living, although that is certainly important; it is rather a question of stability.

So we are concerned with the questions that relate to investment, capital formation, saving, consumption, their interrelations and the impact of all of them upon the flow of income and the volume of output and employment.

Colin Clark begins his book with a reference to Pigou's statement that it is the function of economic science—perhaps it might better be said that it is the aim of economic policy—to achieve three things: first, to increase the national income; second, to regularize its flow; and third, to diminish the inequality of its distribution.

With respect to the distribution of the income—because distribution has something to do with stability, though certainly not in just the way that Hobson, for example, thought was the case—I think it is worth while to take a glance at certain changes that have apparently occurred in modern societies, notably England and the United States. It is quite true that, broadly speaking, it appears that the distribution of the income has not changed much. It fluctuates somewhat back and forth, but there are not any great shifts.

Nevertheless, as Stamp and Bowley and others have long since pointed out, all classes have been moving up into higher income levels. Colin Clark calls attention to the fact that the salary classes, the white-collar groups, have increased threefold since just before the war.

Some years ago I made some investigations into our occupational statistics, and they were followed up by Dr. T. M. Sogge, who studied particularly the last census figures. It is rather striking to see how enormously the white-collar group has increased as compared with other classes. If we take 1870 as a base and compute the relative increase, the white-collar group has expanded something like sixfold in relation to other groups in the last sixty years. If we consider what might be called brain workers, in contrast with manual workers, we find that they have increased about threefold

relative to the total population in that sixty-year period.

One could make other divisions of the occupational groups which point to much the same conclusion. Colin Clark calls attention to the fact that the middle classes have doubled since before the war. The plutocrats, he says, have increased 50 per cent. All this doesn't mean any change necessarily in the distribution of the income; all along the line there has been a stepping up into higher levels.

The professional classes, clerical, commercial, managerial, working on their own account, now represent in England about a third of the total occupied population. In this country, according to my calculations and those of Dr. Sogge,¹ these groups constitute something like 44 per cent of the population, whereas sixty years ago they constituted not more than 35 per cent.

I think these shifts are extremely interesting and significant. Far from its being the case (as many writers in the last century supposed) that increasingly, as industrialism develops, all jobs are pushed down into the unskilled level, on the contrary, we find it definitely to be the case that it is the unskilled people who can't find jobs in modern times.

I remember a few years ago talking with the vocational training leaders in the State of Wisconsin. Going back over their experience for quite a number of years (and this general conclusion would hold whether for prosperity or depression), they found that their most difficult task was to find jobs for the unskilled, and to train as many as possible of the unskilled in order to give them more reasonable assurance of employment.

Colin Clark gives a table showing the distribution of unemployment. It starts with 30 per cent for the unskilled and drops to 15 per cent for the skilled. It then drops way down

¹ See T. M. Sogge, "Industrial Classes in the United States in 1930": *Journal of the American Statistical Association*, June, 1933.

to 8 per cent for salesmen, 5 per cent for office, clerical and professional, and, of course, much lower, 1 per cent or so, for managers and officials. WPA data point to similar conclusions.

Since we are struggling so hard in modern times to educate the whole population out of purely unskilled jobs, it seems that this education ought not, in view of these facts, to be wholly fruitless. Yet on the other side there is the disturbing consideration that at the other end, where training is of a rather high order, it seems to be the experience in some advanced countries that many university-trained people can't find jobs suitable to their training. It certainly was true until recently in Germany, for example, that the highly educated class could not find adequate opportunities for employment.

I have sometimes speculated about the peculiar problem that would be set for us in modern society if it turned out that technical evolution required a certain distribution of abilities which did not at all correspond with the distribution of native and acquired capacities. There is no reason to suppose that those two things really must fit. One can well suppose that technical evolution may establish a demand for a range of abilities quite out of line with the distribution of capacity.

All this, of course, has a bearing on the problem of distribution of income. If we could reach a situation in which we had more nearly an equal distribution of productive capacities, in which a larger proportion of the population were employed at some kind of work requiring education or skill, that in itself, it would seem, would facilitate a more equal distribution of income, at least so far as the primary distribution is concerned. A more "equalitarian" distribution of occupations and capacities would mean a more equal distribution of the marginal efficiencies of the different occu-

pational groups. It seems rather hopeless to achieve much by way of redistribution of income through wage payments. It is, of course, a fallacy to assume that you can equalize income simply by boosting wages. When a large part of the unskilled labor group is already unable to find employment, matters are only made worse if the rate on such labor is overpriced. Unless there is an equalization in marginal efficiency, there can be no substantial redistribution of income via wage increases.

There remains, of course, the problem of the secondary distribution via taxation. The figures that show relative constancy in the distribution of income do not adequately take account of taxes. The income is calculated *before* the income tax is paid. Actually what the rich have left is not as large as the income distribution figures appear to show.

Colin Clark contends that the taxation of the lower classes in England actually exceeded in 1913 the social benefits derived from governmental expenditures. But that has been progressively changing as time goes on. By 1929 the lower classes were taxed in one form or another for only 85 per cent of the social benefits obtained from various types of social security and labor legislation. By 1935 the figure had dropped to 79 per cent. Thus at the present time, while the working classes do themselves pay, according to these calculations, a major part of the social benefits received, such taxation is now somewhat less than 80 per cent. Other classes are definitely subsidizing the working classes (I use the term "subsidize" without any prejudicial judgment) to a fairly considerable extent. This, of course, amounts to a secondary redistribution of income through taxation.

Now taxation has apparently been changing not only the ultimate distribution of income in England but also the proportion of the total income that is saved. Pigou and

Clark ² show that before the war England saved about 12 or 13 per cent of the national income. This proportion had fallen by 1924 to only 8 per cent; by 1929, to 7 per cent. In the depression years it fell much lower and has been rising as the income and recovery have progressed, until in 1934 it was about 5 per cent. For 1935 it was approximately 7 per cent of the total income—about half as much, relative to income, as England had saved before the war.

Current savings come almost exclusively from the following sources: (1) life insurance companies; (2) building and loan societies; (3) savings banks; (4) the undistributed profits of corporations; and (5) the statutory savings of local authorities. All these are institutional savings, if we interpret the word broadly; there are no net personal savings any more. If this is true, it is surely a remarkable change as against the pre-war situation.

Now where are these savings going? Here also a marked shift has occurred, particularly as compared with the nineteenth century. The savings are going far more into what may be called consumers' capital, to a far less degree into producers' capital. Of course it is rather difficult to draw a sharp line between these two, but still I think one can, broadly speaking, do so.

In the post-war years the largest single category of capital outlays was houses, a durable consumers' good. Another important category was public works. A third was roads; a fourth, electricity. All these lie closer to the category "consumers' capital" than does manufacturing plant. Of course one could make refined distinctions. Here, then, are important investment fields which broadly may be called consumers' capital—houses, roads, electricity, public works. These account for the great bulk of the capital outlay in

² A. C. Pigou and Colin Clark, *The Economic Position of Great Britain*, 1936.

the economy of Great Britain during the post-war period.

It is true that before the depression for some years the second most important category was industrial and commercial capital. Investment in this field fell very low in the depression years and it has not recovered to its pre-depression level. There was some net *consumption* of industrial and commercial capital in 1931 to the extent of £22,000,000 and by 1935 net *investment* in industrial and commercial capital had risen to only £25,000,000, a relatively small figure.

So the conclusion is reached that by and large there is relatively little new capital going into industrial and commercial uses. Replacements provide improvements and better machinery and there is some net investment. The new capital outlay for the country as a whole is going, more largely than formerly, into consumers' capital.

Similar trends are noted by S. S. Kuznets, with respect to the United States, in his notable work, *National Income and Capital Formation, 1919-1935*. In particular he calls attention to the increasing importance, for capital formation, of public investment and durable consumers' goods.³

Now we come to another very striking conclusion, relating to changes in per capita real income in England since 1840 or thereabouts. A very substantial rise in the per capita real income of occupied persons occurred from 1850 to 1900; then there was a very decided tapering off in the decade and a half before the war. Yet in that decade and a half there was an annual saving of nearly 15 per cent of the total national income.

In the post-war years, beginning with 1924, there was a revival of the rate of increase in the per capita real income of those working, very comparable in order of magnitude to that of the nineteenth century; yet in this period only half

³ See pp. 44 and 51. Utilities are here included in "producers' capital."

as much of the national income was saved as before the war. This, of course, is a conclusion diametrically opposite to that which Carl Snyder has recently set forth, namely, that there is a unique relationship between the flow of savings and the rise of the real income.⁴ This Colin Clark definitely denies. He would argue that there is another extremely important variable, namely, innovations, whether technological or managerial. Innovations are of course not necessarily capital-using. Thus it is quite possible to experience an increase in real income, even though there are no net savings at all.

Up to 1929, despite the rise in real income of employed workers, there was a period of stagnation and unemployment. Possibly this was related to the reduced flow of savings, but there were other elements, as is well known, in the situation. After 1932, and in fact as a result of certain forces let loose by the depression, England recovered to a remarkable degree, achieving a higher standard of living than at any time in her history. Two important factors contributed to this recovery. There was first the tremendously favorable change in the terms of trade. The whole world was subsidizing England in the form of cheap food stuffs and raw materials. This is one of the fundamental bases upon which England's recovery was staged. It helps to explain the change in the per capita income despite the decline in the flow of savings. The second fact is that out of the depression, and the monetary changes to which it gave rise, came cheap money, so that England at last was able to tackle the rationalization problem and to develop a huge program of residential building and other forms of consumer capital formation.

It is clear that in the nineteenth century a vast amount

⁴ Carl Snyder, "Capital Supply and National Well-being," *American Economic Review*, June, 1936.

of savings went into producers' capital, whereas in recent years an unusually large proportion has gone into consumers' capital. This raises, of course, a very important question with respect to the relative importance of consumption and investment as factors in the growth and fluctuations of income and employment.

There are those who, instead of emphasizing the impact of the monetary factor upon the flow of investment, emphasize rather the technological factors—factors that influence the prospective rate of profit, the marginal efficiency of capital. Capital funds find an easy outlet into investment when the prospective rate of profit is high. When the rate is pushed down toward that minimum envisaged by the classical economists, the outflow into investment in capital goods becomes sluggish and difficult.

The theory that the rate of interest is of major significance as a regulator of investment has long been stressed by many economists. Experience shows, however, that as a means of stimulating recovery from a cyclical depression a low rate of interest is relatively ineffective. Thus empirical conclusion supports the skepticism expressed by Spiethoff more than thirty-five years ago. And, quite apart from cyclical considerations, it is easy to overestimate the importance of the rate of interest as a determinant of investment. In manufacturing industries generally, it appears to be the view of practical businessmen that other considerations, such as the prospective volume of business, economies resulting from the introduction of new machinery, anticipations with respect to the probable success of new ventures, and the like are overwhelmingly more significant. It is, however, frequently asserted that, while the rate of interest may be of little significance in manufacturing enterprises, it does play a major role in long-term investment projects, such as housing, railroads and public utilities. Yet even in these fields

other considerations appear to have been far more decisive. Newman found that the rate of population growth was the main determinant of the volume of residential building.⁵ Territorial expansion and population growth were the controlling factors in the construction of our railroad net, and public utility investment follows very closely the prospective volume of utility consumption.

Wicksell showed very clearly in his *Interest and Prices* that the dynamic factor was the prospective rate of profit. A rise in the prospective yield on new investment tended to increase the volume of investment expenditures on fixed capital, and this in turn tended to raise the rate of interest. This lag in the rate of interest, to be sure, reinforced the process of expansion. But the rate of interest was regarded as a passive factor, itself controlled in a very large measure by the fluctuations in the prospective rate of profit. True, Wicksell finally became so preoccupied with the *relation* of the rate of interest to the rate of profit that for the moment he lost sight of the preponderant role played by the latter, and convinced himself that a mere juggling of the rate of interest could produce whatever results were wanted—expansion or contraction. That manipulation of the rate of interest can produce contraction is admitted; but as an instrument for expansion, experience justifies a healthy skepticism. The rate of interest *is* a determinant of the volume of investment and the flow of saving, but it is easy to exaggerate its importance.⁶

Adequate investment outlets are necessary to sustain full employment and a satisfactory income level. But investment outlets are more difficult to find in a non-expanding econ-

⁵ See footnote p. 299 in this book.

⁶ A controlled rate of interest, maintained over the whole field of industry, is likely to be absorbed in higher wages. Thus the rate of interest is one of the determinants of the distribution of income and of the ratio of consumption to saving.

omy. We are living in a period which is in several important respects distinctly different from that of the nineteenth century. It was one thing to find adequate investment outlets in a century quite unique in the world's history—a century with vast, rich areas inviting occupation and large capital outlays on housing, manufacturing and transportation equipment. In such an expanding economy investment outlets were easy to find and indeed the main difficulty was a shortage of capital and man-power. Now all this has changed and we are confronted with an economy with no large, rich areas to be occupied anywhere in the entire globe (*vide* the volume on *Limits of Land Settlement*, edited by Dr. Isaiah Bowman⁷) and with a practically stationary population in the industrial countries. It is a plain fact that a perfectly enormous amount of capital was absorbed in the nineteenth century for no other reason than the tremendous rate of population growth. England's population quadrupled in a hundred years; the whole of Europe's tripled and ours increased fifteenfold in a single century.

I hear people say sometimes, "Well, how is the situation any different now from what it was in the eighties when the Cassandras were all saying, 'We are all through; there aren't any more worlds to conquer'?" But the decline in population growth *is* a new fact that differentiates our age from that of the nineteenth century—a fact of profound significance for investment outlets.⁸

Yet as one looks back over the last hundred and fifty years, it seems clear that even then there were not always present adequate opportunities for new investment. The industrial revolution for a time gave rise to a great burst

⁷ A Report to the Tenth International Studies Conference, Paris, June 18-July 3, 1937. Submitted by the American Co-ordinating Committee for International Studies.

⁸ See Colm and Lehmann, "American Tax Policy," *Supplement I, Social Research*, 1938, pp. 3-23.

of investment in plant and equipment. There followed a period of readjustment and relative stagnation.⁹ Then came the railway age and another prolonged period of vast capital expenditures. The railway age ran its course and gradually reached a saturation point. Then came the electrical and automobile age, and with it new outlets for investment, involving a host of accessory industries, including roads. Extremely important for the history of economic evolution is the emergence, growth, maturity, and decline of dominant industries. Thus the investment outlets created by technological progress have come not in a steady continuous stream, but in "long-waves" of expansion and stagnation. With respect to these secular, long-run fluctuations in the rate of investment, Wicksell's penetrating analysis in his *Interest and Prices* deserves renewed attention.

The nineteenth century witnessed not only the widening of capital (to use Hawtrey's phrase) incident to an expanding demand, but also a deepening of capital, the use of more and more capital per unit of output. A capitalistic economy with a machine method of production has taken the place of a handicraft economy with its direct production processes. The transformation of a rural economy into a capitalistic one is something distinctly different from the further evolution of a society which has already reached the status of a fully-developed machine technique. It is true that we are still engaged in making labor-saving inventions. Extremely important, however, is the question: Are these new labor-saving techniques likely to be preponderantly capital-using or neutral with respect to the use of capital?

If the labor-saving inventions are used to tap potential consumer demand through a sensible price policy, a widen-

⁹ J. Schumpeter, *The Review of Economic Statistics*, May, 1935; Ciriacy-Wantrup, *Agrarkrisen und Stockungsspannen*.

ing of capital will of course occur. The importance of a flexible price structure thus comes again to the fore.¹⁰

It appears that the great advance made in the productivity of manufacturing in the United States in the decade of the twenties was made by reason of innovations in methods of production that to a large extent did not involve the use of more capital. I do not make any forecast; but it is a grave question whether inventions and innovations are not likely in the future to be less capital-using than in the nineteenth century. In contrast, while we were in process of changing over from a direct method of production to an elaborate capitalistic technique, as in the last century, innovations perforce had to be capital-using in character.

It has been asserted that an increasingly rapid rate of obsolescence is likely to absorb large amounts of capital. Unfortunately, however, the high risk incurred in an economy with a rapid obsolescence rate forces corporate officials almost of necessity to set aside abnormally large depreciation reserves. Thus we encounter a vicious circle with attendant deflationary consequences.

In this connection let me quote a statement by the Swedish economist Gustaf Akerman in the January, 1938, issue of the *Skandinaviska Kreditaktiebolaget*. "Swedish industries," he says, "are nowadays not showing any great investment expansion; they are themselves financing their enlargements, besides which they seem to be accumulating surplus savings. . . . People do not seem to have realized what profound changes have taken place in the fundamental eco-

¹⁰ "If capitalism with so much that is precious is destroyed, monopolistic capitalists will be the destroyers. . . . Already capitalism by recent changes has been converted into a complicated top-heavy financial organization better called corporationism. It is a fair weather sailor, far less stable in a financial storm than was the simpler craft originally and still properly called capitalism." F. A. Fetter, in *Proceedings of the Academy of Political Science*, May, 1938. See also O. M. W. Sprague, "Recovery Problem in U. S.," *American Economic Review*, March, 1938.

conomic conditions, . . . changes which evidently point in quite a different direction than general restoration."

All this leads to very important considerations with respect to the government as a spender and as an investor, with respect to the outlay of funds in consumers' capital versus producers' capital, and with respect to the role of institutions connecting the flow of saving with the outlets for investment. I am afraid that we sometimes wrestle with these problems on the assumption that the world is just as it was in the middle of the nineteenth century. Many of us do not like the current trends in economic life. But in every age there is something more or less inevitable about the stream of historical events.

If we assume that society is going to keep on saving a considerable part of its income, through institutional arrangements and otherwise, it follows that it is important to find an embodiment of these savings either in consumers' capital or producers' capital.¹¹ If it is true that the bulk of the capital outlay is increasingly going into consumers' capital, what does this mean? It does not necessarily mean that we have reached the end of the rise in our standard of living; it does not necessarily mean that we have reached the end of the per capita output of material goods. Technical innovation may still bring about a very large increase in efficiency, even though manufacturing is not absorbing any appreciable amount of new capital. It is quite possible to have a continued rise in productivity even though there should be no material increase in producers' capital in the narrow sense of the term. Improved equipment, financed mainly out of depreciation allowances, will continue to raise the per capita output.

There remains the difficulty of finding investment outlets in consumers' capital. Many people oppose public invest-

¹¹ Cf. G. Haberler, *Prosperity and Depression*, 1937, pp. 211-22.

ment projects. It would be much better, it is said, if the people could somehow get this money themselves and spend it in their own way. I am a bit skeptical. As one looks back over history, it is fairly clear, I think, that the level of civilization and the standard of living have been raised at least as much by various forms of community spending as by the mere increase in the amount of wages going into the wage-earner's envelope. Moreover, let it not be forgotten that unemployment will increase if labor is overpriced in relation to other factors of production.

I now come to the question of how the flow of savings can find an outlet in consumers' capital and the intermediary through which this may be accomplished. Here we come at once upon an institution that is supposed to perform the function of connecting up the flow of savings with outlets for investment, namely, the stock market. As a matter of fact, the extent to which it occupies this place is frequently much overrated. In the pre-depression years, when one eliminates all the duplications and all the financial issues and gets down to actual new investment, it is rather clear that not more than some three billion dollars of new investment issues were placed through the stock market.¹² Now the total flow of savings into new investment in those years was in the order of magnitude of nine or ten billion dollars. The stock market thus served only about a third of the total volume of investment.

Beyond that it seems to me more or less clear that the stock market, whatever the reason may be, is functioning less effectively than formerly as an intermediary between the flow of savings and investment. Some people say that this is, at the moment, due to certain regulations imposed by the government, but I would like to raise a question of

¹² See George A. Eddy, "Security Issues and Real Investment in 1929," *The Review of Economic Statistics*, May, 1937.

a somewhat more fundamental character, because I have some doubts about the relative importance of these particular regulations. We are becoming a society in which we all think alike at the same moment, and the more we do that, the more the stock market becomes an impossible institution for the proper performance of its essential function. It is a serious question whether the stock market (largely because of this fundamental change in social psychology) is not becoming one of the most dangerous institutions for the survival of capitalism.

The high liquidity of the stock market is itself a factor causing instability. Would not our society be still more unstable if *all* assets were daily being bought and sold in highly liquid markets?

Governments all over the world are in process of becoming intermediaries between the ultimate savers and investment outlets; but the process of production is still carried on by private enterprise. This is neither socialism in production nor even in the ownership of wealth. The government is becoming an investment banker. This is the ultimate significance of the great rise of government debt throughout the world. When one views the problem in this manner the role of public debt and of governmental expenditures—not for current consumption, but for capital outlays—and indeed the whole question of taxation takes on quite a different aspect from that which it had in the nineteenth century.

THE FEAR OF INFLATION

IT OUGHT to appear incongruous, if indeed not ludicrous, to follow a chapter on secular stagnation with one on inflation. Yet the fact is that it will probably not so strike any reader. This itself tells a story about the topsy-turvy world in which we live. Scarcely do we know which to fear most, stagnation or inflation. Fantastic as it may seem, it is actually the case that the world economic situation is so uncertain that both these two diametrically opposite conditions stare us simultaneously in the face. Paradoxical though it be, the more we sink into deep stagnation with vast unemployment of labor and resources, the more imminent is the danger of inflation.

If this is true, it has an important bearing on appropriate policy. There is danger that the very fear of inflation will prevent sufficiently bold action to escape stagnation and thereby create the conditions out of which will arise an uncontrollable drive for inflationary action. The ship has to be steered between the Scylla of Inflation and the Charybdis of Stagnation. It is of utmost importance not to be so scared of inflation as to drive headlong into stagnation. Were we not familiar with the efficacy of vaccines, it would seem utterly insane to produce a mild case of a disease in order to prevent a devastating malady. Yet it is something of this sort which it is necessary to apply in economic therapeutics today.

It is perhaps true to say that inflation is feared more than stagnation. Yet if the analysis made in the preceding chapter is not wide of the mark, the reverse ought to be the case.

Overemphasis on monetary factors, and in particular the gold situation, is in large part responsible for this inflation obsession. Under modern monetary conditions gold is so far removed from any close tie-up with the credit superstructure that one can scarcely speak of any quantitative relation. And even under pre-war conditions the connection between gold and prices was by no means fixed and definite. Prices fluctuated with the expansion and contraction of total money income, and income rose and fell chiefly with the volume of investment expenditures. True, these were affected in part by the rate of interest at which funds were made available by banks in the money and capital markets. But the volume of capital formation was mainly determined by the prospective profitability of new investment. Indeed as Wicksell showed in his *Interest and Prices* (first published in German in 1898), the bank or market rate of interest moved sluggishly and with a lag in response to the state of investment activity. Thus the prospective rate of profit on new investment, determined by technological and market changes (including innovations in processes of production, the development of new products and new industries, and the opening up of new territory) was the really dynamic factor determining the rate of income, expansion or contraction, and therefore the level of prices. Gold, wars, and investment activity all played a role, but a good case can be made to show that the investment factor was predominant.

It is perhaps not easy to say which was the most important in the great upswing from 1790 to 1815—the investment flowing from the industrial revolution or the vast governmental expenditures incident to the Napoleonic wars. Quite

clearly railroad investment and the related activity of all the subsidiary industries dominated the era from the forties to the early seventies, while the unprecedented gold output and several important wars reinforced the expansionist movement in this period.

Yet despite the great surges of investment activity in the nineteenth century no significant inflation of prices in England or in the United States occurred except those produced by vast war expenditures. The fact that the exuberant investment of private enterprise in a rapidly expanding economy, plus the vast gold output of the eighteen-fifties, was not able of itself to produce any important price upheaval should make one wary of the prevalent belief that an inflationary price movement can easily be set off at any moment like a well-filled gas balloon.

The fact is that no price inflation is possible so long as vast unemployed resources of men and machines can be drawn upon to produce an ever-increasing output of goods and services. So long as there are unused resources, every increase in demand is matched by an increase in supply. Thus any incipient price rise is held in check. There can be no general price inflation until scarcity conditions, owing to full employment, become general over at least a considerable range of industry.

There were not wanting those who began to cry inflation early in 1933. These predictions were based on purely monetary and fiscal considerations, such as the depreciation of the dollar and the unbalanced state of the budget. These alarmist forecasts proved to be quite unfounded, and indeed with fifteen million unemployed and with vast unused plant capacity they were nothing short of fantastic. In point of fact, following the necessary adjustment in 1933 of international raw material prices incident to the changed foreign exchange value of the dollar, industrial prices remained quite

stable for nearly three years, from January, 1934, to late 1936. The great rise in the national income from forty billion dollars to over sixty billion stimulated increased output but not a rise in prices.

Prices did begin to rise sharply toward the end of 1936. The drought, the soldiers' bonus and the world-wide rise in military expenditures were leading factors. "Bottlenecks" developed over wide areas of the economy. There was not sufficient flexibility and mobility left in the system to permit a rapid shifting of unused resources to the fields where real scarcity conditions were developing. It is believed by some that these "bottlenecks" fixed a definite ceiling to the recovery. Yet had the upward price movement continued for any considerable period, the drive to press idle resources into service where needed would have become more and more insistent. Thus it could plausibly be argued that had the upward movement not suddenly come to a close, the "bottlenecks" might sooner or later have cracked under the strain of the increasing distortion of the price structure.

In the final analysis one need have no great fear of any sustained inflation unless one believes either that we shall rapidly reach the extreme limit of full employment and therefore a real scarcity of goods, or else that conditions will become so hopelessly bad that desperate measures will be seized upon, such as the financing of large public expenditures through the issue of printing-press money.

A trend line drawn through a curve showing the rise of the British public debt from 1690 to 1815 reveals practically a constant percentage rate of increase with several short-run fluctuations about the steadily rising trend.¹ By 1815 the national debt was twice the national income.² In well over a

¹ See Elizabeth Boody Schumpeter, "English Prices and Public Finance, 1660-1822," *The Review of Economic Statistics*, February, 1938.

² See *Report of the Committee on National Debt and Taxation*, Cmd. 2800, p. 235.

half of the entire period of a century and a quarter, deficits were commonly the rule, and budgets were balanced only in the intervals between wars. Seven important conflicts, extending over one-half the entire period, account in the main for these loan expenditures. Despite these large governmental outlays and the rapidly rising public debt, the price level remained for a hundred years remarkably stable, the index numbers fluctuating within a range of about 80 to 120. Beginning with 1793 a considerable price upheaval did develop under the stimulus of the Napoleonic wars, the index standing in 1815 at about 190.

The economic consequences in other directions were considerable. The extensive borrowing operations of the government played an important role in the evolution of credit instruments and of banking institutions. Partly under the stimulating influence of the vast military government expenditures, and partly for other reasons, private industry underwent those profound changes in the technique of production subsumed under the general term, "the industrial revolution."

For a hundred years after the downfall of Napoleon, British loan expenditures ceased altogether. In that marvelous century between two great world wars, a whole continent was settled, vast populations suddenly sprang into being, the entire Western world was covered with railroads, and productive processes were transformed by the giant machine technique. Private investment filled (though not adequately in all decades) the gap left by the cessation of governmental loan expenditures. This century of expansion was clearly, however, a unique episode in human history.

Contrary to the British experience, the French public debt rose almost continuously, at varying rates, in the century between the close of the Napoleonic Wars and the beginning of the World War in 1914. In an economy which of

ferred relatively limited industrial investment opportunities the thrifty French peasant found an outlet for his savings through a well-nigh perpetual treasury deficit, which made possible the purchase, year after year, of new government issues. Unfortunately, armament expenditures absorbed so large a part of the funds that France had relatively few useful assets in the form of internal improvements and public works to justify the thirty-fold increase in her debt from 1,280,000,000 francs in 1815 to 33,858,000,000 in 1914.³ Yet even this economic wastage of funds was borne by her economy with amazing capacity, and one could quite well hold that, had the World War catastrophe not occurred, France would have remained one of the soundest economies in the world.

Public debt, incurred for war or relief expenditures (other than public works), leaves no useful material assets behind. It may well be argued that sound public finance requires that public debt thus incurred should subsequently be retired. Once the two great catastrophes of war and vast unemployment are upon us, large deficit financing appears to be more or less inescapable. And for the most part public debt thus created, at any rate for war, has not subsequently been substantially reduced.

Sweden is one of the few countries of the world which has not had to create a large public debt for war purposes. Her public debt offers accordingly an excellent illustration of a debt balanced by valuable assets, and indeed, for the most part, income-yielding assets. Until recently it was the accepted fiscal policy in Sweden not to borrow except for income-producing, self-liquidating projects.

Thus, large investments financed by loans were made in the state-owned enterprises, including railroads, telegraph

³ Cf. *Annuaire Statistique*, 1933, pp. 204-206. The national debt in 1913 was approximately equal to the national income.

and telephone systems, bus lines, electric power plants, and forests, together with such factories and shops as are closely related to the operation of these projects.⁴ Indeed, during the last decade, the net income from these state properties has exceeded by a wide margin the total interest on the public debt.⁵ But non-income-producing public works were ordinarily financed out of current revenue.

This policy is now in process of being modified.⁶ All public works, including schools, university buildings, roads,⁷ public parks, and the like, are regarded as "productive" in the broad economic sense that they yield utilities fully commensurate with their cost. If, as is the usual case, no special fees are collected for their use and enjoyment, accounting procedure is nevertheless set up, under which bookkeeping rents are charged against each service, and taxes (out of the general revenue) are allocated to cover these rents. In this manner it becomes possible to know through correct accounting practice how much each service really costs. Thus, sufficient current revenue is raised to meet depreciation and interest charges on the debt incurred when such public works are constructed. In effect the new policy refuses to regard as "unproductive" those public works which, while non-income-yielding, nevertheless are utility-creating in no less degree than those for which it is convenient to charge a

⁴ A country with large state enterprises is clearly in a much stronger position to control the rate of investment, and thus to achieve greater stability of employment and income.

⁵ See the article by Ernst Wigforss, the Swedish Minister of Finance, in *Annals of the American Academy of Political and Social Science*, May, 1938, p. 26.

⁶ P. S. Runemark, "Den Föreslagna Omläggningen av Riksstatens Uppställning," Föredrag Hållna Inför Svenska Ekonomföreningen, Nummer 2, 1937; Kungl. Maj:ts proposition Nr 225, Bihang till riksdagens protokoll, 1937; Kungl. Maj:ts proposition Nr 199, Bihang till riksdagens protokoll, 1938.

⁷ Roads are in a sense self-liquidating since they are more or less automatically paid for out of motor vehicle taxes.

price or a fee. Obviously, the new policy offers a greatly enlarged scope for public investment financed by a permanent increase in the public debt.⁸

From the short-run standpoint a temporary deficit may, of course, be incurred as a compensatory device designed to ameliorate cyclical depressions. In the event that such a deficit is incurred, it is now Swedish policy to cover any such deficit by including one-fifth of it in each of the budgets of the succeeding five years. In this manner definite provision is made for early retirement of temporary or cyclical deficits. If deficits should occur in a number of years in succession, future budgets would be correspondingly more heavily burdened. The great merit of this system, of course, is that it makes clear to everyone that the budget is not really balanced until tax receipts are adequate to provide a systematic and early retirement of a debt which is rightly regarded as temporary in character.

Public investment should always mean the creation of utility-creating assets. They may be income-producing or they may be non-income-producing, but there ought always to be "something to show" for any rise in the public debt. We ought to have a Board of Public Investment whose duty it is to originate novel self-liquidating public works. Public recreational developments are especially promising. As examples one may cite the developments of the Long Island

⁸ If the debt is held internally, the interest charge is burdenless for the economy as a whole in the sense that the funds raised from taxes to cover these charges are at once paid back again to the community in interest payments. (See Pigou's discussion of "transfer expenditures" in his *Public Finance*, Chapter III.) The passing of this portion of the income through the fisc may, however, have important ramifying effects upon the distribution of income and upon consumption, saving, and investment. Also, in appraising the burdensomeness of the debt, account must be taken of (a) the extent to which the public investment may have facilitated the full employment of the productive resources, and (b) the degree to which utility-creating assets, which serve to raise the real income of the community, have been added to the stock of wealth.

State Park Commission, the Jones Beach State Parkway Authority, and the Westchester County Park Commission in New York. Fees collected for the use of parking and beach facilities make these public investments self-sustaining. In the more populous part of the country we need very much a system of express highways, which might be profitably financed by charging a toll. In addition to a program of direct investment government can also support private investment by means of guarantees on private loans as illustrated by the activities of the Federal Housing Administration, and by loans to private enterprise as illustrated by the Reconstruction Finance Corporation and the Rural Electrification Administration.

The expansion of public investment is likely to come, by and large, not in the form of a systematic program to maintain full employment, but intermittently and piecemeal as one emergency after another compels action. Thus, for example, guarantees, loans and subsidies to the railroads, or even complete absorption, appear to be in prospect. This special case illustrates well how often we are forced into a line of action by the course of events. No political group is eager to take over the railroads. The radicals are afraid that the declining railway industry will prove a white elephant and thus prejudice the case for socialization. The conservatives are wary of an entering wedge. Yet we shall not unlikely find ourselves moving in this direction. It appears difficult, if indeed not impossible, for a complex and unwieldy democracy to do other than "muddle through." The twentieth century clearly does not offer any comfortable prospect of a smoothly functioning economic Utopia.

The great danger in an enlarged program of public investment is that we are likely to rely too exclusively on it alone. If we are not constantly awake to the urgent necessity of achieving a balance in the cost-price-income structure, we

shall greatly intensify our problem by choking off otherwise available private investment outlets. The top-heavy debt structure of the railroads may have to be liquidated in order to clear the way for new investment.⁹ Above all it is of the utmost importance to break through the frozen structure of administered prices and preferential inter-corporate reciprocity (so inimical to price competition) in order that technical progress may have free play to tap an ever-widening circle of consumer demand, and thereby enable us to maintain a workable economy. We need very much a seasoned labor movement capable of holding in restraint uneconomic wage tendencies. Unfortunately, the struggle against unionism, as such, has prevented the development of a mature system of collective bargaining. A country that does not have well-established industrial relations based on responsible unionism is sitting on a volcano. Thus, while the wage movements in England and Sweden remained remarkably steady in 1936-37, ours was violently disrupting under the impact of a serious labor upheaval.

The difficulties confronting us call for courage and action. What has been said in Chapter XIX in no way implies that a "day of judgment" is upon us. In the first place, experience indicates that also in periods of secular stagnation and unemployment, such as that of 1873-1896 or the post-war decade in England, the standard of living for the population as a whole definitely rose. Qualitatively, the standard of living is profoundly affected by the introduction of new products. Moreover, continued progress in improved methods of production can be expected, as in early periods of prolonged stagnation, to raise the real income of employed workers. Even though it should turn out that we shall face relatively

⁹ See the admirable paper on "The Elements of a Railroad Program" by Professor I. L. Sharfman in *Proceedings of the Academy of Political Science*, May, 1938.

depressed conditions in the next decade, it may nevertheless be seen that by 1950 the standard of living of the American people will have reached, by a wide margin, a higher level than ever before attained in our history.¹⁰

Nor is it probable that a pronounced tendency toward stagnation will not of itself force certain adjustments and corrections. That such adjustments do eventually take place under the stress of difficult conditions does not prove, however, that no problem exists, but rather that the human race has not utterly lost the power of adaptation to change. The huge governmental expenditures and high level of taxation¹¹ incident to the war and to the requirements of modern social policy have shifted the ultimate income distribution in England in such a manner that the former savings of the wealthiest class are now absorbed largely in community expenditures. Thus consumption is apparently coming to play a greater role in the modern economy. This is in line with the requirements of a society in which new investment outlets in producers' capital play a more restricted role than was the case in the period of early capitalism.

It is, moreover, a mistake to assume, as some have, that public investment necessarily foreshadows the doom of private enterprise. Indeed, if reasonably full employment can, by these and other measures, be maintained, private investment outlets, while relatively smaller in relation to the total economy, may well grow absolutely. We may thus learn that there is nothing incompatible between the survival of private capitalism and a generous admixture of public investment.

¹⁰ Cf. John H. Williams, "The Formation and Use of Capital," *Proceedings of the Academy of Political Science*, May, 1938.

¹¹ With respect to taxation we need very badly an exhaustive and thoroughgoing study of our whole tax problem, federal, state, and local. It is extremely unfortunate that we do not have in this country the tradition which would make for a really thorough royal commission of inquiry on this question. An important federal investigation, set up along the lines of the recently-announced price policy inquiry, ought to be arranged.

THE FUNDAMENTAL EQUATIONS IN
KEYNES'S *A TREATISE ON MONEY*¹

The main variables entering into Mr. Keynes's theory as expounded in the *Treatise*, and the manner in which his fundamental equations are obtained, may be described as follows:

1. *Physical volume of production.*

O = Total volume of production (= the output as a whole).

R = volume of production of consumers' goods.

C = volume of production of new capital goods (investment goods). It is the net increment to the community's physical capital, and does not include the replacement of worn-out capital goods.

By these definitions we get

$$O = R + C$$

which may be called the volume-equation.

2. *Total money expenditure on production.*

E = total money expenditure in the production of the output as a whole (= total money earnings of the factors of production including normal remuneration to entrepreneurs, but excluding windfall profits. E is therefore the normal income of the community).

¹ Harcourt, Brace and Company, 1930.

E_r = total money expenditure in the production of consumers' goods.²

I' = total money expenditure in the production of new capital goods (investment goods).

By these definitions we get

$$E = E_r + I'$$

which may be called the expenditure equation.

3. *Price levels.*

Π = price level of the output as a whole.

P = price level of consumers' goods.

P' = price level of capital goods (investment goods).

4. *Values of output.*

ΠO = total money value of the output as a whole.

PR = total money value of the output of consumers' goods.

$P'C = I$ = total money value of the net output of capital goods (of new investment goods).

5. *Savings and windfall profits.*

$S = E - PR$ = money value of savings, i.e., that part of the community's normal income which is not spent on consumers' goods.

$Q = \Pi O - E$ = windfall profits, i.e., sales proceeds of entrepreneurs minus all expenditures of production (these expenditures including, amongst others, normal remuneration to entrepreneurs).

Since windfall profits are no part of E , it follows from the definition of saving that windfall profits spent on consumers' goods are equivalent to negative saving. Savings and wind-

² The symbol E_r is not used in Keynes's book but is introduced here.

fall profits, thus defined, are therefore spent on capital goods. Thus

$$I = Q + S.$$

This equation may be called the investment equation.

6. *Unit costs.*

E/O = cost of production per unit of the output as a whole.

I'/C = cost of production per unit of new investment goods.

The units of measurement of O and C are so chosen that, in the base year, unit cost of production is the same for capital goods as for the output as a whole. In other words, we have

$$\frac{I'}{C} = \frac{E}{O}.$$

This equation may be called the base-year equation.

7. *The two fundamental equations of price levels.*

By the definition of savings we have

$$PR = E - S.$$

Multiplying E by $\frac{R+C}{O}$ which, by the volume equation, is equal to unity, we get

$$PR = \frac{E}{O}(R + C) - S.$$

Multiplying out the parenthesis, and inserting I' for $C \cdot \frac{E}{O}$, according to the base-year equation, we obtain

$$PR = \frac{E}{O} R + I' - S.$$

Finally, dividing through by R , we get

$$P = \frac{E}{O} + \frac{I' - S}{R}.$$

This is the first fundamental equation.

The windfall profits Q are, on the one hand, equal to $\Pi O - E$ and, on the other hand, by virtue of the investment equation, equal to $I - S$. These two expressions must consequently be equal, which leads to

$$\Pi = \frac{E}{O} + \frac{I - S}{O}.$$

This is the second fundamental equation.³

* * *

Let it be observed at the outset that the first fundamental price level equation contains an error. For, in the derivation of this equation, use was made, as we have seen, of the base-year equation, which does not in general hold good for other years unless we suppose that the cost of production of a unit of producers' goods changes at exactly the same rate as the cost of production of a unit of consumers' goods. This was recently pointed out elsewhere.⁴

³ Credit is due to Professor Ragnar Frisch who, in large part, formulated these definitions, which, it is believed, will be an aid to the reader.

⁴ See my article, "A Fundamental Error in Keynes's 'Treatise on Money,'" *American Economic Review*, September, 1932, p. 462. This note is reprinted herewith:

In this brief note attention is called to an important error in one of Keynes's fundamental equations. The implications of this discovery and its significance for an appraisal of the whole book require extended treatment which will be attempted by the author at a later date.

Mr. Keynes's first equation—that dealing with the price level of consumption goods—is derived from the self-evident proposition that $PR = E - S$. From this equation as the starting point the final form $P = \frac{E}{O} + \frac{I' - S}{R}$ is

reached by identifying I' , the cost of new investment, with $E \frac{C}{O}$, the ratio of

Mr. Keynes in his reply ⁵ recognizes this error, and proposes two ways by which it can be eliminated. One method is to introduce a new factor k into the first equation. Thus E_r/R , the cost of production of a unit of consumers' goods, multiplied by k , is equal to I'/C , or the cost of production of a unit of producers' goods. k is thus a factor which is used to relate the efficiency earnings of the factors engaged in producing consumers' goods, E_r/R (which we will call W_r) to that of the factors engaged in producing producers' goods, I'/C , which we will call W_c . If we adopt this device, the equation becomes

$$P = \frac{E}{R + kC} + \frac{I' - S}{R}.$$

This modification makes the equation correct. However, in this case, the quantity C is somewhat arbitrarily introduced the physical units of capital goods to the physical units of output as a whole multiplied by the earnings of all the factors of production including the normal returns to entrepreneurs.

This identity, while true for the base year, does not hold for subsequent years except under one condition which is probably never found in the actual world. This condition is that changes in the technique of production must affect exactly alike the efficiency earnings of the factors producing capital goods and those producing consumers' goods. To illustrate: suppose a new technique doubles the efficiency of the workers making capital goods, but no technical advance is made in the field of consumers' goods. It follows that C has doubled, O has increased by an amount equal to the additional output of C (let us say by perhaps one-seventh or one-tenth). $E \frac{C}{O}$ has therefore increased. But there is no reason to suppose that the money expenditure incurred in producing the larger volume of C is any greater than before, since the increased output is due, not to the employment of more factors, but to the greater technical efficiency of the factors making capital goods. In short, while $E \frac{C}{O}$ has increased, I' remains constant.

It will be seen from this illustration that in years other than the base year $E \frac{C}{O}$ is equal to I' only when technical progress takes place simultaneously and to the same degree in both the capital goods field and the consumers' goods field.

⁵ *American Economic Review*, December 1932, p. 690.

duced into the derivation of the first equation. It may well be that a better method of eliminating the error would be to avoid the introduction of the term C .⁶ The equation could then be derived thus:

$$\begin{aligned} E &= E_r + I' \\ PR &= E - S \\ &= E_r + I' - S \\ P &= \frac{E_r}{R} + \frac{I' - S}{R} \\ &= W_r + \frac{I' - S}{R}. \end{aligned}$$

This, it will be noted, corresponds with the form of the second equation which Keynes writes as follows:

$$\Pi = W_1 + \frac{I - S}{O},$$

where $W_1 = \frac{E}{O}$ or the rate of earnings per unit of output.

Keynes's other device to eliminate the error is the one which he proposes to adopt in new editions of his book. It is to redefine the units in which the physical quantities are measured, as follows: "Let us choose our units of goods consumed as the quantity which had unit cost of production in the base year, and our unit of goods invested in any year as the quantity which has in that year the same cost of production as a unit of goods consumed." The objection to this method is a somewhat serious one. The output O must be conceived of as a physical and not as a value or cost concept. Yet it is difficult to do so if the units in which one part of O (namely, C) is measured, are subject to change as the factor k fluctuates. It means that O , thus defined, might remain unchanged, while output measured by an invariable physical

⁶ We are indebted to Mr. Erik Lundberg, of Stockholm, for the suggestion of this method.

unit was actually changing. This makes it impossible to be certain that changes in O really reflect changes in physical output, and not merely changes in k . If, therefore, in subsequent revisions, Keynes redefines the unit as indicated, and thus retains the equations as printed in the first edition, he will have made the second, as well as the first equation, of no practical significance, since the unit of measurement shifts from year to year.

These equations really are but an elaboration of the old income equation of Aftalion, $R = PQ$ or $P = R/Q$ (R being the money income, P the price level, and Q the real income). The only difference is that Keynes defines income to exclude the windfall profits, while Aftalion defines income to include them. Keynes's E , in other words, is equal to Aftalion's R only when the second terms of Keynes's equations are zero.

The advantage of Keynes's procedure is that it enables him to separate out into the second term what he regards as the disequilibrating elements in the price structure. The first term of his equations, E/O , represents the normal long-run tendency of the price level, and it is not liable to sudden changes. It is the normal income of society divided by the actual output. The remuneration of the factors of production is identical with E , so the expression E/O becomes the efficiency earnings of the factors of production, or the rate of earnings per unit of output or the cost of production per unit of output. Prices and costs per unit of output will be equal only at a moment when the economic system is in equilibrium, that is to say, when there are no profits except the normal profits of entrepreneurs, or when there would be no inducement for the entrepreneurs to change output were they free to make new bargains with the factors of production.

It is clear, therefore, that E/O is essentially a "normal"

conception. Actual income will probably seldom ever equal E exactly. It is only when costs and prices exactly coincide that this equilibrium position is achieved. Whenever costs fail to equal prices the economic system is in disequilibrium. In Keynes's equations this at once shows up in the second terms. S is now no longer the same as I' or I . Windfall profits or losses occur, and the price level rises above or falls below the cost of production.

The equations, therefore, only express a truism, like any other equation of exchange. The virtue of the truisms, which equations of exchange reflect, is entirely dependent on the success with which they throw into relief the causal factors at work. Now this is what Keynes claims for his equations. But the definition of E which he gives necessarily brings it about that the second term can only *reflect* a change in prices, and precludes the second term from displaying the causal factors at work. This is so because, when entrepreneurs experience losses, they do not receive their full normal income. Since savings, S , are defined as the sum of the differences between the normal money incomes (E) of individuals and their actual expenditure on current consumption, the amount by which their actual incomes fall short of their normal incomes is a part of savings (S). Thus entrepreneurs' losses are, by definition, savings. Whenever they experience losses, savings increase, the second term of the equation becomes negative, and prices are lower than costs. But whatever is the cause of disequilibrium in the price-cost structure is surely the cause of this fall in prices. The cause is not an excess of savings. The excess of savings just reflects the fall in prices. The analysis of the causes of the fall should concentrate upon the causes of the disequilibrium of prices and costs. To attempt to accomplish this by analyzing the forces behind the decisions of savers to save, and the decisions of entrepreneurs to invest, is to assume that the losses which

constitute a part of savings are due to a voluntary decision on the part of the entrepreneurs to save. It is this that Keynes does, when he insists that his equations usefully display the causal forces at work. To sum it up in the words of Mr. Hawtrey,⁷ “. . . a difference between savings and investment cannot be regarded as the cause of a windfall loss or gain, for it is the windfall loss or gain.”

One thing clearly does result from the inquiry which Keynes undertakes into the motives behind the decisions. This constitutes a considerable clarification in business-cycle theory. Keynes succeeds in making clearer than others have done the part played by hoarding in the business cycle. The decision of a saver to save is not enough. It is necessary for him also to decide the form which his savings shall take. Sometimes the decision is to hold the savings in the form of capital goods, or securities; sometimes it is to hold the savings in a more liquid form, that is to say in the form of savings deposits. “The curve, representing the relative preference of capital owners for savings deposits and other capital assets respectively . . . in which the abscissa measures the quantity of hoards held when the price of non-liquid assets in terms of liquid assets (or hoarded money) is given by the ordinate” is what Keynes calls the “propensity to hoard,” or the “degree of bearishness.” It is as necessary carefully to distinguish this conception from the actual volume of hoards (or savings deposits) as in the theory of value we must dis-

⁷ See *The Art of Central Banking* by R. G. Hawtrey, p. 349. Hawtrey points out that it is not until prices have changed that any disequilibrium occurs in *I* and *S*. The first shock of a change in demand is borne by stocks, and prices are not changed. So that while the disequilibrium is already beginning to show itself in large stocks, *I* and *S* still balance. On the basis of this he seeks a less rigid interpretation of Keynes by abandoning entirely the fundamental equations, and redefining investment and saving as capital outlay and unspent income. Capital outlay differs from investment in that it does not include the involuntary increases or decreases of stocks above normal. It is a very dynamic concept, and may prove very useful for the analysis of particular questions at certain stages of the business cycle.

tinguish a demand curve from demand in the sense, that it so often has with laymen, of the quantity of goods bought. The quantity of hoards which the public will hold will vary with the price of investment goods and with the propensity to hoard. The banking system in Keynes's view is able to control the volume of savings deposits. Adjusting this to the bullishness and bearishness of the public, it is able to enter into the situation as a controlling factor.

If the public and the entrepreneurs are anxious to hold their savings or their profits in a liquid form, that is to say, in savings deposits, the banking system is able to nullify this by increasing the volume of these deposits and itself offsetting the bearishness of the public by purchasing the securities which the public is now less ready to hold. Admittedly, in times of deep depression, an expansion of new investment is not easy to bring about. It is for this reason that Keynes regards more direct stimulation of investment as a necessary part of the remedy in such times.

The precise role of the banking system is, however, not entirely clear in Keynes's analysis. In particular, he seems to have failed satisfactorily to relate changes in the *effective* supply of money— MV in contrast to M in Fisher's terminology—to changes in the two terms of his equations. He argues that, even in a progressive society, the price level can be stabilized by equalizing saving and investment. But it is not clear how both these ends could be achieved, since the attempt to stabilize investment and saving would tend to hold the effective supply of money constant.

The introduction of new bank money into the economic system must take place through entrepreneurs or through consumers. If the former (and surely this is by far the most important case), the funds advanced are used generally for investment. It thus seems reasonable to suppose that in this case new bank money, except insofar as it is offsetting

changes in velocity, will produce investment without saving, or, in other words, will produce disequilibrium in the second term. In Hayek's terminology forced saving will have taken place. If, on the other hand, the new money finds its way into the system through the consumers—and it seems necessary to suppose that Mr. Keynes believes something of this sort ⁸—it may be argued that this does not *directly* affect investment. But, as was shown in the chapter on Hayek, the indirect effect of such an increase is that producers, spurred on by the enlarged profits which the higher prices of consumer goods will now make possible, will seek to expand their borrowings at the banks, and if they succeed this will lead to disequilibrium of investment and saving. Moreover, an increase in the loans to consumers would raise the value of consumers' goods (*PR*) and so, from Keynes's definition of savings, would necessarily cause *S* to decline unless there is a simultaneous increase in *E*.

These considerations suggest the relationship of changes in the effective supply of money to windfall profits and losses. In the prosperity phase of the cycle, forced savings are equal to Keynes's windfall profits, in which case we have investment equal to forced saving plus voluntary saving, or in Keynes's terminology $I = Q + S$. For, so long as windfall profits are being made, there is no distinction between Keynes's *S* and voluntary saving. The windfall profits are the result of forced saving arising from an expansion of the effective money supply. In the depression phase of the cycle, however, when windfall losses are sustained, Keynes's *S* equals voluntary savings plus Keynes's windfall losses. Windfall losses result from prices falling below costs, and this is occasioned by a contraction in the effective money supply.

How then shall we appraise Keynes's work? If we adhere rigidly to Keynes's definitions of investment and saving, we

⁸ See *Economica*, November, 1931.

encounter difficulties. If we discard the definitions, as very often Keynes himself seems to do, and interpret investment and saving in accordance with generally accepted terminology, the equations then fall to the ground. Yet, when this is done, we often find suggestive and helpful analysis. The position which Keynes's book seems to us to hold may perhaps be made clear if we compare it to another masterly work. Without making any absolute comparisons, we may liken it in some respects to *Das Kapital* of Karl Marx. Here is a work which plowed deeply into ground only lightly dug before, which did so inadequately by developing a fundamentally incorrect theoretical structure, and yet withal a work which contained a multitude of correct ideas, greatly obscured by the unsatisfactory nature of the foundation, yet offering a host of illuminating suggestions. Both the truth and the error have been used by ardent protagonists in the political arena to support practical policies in which they believe. The likeness of the *Treatise on Money* to *Das Kapital* in all these respects is striking.

The errors in the fundamental analysis, moreover, do not lead Keynes into so dangerous a program of practical policy, so far as the control of credit is concerned, as that to which Hayek is forced. For, though Keynes reads into his criterion the equalization of saving and investment, he really has in mind, as he clearly states, the stabilization of a price level. In our view, his program in this regard is too rigid, and fails to take due cognizance of the needed flexibility which moderate cyclical price movements provide.⁹ Yet at many points he is ready to give full weight to the frictional forces which are encountered in real life. Thus it is that he advances as one of the virtues of the standard he finally adopts, that it would have the effect of gradually reducing the obli-

⁹ See my *Economic Stabilization in an Unbalanced World* (Harcourt, Brace and Company, 1932), Chapter XX.

gations arising out of past borrowing. This touch with reality, of which Mr. Keynes frequently gives evidence in the practical application of the equations, animates a large part of the second volume, and helps him to avoid dangers on many occasions.

But there are other directions in which the errors in the fundamental analysis have strewn the path with many pitfalls. This is particularly true when he treats of the artificial stimulation of investment by various governmental devices. It is here that it is necessary, as Hayek suggests, to pay more thorough attention to the tendencies which the equilibrium analysis of static economics makes clear, and to warn against the mechanistic applications of Keynes's formulae to practical policies. His equations are in danger of being used as a kind of slot machine into which one may insert a question and draw out the correct answer. Tested by the second term of the equations, it becomes too simple a matter to judge the value of various remedies for depression. There is thus danger that absurd conclusions may be arrived at with respect to governmental deficits, tariff policies, buy-now campaigns, and unemployment doles. There is a great danger in selecting certain formulae that do not form a closed determinate system, and applying them mechanically to the complex phenomena of economic life. In so doing one is apt to overlook the indirect effects of the program under consideration. One might assume that a tub, full to the brim, would weigh still more were a block of ice placed in the water. The total weight would indeed have been greater were it not that the addition of the block displaced an amount of water weighing precisely the same as the block. So it is with the magnitudes of economic phenomena, whose effect on prosperity or depression we seek to assess.

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