Keynesian...
Chaos

AXEL LEIJONHUFVUD

Keynes and the Classics

TWO LECTURES ON KEYNES'S CONTRIBUTION
TO ECONOMIC THEORY

AXEL LEIJONHUFVUD

Associate Professor of Economics

University of California, Los Angeles

First published July 1969
Second Impression August 1970
Third Impression December 1971
Fourth Impression December 1974
Fifth Impression April 1976
Sixth Impression May 1977
Seventh Impression July 1981

Published by
THE INSTITUTE OF ECONOMIC AFFAIRS
© 1969

CONTENTS

[3]

Foreword

As part of its educational purpose in explaining economic theory to students of the subject and laymen, the Institute reprints as *Occasional Papers* essays and lectures judged of interest to a wider audience than that to which they were originally addressed.

Occasional Paper 30 reproduces two lectures delivered by Professor Axel Leijonhufvud at the London School of Economics on 10 and 11 March, 1969, in connection with the publication in Britain of his book *On Keynesian Economics and the Economics of Keynes*.

The lectures are reproduced as delivered except for references and other material added in footnotes and for amplification of the second half of the second lecture. Together they comprise a reappraisal of the work of John Maynard Keynes and the discussion of it between what are called Keynesians and non- (or anti-) Keynesians.

Professor Leijonhufvud provides the reader with an engaging combination of scholarly erudition and wit in deft deployment of the English language.

Keynes' book that was supposed to have revolutionised economic thinking in 1936, *The General Theory of Employment, Interest and Money*, was written primarily for economists rather than for laymen, and Professor Leijonhufvud's lectures vary from simple exposition of essentials that will be understood by laymen to more abstruse matters directed specifically at economists.

Professor Leijonhufvud's lectures come at a time when there is increasing reaction against Keynesian doctrine, or at least what Keynesians have thought or said that Keynes meant. They strengthen the view that the Keynesians went too far in supposing that the old economics had been overthrown by the new, and in this sense they rehabilitate both classical economics in a modern form and also Keynes as a theorist who added an important development to it, although 'the Keynesian Revolution' began and stayed on a wrong track partly because of Keynes' polemical presentation.

Students and teachers of economics, and non-economists who

have been reared on simplifications or over-simplifications of Keynes, will find much stimulus to thought in Professor Leijonhufvud's lectures.

June 1969   EDITOR

The Author

S. AXEL B. LEIJONHUFVUD[1] was born in Stockholm in 1933. He studied at the Universities of Stockholm and Lund in Sweden, and at the University of Pittsburgh and Northwestern University in the United States. In 1963-64 he was a Brookings Fellow at the Brookings Institution in Washington, DC. Since 1964 he has been teaching at the University of California, Los Angeles (UCLA), where he became Associate Professor in 1967. In the Winter Term of 1969 he was Visiting Professor at the Stockholm School of Economics.

Dr Leijonhufvud's main interest is in monetary theory and his publications have dealt primarily with the economics of John Maynard Keynes. His book *On Keynesian Economics and the Economics of Keynes* was published in the United States by Oxford University Press in November 1968. He has also published two articles on related themes: 'Keynes and the Keynesians: A Suggested Interpretation', *American Economic Review*, May 1967; and 'Keynes and the Effectiveness of Monetary Policy', *Western Economic Journal*, March 1968.

---

[1] It may help English-speaking readers to know that the author's forbidding surname is translated as 'Lion's-head'.—ED.

[6]

First Lecture

I

INTRODUCTION

THE FULL title of my recent book is *On Keynesian Economics and the Economics of Keynes—A Study in Monetary Theory*. It may indicate to you that I am not a man of few words. Accordingly, I have been invited to summarise it. The invitation, I hope, means that it is felt that the book 'hits a few nails on the head'. The invitation specifically to summarise, I fear, means that it is also felt that it contains a distressing lot of fumbling about for the hammer. So, in the time available to me here, I will have to wield my hammer with more abandon. If this leads me to overstating my case on some points, I must refer you to my book for a better documented and, hopefully, more well-balanced treatment.

I have come here directly from Sweden, where one of the favourite topics of gossip among economists concerns the award of the first Nobel Prize in Economics. So, I will begin by asking you to consider this question: if John Maynard Keynes were alive today, whom would you nominate for the Prize?

Keynes' role in 20th-century economics?

The question is, of course, merely a cheap attempt on my part to make you consider the topic of my two talks as fresh and alive in some measure, and not just as a mouldy, doctrine-historical subject. Rhetorical tricks are, perhaps, not required today in order to make economists consider Keynes' role in 20th-century economics. When I made the decision, some years ago, to write my doctoral dissertation on Keynes, all had been quiet on the Keynesian front for quite some time. *Ex ante*—to be terribly Swedish about it—I had to worry about whether anyone would care to read it. *Ex post*, I have experienced the curious feeling of having been part of a rather sudden and mysterious (since altogether unco-ordinated) outpouring of ink on a subject where it seemed, not so long ago, that the wells had finally run dry.

In recent years, we have had Hutt's *Keynesianism: Retrospect and Prospect;* Lekachman's *The Age of Keynes;* Stewart's *Keynes*

and After. Roll's *The World After Keynes* and Hutchison's *Economics and Economic Policy in Britain, 1946-1966* also devote considerable space to Keynes' influence on the formulation and execution of stabilisation policies in the post-war world. Shackle's *The Years of High Theory* and Hicks' *Critical Essays on Monetary Theory* are in large measure concerned with Keynes' contribution to economic theory.[1]

Time magazine in the United States and *Encounter* in the United Kingdom have both discussed 'whether we are all Keynesians now'—and, if so, in what sense. Not a very useful query, perhaps; that it is asked at all is, at any rate, testimony in Keynes' favour that seems relevant to my initial—and equally specious—question. Consider also some of the titles above: *The Age of Keynes, Keynes and After, The World After Keynes*. Try substituting the name of some other 20th-century economist for that of Keynes . . .

There can be no doubt, I think, that Keynes is generally recognised as the predominant figure among economists of this century. Yet I submit that there is still, more than two decades after his death and more than three decades after his *General Theory*, considerable uncertainty about exactly why he occupies this position. Wherein lies his greatness—not as a man of many achievements in diverse fields—but specifically as an economist, and preferably as an economist's economist? If we are quite clear on what our subject is all about, where it has been, and where it is going, this is a question to which we should have a clear answer. Yet, to return to my hypothetical question: if you had to write the harangue motivating the posthumous award of the Nobel Prize to Keynes, what exactly would you say?

'Keynesianism' is a rather amorphous 'movement' or 'school'. The significance of its influence may be considered under at least three different headings: (i) economic theory, (ii) economic policy, and (iii) socio-political ideology. In my book I concentrate almost exclusively on the first topic—Keynes' contribution to

---

[1] W. H. Hutt, *Keynesianism: Retrospect and Prospect*, Henry Regnery, Chicago, 1963; Robert Lekachman, *The Age of Keynes*, Random House, New York, 1967; Michael Stewart, *Keynes and After*, Pelican Original, Penguin Books, 1967; Sir Eric Roll, *The World After Keynes: An Examination of the Economic Order*, Pall Mall Press, 1968; T. W. Hutchison, *Economics and Economic Policy in Britain, 1946-1966: Some Aspects of Their Interrelations*, Allen and Unwin, 1968; G. L. S. Shackle, *The Years of High Theory: Invention and Tradition in Economic Thought, 1926-1939*, Cambridge University Press, 1967; Sir John Hicks, *Critical Essays in Monetary Theory*, Clarendon Press, Oxford, 1967.

theory. I have nothing to say on the third. (Indeed, I doubt that anything very sensible can be said about it.) But it is not just under this heading, but under the other two as well, that matters are complicated because the propositions, prescriptions, and opinions frequently advanced as 'Keynesian' bear little relation to Keynes' views.

II

ECONOMIC STABILISATION

LET US first consider the significance of Keynes' contribution to economic stabilisation. The plea in his behalf is well-known. One finds it developed, for example, in the books by Lekachman and Stewart; I need not paraphrase it here.

All along, however, there have been some demurrers. If, indeed, we grant weight to all such reservations, the case for Keynes is not clear-cut.

Keynes was not alone

A sampling of the debates on policy in the thirties shows that Keynes, although certainly a most prominent participant, was very far from alone, either in opposing general wage-cuts and budget balancing or in pressing for budget deficits and public works. As the valuable Appendix to Professor Hutchison's recent book amply documents, Keynes had the vast majority of influential academic economists actively with him on all these issues. Professor Pigou was a particularly important ally. (It was, of course, at the London School of Economics that Keynes' opponents were concentrated.) Professor J. R. Schlesinger has emphasised that opposition to a policy of general wage-cuts was quite widespread in the United States at the time, both among policy-makers and economists.[1] Policies that we have later come to label 'Keynesian' were actively advocated by Swedish economists from the very beginning of the depression and, in the United States, by Professor Jacob Viner and his colleagues at Chicago.[2] It is understandable that the infamous 'Treasury View' looms large in British accounts of Keynes' efforts in this period, but it may at least be questioned

[1] J. R. Schlesinger, 'After Twenty Years: The *General Theory*', *Quarterly Journal of Economics*, November 1956.
[2] J. R. Davis, 'Chicago Economists, Deficit Budgets, and the Early 1930s', *American Economic Review*, June 1968.

whether it was held anywhere outside London. The *General Theory* has been given much credit for disposing of it. Yet it was not an orthodoxy among economists. As Professor Hutchison points out, Pigou had attacked it before the First World War.

It is not my intention to minimise Keynes' contribution. But if one is to be historically accurate (and fair to his contemporaries) one must note that in these debates on policy he did not loom head and shoulders over them in the way that we have become used to thinking of him.

It is a far step, furthermore, from Keynes' advocacy of public works to the full-blown fiscal policy theory of the New Economics. One cannot deny Keynes the role of patron saint to those who have built this corpus of theory, but neither can he be given full credit—or responsibility—for it. Sir Roy Harrod is, in my opinion, quite right in pointing out that there are important elements in 'modern' thinking on stabilisation policy that are anti-Keynesian—in the strict sense of the term.[1]

'Keynesian' policies—how large the benefits?

The final questions under this heading are the most difficult of all and concern the benefits that society has derived from 'Keynesian' economic policies. On this topic, one still hears echoes of the stagnationist Keynesian view of the 'forties. From the perspective of the stagnationists there was but one way to save the world—and Keynes invented it. Today, however, we have a very different understanding of the economic events of the two inter-war decades from that of the early 'Keynesians'. We do not view the Great Depression as due to an 'exhaustion of investment opportunities' or other inexorable 'real' forces.

Following the work of Friedman and Schwartz and other American neo-quantity theorists, we no longer regard the worst banking panic of all time as just incidental to the worst depression.[2] We have known all along, of course, that it was not 'Keynesian' fiscal policies that brought us out of the depression. Sad to record, Schickelgruber did it. But the 'monetarist' re-examination

[1] Sir Roy Harrod, 'Are We Really All Keynesians Now?', *Encounter*, January 1964.
[2] Cf., e.g., Milton Friedman and Anna Schwarts, *A Monetary History of the United States, 1867-1960*, Princeton, 1963, Chapter 7; Karl Brunner and Allan Meltzer, 'What did we learn from the Monetary Experience of the United States in the Great Depression?', *Canadian Journal of Economics*, May 1968.

of the historical period out of which Keynesian economics emerged all-triumphant also raises the question of what it would have been like had not first the international monetary system and then the domestic monetary system of the United States (in particular) broken down.

It is a terribly hypothetical question, of course. But it is a serious and important question nonetheless which, once raised, suggests another one that strikes closer to home. To what extent is the relatively favourable unemployment record of the post-war years due to the use of the ever-growing armoury of fiscal instruments? It is part and parcel of the conduct of economic policy that one takes credit for whatever goes well, while what does not go well (a) was inevitable, and (b) would have been still worse but for one's brave efforts against impossible odds. Nor are we economists, as a profession, loath to have the public feel thankful for modern macro-economics. But it is really not at all easy to come to a well-founded judgement on how much the industrious manipulation of fiscal instruments has contributed. Here one does not need to turn to the neo-quantity theorists in order to be cautioned against exaggerated claims—although they certainly stand ready to supply abundant material for the purpose. The question has recently been considered by Professor Matthews.[1] His Paper was originally delivered before this audience so that I need not dwell on his argument here.

At the very end of my second lecture, I will have a comment or two of my own that I consider of some relevance to this question, since they pertain to the concept of the 'government expenditure multiplier'. But, that apart, I will leave this line of inquiry in abeyance. I have given what is, at best, only a cursory sketch of the kind of critical arguments that could be marshalled against Keynes. No amount of elaboration would make one deny that he is a major figure in the development of methods of economic stabilisation. My only intention with this sketch has been to indicate that, were we to judge him on these grounds *alone*, he would not loom larger than life-size—as we are wont, perhaps, to regard him.

That stature we accord him, of course, because of his *General Theory*. But, then, the *General Theory* was not at all a treatise on

[1] R. C. O. Matthews, 'Why has Britain had Full Employment Since the War?' *Economic Journal*, September 1968.

stabilisation policy. There is very little on that topic in it. It is a theoretical work. So, if we grant Keynes a greatness of a different order from that of other economists of his or our time because of this work, we should do so on the basis of his contribution to economic theory.

III

ECONOMIC THEORY

WE COME then to the real question—Keynes' contribution to theory. The truth is, however, that he is no longer universally acclaimed as a major theoretical innovator. We cannot award our hypothetical Nobel Prize to a man just because of the 'sound and fury' his works have generated. So the basis of the modern negative evaluation of Keynes' theoretical contribution needs to be examined. This is my objective from here on.

The 'neo-classical synthesis'

The negative conclusion is embodied in what has become known as the 'neo-classical synthesis'. The term 'synthesis' indicates the main contention, namely, that Keynes' theory is in the end quite consistent with inherited theory—with the theory that he labelled, and attacked as, 'classical'. Consequently, it is regarded as containing no major innovation.

The neo-classical synthesis was the result of a long and exceptionally voluminous debate. That it was long is no cause for surprise, even if one agrees with the result, for Keynes' theory was couched in terms of an analytical apparatus quite different from the traditional one. The 'Keynes and the Classics' debate may be regarded as spanning at least some 20 years—from Hicks' 1937 paper with that title (and more or less simultaneously appearing papers by Reddaway and Meade) to the first edition of Patinkin's *Money, Interest, and Prices* (1956) or, perhaps, to the Hicks-Patinkin exchange in the *Economic Journal* that followed.[1] Things have been pretty quiet since then.

[1] J. R. Hicks, 'Mr Keynes and the "Classics": A suggested Interpretation', *Econometrica*, April 1937; W. B. Reddaway, 'The General Theory of Employment, Interest, and Money', *Economic Review*, June 1936; J. E. Meade, 'A Simplified Model of Mr Keynes' System', *Review of Economic Studies*, February 1937; Don Patinkin, *Money, Interest, and Prices*, 1st edn., Evanston, Ill., 1956, 2nd edn., New York, 1965; J. R. Hicks, 'A Rehabilitation of "Classical Economics"?', *Economic Journal*, June 1957; Don Patinkin, 'Keynesian Economics Rehabilitated: A Rejoinder to Professor Hicks', *Economic Journal*, September 1959.

We have to hop, skip, and jump in a fairly arbitrary way through these years of literature. In the contributions that concern me fairly definite ground-rules for the debate have been observed. Basically these comprise use of a static, simultaneous equation model of the type proposed by Hicks in 1937. Each discussant is equipped with

(1) a consumption- (or savings-) function,
(2) an investment function,
(3) a saving-equals-investment condition,
(4) a money demand function,
(5) an exogenous money supply,
(6) an equilibrium condition for money,
(7) an aggregate production function, from which is derived
(8) a labour demand function,
(9) a labour supply function, and—depending upon whether Keynes or the 'Classics' is the immediate concern—
(10a) a given money wage level, or
(10b) an equilibrium condition for labour.

Optional equipment includes equations for government expenditures and receipts, exports, and imports, etc. It is understood that the system contains a 'securities', 'credit', or 'bond' market, although equations for that market need not be represented.

The ground rules also comprise the formulation of the problem to which the apparatus is to be applied: Keynes' model will settle down to an unemployment situation—which Keynes chose to call an 'unemployment equilibrium'—and the Classic model cannot. Whatever exactly 'Classics' is agreed to mean, the 'Classic' model cannot. So this is taken to be *the* difference between Keynes and the Classics that needs to be explained.

Keynes criticised the 'Classics'—among whom he insisted on giving a prominent place to his most valuable ally in the policy debates of the immediate past, Professor Pigou—on numerous points and he also made several assumptions that were not the 'standard' classical ones.

The critical assumptions

Consequently, the question of the debate was: Which assumption is, or what assumptions are, *critical*—in the sense of being both

[13]

necessary and sufficient—in accounting for the 'fundamental difference' between Keynes and the Classics.

Consider first how the issue looks from the perspective of Professor Franco Modigliani's famous 1944 paper, 'Liquidity Preference and the Theory of Interest and Money'.[1] Modigliani used the basic model to resolve numerous issues, but here we are only interested in two of his exercises with it. We can call these two the 'basic' and the 'special' case, respectively.

A. The basic case

Consider two sets of equations side-by-side, both representing systems with four goods—commodities, bonds, money, and labour. One—the 'classical'—has demand and supply equations for commodities, money, and labour, *and* equilibrium conditions for each of the three, including labour. The other one—the 'Keynesian'—should have the restriction $w = \bar{w}$, in place of the condition $N^s(w/p) = N^d(w/p)$.

The classical equation system we can solve, getting full employment, a corresponding equilibrium real wage, $\widehat{w/p}$, and also the equilibrium interest rate, $\hat{r}$. Given the specified value for the money supply—$M^s = \bar{M}$, we also find the money values for the price level and wage rate, $\hat{p}$ and $\hat{w}$, the ratio of which is the full employment real wage.

Assuming that this solution is unique, it follows that, if we add the restriction $w = \bar{w}$, where w is chosen so that $\bar{w} > \hat{w}$—say, for simplicity, $\bar{w} = 2\hat{w}$—the system will not have a full employment solution. Indeed, it will not have any solution, but that we can take care of by changing the equations for the labour market. We specify that, for $(\bar{w}/p) > (\widehat{w/p})$, the short side of the market (i.e., the amount of labour demanded) determines the amount actually exchanged (employed). The only use left for the labour supply function is then that it enables us to find out the amount of unemployment. We have then arrived at the 'Keynesian' model.

Comparison of the two systems immediately indicates that, if money wages were only 'free' to fall—in response to the excess supply of labour—from $\bar{w}$ to $\hat{w}$, all would be well. Hence the

[1] *Econometrica*, January 1944. The page reference below is to the reprint in F. A. Lutz and L. W. Mints (eds.) *Readings in Monetary Theory*, Philadelphia, 1951.

conclusion is that the critical assumption in Keynes' 'basic case' is that *wages are rigid*.

The conclusion may be somewhat amplified. The initial 'classical' set of equations exhibits 'neutrality of money', i.e., the solution values for all 'real' variables would be the same no matter what value is given to the nominal supply of money, M. Consequently, had we had twice the amount of money, when first solving the system, we would have had the same values for employment (namely 'full' employment), output, consumption, investment, 'real' money holdings, and real wage, but with $p = 2\hat{p}$ and $w = 2\hat{w}$. If, then, the trouble with the 'Keynesian' set was that, with $M = \overline{M}$, $w = 2\hat{w}$ 'caused unemployment', setting $M = 2\overline{M}$ will give us full employment for the equation system containing this 'Keynesian' restriction on the value of the money wage.

Hence, we get the conclusion in the form that Modigliani put it:

'The low level of investment and employment are both the effect of the same cause, namely a basic maladjustment between the quantity of money and the wage rate.'[1]

In our little example, this maladjustment can be removed, so as to get a full employment solution, either by cutting the money wage in half, or by doubling the money stock.

B. The special case

Consider once more the solution to the 'Classical' set of equations. In 'Keynes' special case' we again look at the consequences of adding a restriction to the system. This time, however, instead of specifying a money wage higher than the equilibrium wage of the 'Classical' solution, we focus on the possibility of having to make do with a rate of interest higher than its 'Classical' solution value, $\hat{r}$.

It is allowable here to write the consumption, investment, and money demand functions in 'real' terms. From the consumption function we obtain directly a function for real saving, $S = S(X,r)$, which we juxtapose against the simple investment function, $I = I(r)$. Let $X = X^f$ be the rate of real output required for full employment, and focus on the savings-interest rate schedule, $S(X^f,r)$, that corresponds to it. In the original 'Classical' solution,

[1] *Op. cit.,* pp. 224-25.

the condition that $S(X^f, r) = I(r)$ defines the equilibrium interest rate, $\hat{r}$.[1]

If we now add the restriction that $\bar{r} > \hat{r}$, we will again have no full employment solution. Indeed, if we just added an equation specifying this restriction, the system would have no solution at all. (We have assumed that the 'Classical' solution was unique.) Before, in the 'basic case', we took care of that by eliminating the equilibrium condition for the labour market. Here, we do not eliminate the equilibrium condition for the 'hidden' securities market. Instead, we do two things. First, the restriction is introduced, not by adding a separate equation, but by specifying the form of the money demand equation such that, at $\bar{r} > \hat{r}$, we have a so-called 'Liquidity Trap'. This gets us rid of the possibility of having an 'unremovable' excess demand for bonds at the above-equilibrium interest rate, since the import of the 'trap' is that current owners of outstanding bonds stand ready to supply from their inexhaustible holdings—in order to hold money instead. Secondly, in order to assure ourselves of a solution, the labour market equilibrium condition has to go again. This time, however, the money wage can be left a 'free' variable—there will still be no full employment solution.

We find that here it is no longer true that changing the relation that the money wage rate holds to the nominal money supply will get us out of trouble. Changing M^s will, by assumption, neither depress $\bar{r}$ to $\hat{r}$, nor will it cause either the investment function or the saving function to shift in such a way that the saving people would like to undertake at full employment income becomes equal to planned investment at $r = \bar{r}$. Falling money wages will allow money prices to fall in the same proportion, but this has no other effect than increasing the real value of the money stock—and we have already checked that that does nothing.

C. The real balance effect and the elimination of the special case

The next step is to add to the analysis the 'effect', named after Pigou, but for which Haberler and Scitovsky also share honours.

[1] Parenthetically, we should not forget that 'a special case of the special case' has figured rather prominently in the discussion. It is the case which Pigou called 'Keynes' Day of Judgement'. In it, it is assumed that the 'Classical' solution—and, again, it is unique—gives a *negative* value for the interest rate. Thus, the only algebraic solution is not an economically meaningful one. The possibility explored is one of the non-existence of equilibrium.

[16]

The argument which concerns us here is found already in a famous paper by Patinkin from 1948.[1]

Put briefly, the argument is the following: In systems where (a) changes in the general level of money-prices and -wages affect the real value of some component of consolidated net worth, and (b) the propensity to save out of any given rate of income depends inversely on real net worth, a large enough all-round deflation will restore full employment even in a system that has fallen into a 'liquidity trap'. The first property, (a), will be exhibited *inter alia* by all systems where some component of the money stock is made up of so-called 'outside' money. The second property, (b), we should accept on general choice-theoretical grounds.

Consequently, the 'special case' is, for all purposes, eliminated. Since it is shown that a sufficient reduction of wages (and thus prices) will result in full employment, we are left with only the 'basic case'. The *critical* assumption in Keynes' theory, it is concluded, is that wages are *rigid downwards*.[2]

D. The last skirmish

Any pre-Keynesian economist, asked to explain the phenomenon of persistent unemployment, would automatically have started with the assertion that its proximate cause must lie in too high wages that refuse to come down. If, then, we are left with the 'basic case', we are forced to conclude that Keynes added absolutely nothing new to the 'pure' theory on this problem. It is an astounding conclusion. But we must be quite clear on one thing—the logic behind it is remorseless; the conclusion is mathematically *inescapable*—given the ground-rules of the analysis.

The Hicks-Patinkin exchange of 1957-59 may have been the last straw in convincing 'Keynesians' of this. In reviewing Patinkin's book, Hicks started by noting that the idea of something going wrong with the adjustment of the long-term rate of interest seemed quite fundamental to Keynes' conception of the causes of

[1] Don Patinkin, 'Price Flexibility and Full Employment', *American Economic Review*, 1948, reprinted in Lutz and Mints (eds.), *op. cit.* The full integration of this effect into systems of the kind we are discussing was achieved in Patinkin's 1956 book.
[2] It has been argued from certain passages of *The General Theory* that Keynes himself based the wage-rigidity property of his model on the assumption that workers were money-illusioned. I do not agree with that interpretation. In any case, most later Keynesians have emphasised the 'monopolistic' behaviour of unions and the 'administered pricing' practices of large firms instead.

unemployment. He went on to complain that Patinkin's exegesis did not at all give prominence to this idea. Now, Hicks' intuitive understanding of Keynes' theory was eminently sound on this point—but, in working the argument out, he followed the same static equation-system ground-rules that we have followed here. This meant that, in effect, he ended up restating the 'special case' in a somewhat more elaborate way. Patinkin was then able simply to point out that he had overlooked the real-balance effect in the saving function.

Hicks' failure to overturn the argument that reduces Keynes' theory to the trivial special case of Classical theory where money wages are rigid seems to have been virtually the last rear-guard action of those Keynesians who have tried to maintain a place for Keynes on this lofty plane of abstraction.

IV

KEYNES: A THEORETICAL CHARLATAN?

I HAVE, of course, picked somewhat arbitrarily from the welter of arguments that make up the 'Keynes and the Classics' debate. The appraisal is more complicated than this—especially because of the accommodation that has been reached between the theoretical neo-classicists and the practical, policy-oriented Keynesians. They agree that wages *are* rigid 'in the real world', and that the Pigou-effect, therefore, remains a theoretical gadget that one could not lean on to solve real unemployment problems. In discussion of 'practical issues', consequently, the 'special case' has acquired a second life. Removed from the lofty level of theoretical abstraction, the 'pragmatic' version of the 'special case' has become less precise in its propositions, less definite in outline— just enough so, one would say, that the 'pure' theorists can be expected to leave its practitioners alone and not come poking about again. The liquidity trap is not spoken about as absolute—it is just that the interest-elasticity of money demand is likely to be very high[1] just when you wish it was not. A negative rate is not spoken of as required for making investment equal saving at full employment income—it is just that saving and investment are

---

[1] i.e., the demand for money is likely to be very responsive to changes in rates of interest.

likely to be very interest-inelastic,[1] so that 'practicable' reductions of interest rates will not be of much help. Thus, 'for practical purposes', we have the same conclusions that, 'in theory', apply only to the original 'special case'—for example, that increasing the supply of money will not help you. (Well, in principle, it will—it is just that you had better not trust it.)

This seems to be the kind of shadow-life that Keynes' theory leads. Properly speaking, there is no such theory. Not one that could serve for your advanced graduate theory courses, at any rate. But there is this 'apparatus' (of which you do not speak to your theorist friends for fear of being sneered at), which serves so admirably in the proper care and feeding of undergraduates.

So, having descended to greet Keynes' shadow in the Hades of undergraduate instruction, we should return to the Light that is our preferred habitat as proper theorists. The purely theoretical appraisal of Keynes can stand some further reflection.

'Trivial manipulations'?

It is, after all, not just that the interpretation I have sketched makes Keynes' theory trivial. Although those who hold to it have been much too polite to say so, this interpretation—if we do, indeed, take it quite seriously—makes of Keynes himself a charlatan who hid his trivial manipulations in fogs of words on irrelevant topics. Consider a few of the things to which Keynes devoted pages and whole chapters in (apparently) trying to divert his readers' attention:

(a) The 'basic case' makes no use of Liquidity Preference. It is irrelevant to the analysis whether the interest rate enters into the money demand function or not. It follows, of course, that the bulls and the bears and the games 'of Snap, of Old Maid, of Musical Chairs' that they play on the exchanges, as well as the troublesome 'Essential Properties of Money'—all these favourite themes on which Keynes spent some of his best literary effort—do not matter either.

(b) The beloved 'Multiplier' does not figure in the 'basic case' either. We do not need it to explain unemployment. Keynes' all-out attack on Say's Law of Markets turns out to have

[1] i.e., saving and investment are likely to be very unresponsive to changes in rates of interest.

been as irrelevant as the rest of his critique of 'Classical' theory.[1] The Pigou-effect literature sheds a most unfavourable light on the early chapters of the *General Theory* where Keynes' main assault on the 'Classics' is launched. As Professor Samuelson has said:

> 'Had Keynes begun his first few chapters with the simple statement that he found it realistic to assume that modern capitalistic societies had money wage rates that were sticky and resistant to downward movements, most of his insights would have remained just as valid . . . '[2]

(Again, Samuelson is also too polite to point it out—but we have just found out—that for all 'purely theoretical' purposes, Keynes would, apparently, have been well advised to *end* right at that point too. On matters of theory, what did he have to add?)

(c) If the consumption function is not needed for the 'Multiplier', it is not needed at all. It, the investment function, and the saving-investment equality are just a funny way of writing the equations for commodity demand and equilibrium in the commodity market. They are better dispensed with, as in Patinkin's book, so that one is not distracted by Keynes' 'talk' about saving-investment 'problems' or by poetic images of 'the dark forces of time and ignorance that envelop our future'.

From the theoretical point of view, then, the consumption function and the Multiplier, Liquidity Preference and the Speculative Demand for Money, the saving-investment problem, and all the criticism of the Classics *are* just so much 'sound and fury signifying nothing'. So there!

General Theory check-list

We have given a partial list of the propositions that loom large in the *General Theory* but that seem irrelevant from the standpoint of the neo-classical appraisal of Keynes' contribution. We should

[1] The one, utterly trivial, exception would be his rejection of what he called the 'second classical postulate', i.e., the proposition that the marginal disutility of the existing amount of employment will equal the real wage. This proposition must naturally be relinquished in order to analyse unemployment situations.
[2] Paul A. Samuelson, 'A Brief Survey of Post-Keynesian Development', in R. Lekachman (ed.), *Keynes' General Theory: Reports of Three Decades*, Macmillan, New York and London, 1969, p. 332.

also turn this around and consider a partial list of the propositions that have played a significant role in the 'Keynes and the Classics' debate, and check what role they play in *The General Theory*:

(1) Labour suffers from money illusion.

—It is *not* in the *General Theory*.

(2) The labour market is dominated by unions that refuse to see money wages reduced.

—It is *not* in *GT*.

These were the two alternative explanations for why wages are rigid found in the Keynesian literature. And, indeed, when we check:

(3) Wages are rigid.

—It is *not* in *GT*.

(4) The trouble is that wages are too high.

—It is *not* in *GT*.

(5) The trouble is that the interest rate is too high.

—It *is* in *GT*.

(6) The Liquidity Trap.

—It is *not* in *GT*.

(7) Investment is interest-inelastic.

—It is *not* in *GT*.

(8) Saving is interest-inelastic.

—It is *not* in *GT*.

(9) The trouble is that at no positive interest rate would saving equal investment.

—It is *not* in *GT*.

(10) Effects of falling wages and prices on real balances.

—It *is* in *GT*.

(11) Effect on consumption demand of changes in real net worth.

—It *is* in *GT*.

(12) Effect on aggregate demand of changes in the real value of the money component of net worth.

—It *is* in *GT*.

Strange story, isn't it? What do we make of it?

[21]

Second Lecture

MY FIRST lecture was purely polemical in intent and, perhaps, even overly so in execution. It was necessary, for my purposes, to impress upon you, as vividly as I might, how *anomalous* is this whole business about our appraisal of Keynes' role in the development of 'modern' economics. If that is not excuse enough, perhaps I should claim that outrageous polemics is but an act of piety towards Keynes. Today, at any rate, I should try to be more constructive.

What I ought to attempt how, of course, is to resolve all the contradictions that I pointed out yesterday. But, obviously, that puzzle is too large for one lecture. I will have to concentrate on some parts of it, while trying to give you a 'feel' for how the whole thing would look. I propose to deal primarily with three issues:

(1) Keynes' theory of Liquidity Preference;
(2) his Multiplier; and
(3) his 'persistent unemployment state'.[1]

I will start with some rather simplistic notes about Liquidity Preference, then deal with the Multiplier and the unemployment state, and finally, come back to some further observations relevant to Keynes' conception of Liquidity Preference. This seems an appropriate procedure, since it is possible—as emphasised, in particular, by Professor George Horwich[2]—to go some way towards a more adequate understanding of the role of Liquidity Preference in Keynes' theory while staying pretty much within the ground-rules of the usual approach. In discussing the other two issues, on the other hand, we will have to try to escape from the traditional way of looking at Keynesian theory. If we succeed, it will then pay to take a second look at Liquidity Preference.

---

[1] Keynes, of course, used the term 'unemployment equilibrium'. Even cursory examination will reveal, however, that it is not an 'equilibrium' in the strict sense at all. It is preferable, therefore, to use some more neutral term which does not carry the connotation that no equilibrating forces at all are at work. The real question is why, in the Keynesian unemployment state, the forces tending to bring the system back to full employment are so weak.
[2] *Money, Capital, and Prices*, Homewood, Ill., 1964.

[22]

V

LIQUIDITY PREFERENCE

THE POINT about Liquidity Preference can be made very simply if we only go from the pure statics of the so-called 'basic case' to a simple comparative static exercise. The conclusion drawn from the static argument, you will remember, was that unemployment is due to a 'basic maladjustment' between the money wage rate ($\bar{w}$) and the money supply ($\bar{M}$). Investment and Liquidity Preference at no point entered into the reasoning.

In comparative statics, the convention is that the initial state is assumed to be an equilibrium state. So we start from full employment. The next thing to do is to specify the parametric disturbance that produces the terminal unemployment state. All sorts of disturbances can have this consequence, of course. If the initial disturbance is *either* a 'wage-push' *or* a reduction in the money supply, the previous conclusion that the trouble lies in a 'wrong' relation between $\bar{w}$ and $\bar{M}$ can call for no amendment. Investment plays no causal role, and Liquidity Preference plays no part since the result we are after—unemployment—follows also if we have, e.g., a constant velocity money demand function.[1]

The disturbance standard with Keynes, however, is a 'decline in the marginal efficiency of capital'. The impact effect of this is to create an excess supply of commodities and an excess demand for 'bonds' at the initial values of income and interest rate. The excess demand for bonds drives their prices up. With a Keynesian Liquidity Preference function this will cause an excess demand for money at the initial level of income. The decline of the rate of interest will in this way be halted before it reaches $\hat{\imath}$—the value required for full employment. We now have an excess demand for money and a corresponding excess supply of commodities. With wages and prices inflexible, this disequilibrium will force a decline in output and income.

We have thus arrived at an unemployment state, although $\bar{w}$ and $\bar{M}$ are still the same as in the initial full employment situation. We could not have done so, starting from a disturbance impinging on investment, without invoking Liquidity Preference. Liquidity

[1] i.e., a function which specifies that the amount of money demanded equals a given fraction (usually the 'Cambridge k') of a year's income and that the value of this fraction does not depend on other endogenous variables, in particular the level of interest rates.

[23]

Preference is a *sine qua non* in explaining fluctuations in money income that are associated with a 'variable velocity' of money.

<div align="center">

VI

A General Systems Perspective

</div>

KEYNESIAN ECONOMICS has been immersed in controversy from the start. If we adopt a General Systems Theory perspective for a while, we can remove ourselves a bit from what is specifically 'economic' about the problem at hand—so that, if I succeed in striking some sparks of controversy, they will not fall in the heaps of ideological tinder that surround Keynesian economics.

Consider how a distinguished microbiologist formulates the general question that has animated the tremendous surge of new research in recent years in that field:

> 'An organism is an integrated unit of structure and functions. In an organism, all molecules have to work in harmony. Each molecule has to know what the other molecules are doing. Each molecule must be able to receive messages and must be disciplined enough to obey orders. How has the organism solved the problem of intermolecular communication?'[1]

This is consciously put as a General Systems type of question—there is nothing specifically biological about the problem being posed. We see this immediately if we just translate two of the nouns:

> An *economy* is an integrated unit of structure and functions. In an economy, all *transactors* have to work in harmony. Each transactor has to know what the other transactors are doing. Each transactor must be able to receive messages and must be disciplined enough to obey orders. How has the economic system solved the problem of inter-transactor communication?

<div align="center">

'Adam Smith's Bottle'

</div>

Now, to be really comfortable with this formulation, we would probably want to change the bit about 'harmony' to 'equilibrium' and the phrase about 'obeying orders' to something like 'respond-

[1] André Lwoff, *Biological Order*, Cambridge, Mass., 1965, p. 8.

<div align="center">

[24]

</div>

ing in a predictable fashion to market signals'. But, otherwise, the passage might be Hayek or, perhaps, even Menger. (At any rate, the soundest guess would be a member of the Austrian School.) Its spirit, naturally, is straight from that Good Old Bottle of Adam Smith's, since the answer to the query is the time-honoured answer to Mercantilism. But it definitely could *not* be Walras,[1] and it is very unlikely that it could have come from one of the modern Walrasians—*because of the last sentence.*

One disturbing note before we pass on: we find it natural to expect that successful efforts by a team of biophysicists and biochemists, in explaining how it is possible for the molecules in a particular organism to 'work in harmony', would result in a theory that a biomedical team would find directly applicable to its questions—of what happens when the thing malfunctions and of what to do about it. Not so in economics. We use 'Walrasian' models for the first type of question, and 'macro-models' for the second: and we act as if this schizophrenic State of the Arts was something that we are willing to live with indefinitely. The theory of value and resource allocation deals with how economic activities are co-ordinated. Macro-theory deals with co-ordination failures—at least, that was the original problem. But the structure of the two types of models is so dissimilar that the price-theoretical content of 'Keynesian' macro-models is often difficult to distil.

I find this particularly anomalous since economists should be well trained to appreciate—in a general sort of way—how the answer to Lwoff's query about biological organisms would go. We have a longer acquaintance than other sciences with theories of the self-regulation of complex systems, and with the basic concepts of homeostatic control and negative feedback mechanisms.[2] The seminal idea could not be put more convincingly than in Adam Smith's exposition of the 'Invisible Hand'. We had it first—but we seem to have lost our 'feel' for it. Perhaps we have repeated the 'answer' to the problem for so long that, knowing it by heart, we have forgotten that there ever was a serious 'question'.

[1] M. E. L. Walras (1834-1910) was a French engineer/economist whose outstanding contribution to economic thought was the development of general equilibrium analysis.
[2] The familiar illustration of a homeostat is that of a heating system controlled by a thermostat. This automatic control system is equipped to observe discrepancies ('errors') between desired and actual temperatures and to respond to them by changing the actual temperature. When the response *reduces* the size of the error the 'feedback' is said to be 'negative'.

In the 'answer' to a Walrasian set of excess demand equations we have a still picture—a *nature morte*—of the state in which the 'harmony of the molecules' is perfect. How can the system fail to get there? The assumptions of the Classical theory of how individual activities are *controlled*, so as to make their co-ordination feasible, direct our attention to certain specific possibilities. Broadly, the assumptions are:

(1) that price-incentives are effective; that transactors do respond to changes in relative prices by changing the quantities produced and consumed in a qualitatively predictable manner;

(2) that prices tend to move, and are 'free' to do so, in response to excess demands or supplies and in such a manner as to induce transactors to alter their behaviour in the directions required for all activities to 'mesh'.

Negate one of these broad assumptions and you negate the economic theory that Keynes inherited. The efforts at isolating the essential departures of Keynes from the Classics have generally presupposed that this is what he must have done. As we have seen the discussion has focused attention on the following possibilities:

(1) that inter-temporal price-incentives are almost completely ineffective; specifically that neither savers nor investors are 'disciplined enough' to obey the 'orders' implicit in interest rate movements;

(2) that wages or the 'trapped' interest rate are rigid—the 'orders' are simply not disseminated.

But neither one of these easy routes was the one taken by Keynes in making good his escape from the Classics. In my first paper on this subject[1] I tried to document his acceptance of the traditional conception of how individual activities are controlled. My conclusions were that, in Keynes' theory:

(a) transactors do maximise utility and profit as assumed in classical analysis. They are not assumed to be constrained from bargaining on their own (e.g., by unions or minimum-

[1] A. Leijonhufvud, 'Keynes and the Keynesians: A Suggested Interpretation', *American Economic Review*, May 1967.

wage laws), nor are they 'money-illusioned' or otherwise irrational. The analysis of saving and investment decisions is, in the same way, founded on quite standard choice-theoretical premises.

(b) Price incentives are effective and this includes inter-temporal price incentives. Present behaviour will be significantly affected by changes in interest rates or expected future spot prices.

(c) Prices do move in response to excess demands and excess supplies in the corresponding markets.[1]

I will not repeat the analysis supporting these contentions. Instead, I will ask you to accept them for the sake of the argument.

Communication and control

If Keynes did not use any variant of these obvious ways of over-turning classical analysis that we have just considered, there must be something that we miss in looking at the system in the way employed hitherto. We have focused on what is required in order to *control* the behaviour of individuals so as to make them fit into the puzzle of demands and supplies. I suggest that we should look more systematically and explicitly at the generation and dissemination of the *information* needed to achieve this co-ordination of activities.

Now, distinguishing between the problems of communication and control in this way comes close to hairsplitting. It is perfectly possible to argue, for example, that the two concepts cannot be separated since meaningful communication must always entail producing a controlled response. We have, for example, already talked about price-'rigidity' in terms of a failure to disseminate the information that a certain reallocation of resources is required. Nonetheless, the notion of control applied so far is too 'mechanical' and misses much of the point.

The system consists of a set of markets. Each of the product markets, in turn, has two variables—price and the rate of output— that are to be controlled. Corresponding to these two, the market has two homeostatic devices. Each of the two can be shown, very

[1] Markets are, in fact, treated on the assumption of their being 'competitive' (in the sense of 'atomistic'). Keynes had not shown much interest in the theory of 'imperfect competition'—which otherwise was such a prominent development of the 'thirties—and it has left no mark on *The General Theory*.

[27]

simply, to produce 'deviation-counteracting' (negative) feedback when the value of the respective controlled variable deviates from the equilibrium value—*as long as* (at any rate) the demand curve has a negative and the supply curve a positive slope.

The first device is the 'Walrasian homeostat' which we can regard, in the manner of R. M. Goodwin,[1] as a servo-mechanism designed to regulate price. It adjusts the actual price in response to the observed excess demand 'error' and obeys the built-in rule of search for the equilibrium price of raising price when excess demand is positive and lowering price when excess demand is negative.

Correspondingly, the 'Marshallian homeostat' is the one that regulates the rate of output. It adjusts actual output in response to the discrepancy between supply price and actual market price and obeys the rule of raising the rate of output when the excess supply price 'error' is negative and lowering it when the error is positive.

Each of the mechanisms studied separately shows negative feedback and convergence of the process on the 'right' price, $\hat{p}$, and the 'right' quantity, $\hat{q}$, respectively. But when we put the two interacting mechanisms together (as we should), it is immediately apparent that two interacting controls, each operating with negative feedback, may well produce a process that does *not* lead to $(\hat{p}, \hat{q})$—the most familiar single-market illustration of a failure to do so, of course, is the so-called 'explosive cobweb' or 'hog-cycle' possibility.[2]

Now, the cobweb *per se* has nothing to do with Keynesian economics. I mention it only as an illustration of a well-known principle: that whether an adjustment process will or will not lead to a predesignated equilibrium depends upon its *lag-structure*. The point, of course, is that this is something that we get no information on at all from the kind of static inspection of a system that we engaged in yesterday (Lecture I).

[1] 'Interaction, Automatic Computers, and Economic Dynamics', *Metroeconomica*, April 1951.
[2] The cobweb model assumes, *inter alia*, a lagged response of output to price and produces a sequence of alternating price- and output-responses. When (roughly speaking) both the price-response to a given change in output and the output-response to a given change in price are 'large', the resulting oscillations of p and q around $\hat{p}$, $\hat{q}$ will diverge further and further from these equilibrium values—the process 'explodes'. Co-ordination of consumers' and producers' plans fails because *information* on the price that will result from present output decisions is fed back to producers 'only when it is too late.'

So, what kind of a 'lead' to Keynes' thought might we get from this?

Well—that we should look for descriptions of *processes*, rather than of states, in *The General Theory*. There are several reasons why Keynes' exposition of the *Multiplier* and attendant matters can be expected to get us on the trail of what he was really about:

(1) First, the multiplier is conceived of as a process in the early literature and not as the kind of 'fifth wheel' under the 'wagon' of comparative static analysis that it has become in later macro-textbooks.

(2) Secondly, there is an immediately obvious contrast between Keynes and Marshall with regard to the lag-structure presumed in the description of market adjustment processes. In Marshall, roughly speaking, prices are assumed to adjust 'very fast' relative to the speed of output adjustments. Prices move to wipe out excess demand 'errors' already within the 'market day', while the rate of output is adjusted to remove the discrepancy between supply price and demand price only in the 'short run'. In Keynes, rates of output (and employment) are the first to 'give' when a disturbance occurs, and prices (especially wages) lag behind.

(3) Thirdly, the multiplier is described as a *deviation-amplifying* process,[1] whereas in Walrasian analysis there should be only *deviation-counteracting* forces at work following a disturbance that has reduced income and output below equilibrium levels.

(4) Fourthly, the multiplier is intimately connected in Keynes' exposition with his attack on Say's Law of Markets and with his introduction of the concept of 'effective demand'.[2]

[1] i.e., a reduction in government expenditure of a given magnitude will lead to successive rounds of further reductions in output and expenditures, with the total decline in spending equalling some multiple of the initial 'shock'.

[2] From a general equilibrium, Walrasian, standpoint the notion of 'effective demand'—presumably as opposed to some other kinds of demands—is a strange one. From the very beginning of their education in economics, students are exposed to the term a lot. Yet they will often give evidence of having trouble with the concept if pressed with questions: 'Are you *sure* you know how to define "ineffective demand" in a meaningful way? If you don't, why say "effective demand" instead of just "demand"? If you do know what "ineffective" means, why do you call it a "demand" at all?'

VII

THE MULTIPLIER

IN ORDER to get Keynes' contribution to theory into sharper focus, we need a more detailed picture of certain aspects of 'Classical' theory than that provided by the kind of 'Classical' models discussed in my first lecture. The Walrasian general equilibrium tradition, which since Keynes' time has gained so much in rigour through the contributions of Professors Hicks, Samuelson, Patinkin, Arrow, Debreu, and others, provides the best contrasting background for our further discussion.

Information available to decision-makers

In the world of Walrasian theory, all trasactor s are price-takers. They make decisions only on what *quantities* to buy and sell, consume and produce, but never have to worry about at what prices to do so. They are simple price-takers because 'each morning', so to speak, they are supposedly handed the market-clearing vector of prices, [P̂], on a platter. This list of prices—made up as a result of 'last night's *tâtonnement*'[1]—carries *all the information* that anyone needs to know.[2]

It is not just any old price-list. The analysis presumes, for example, that it is distributed to transactors with the guarantee:

  (a) that it lists the *best* prices obtainable (whether you are a buyer or a seller of the goods in question);
  (b) that you can be *assured* of being able to buy and/or sell all you want to of each and every good involved.

From the standpoint of the individual transactor, (a) and (b) together mean that all goods are 'perfectly liquid' in the sense of being instantly marketable at no loss. Models of this type provide no explicit rationale for the use of one of the goods as a means of payment. Exchange opportunities, as represented by the [P̂]-vector, are such that the individual seeking, say, to obtain consumer goods for his labour does not stand to gain by exchanging, first,

---

[1] *Tâtonnement* (literally 'groping') was Walras' term for the hypothetical trial-and-error auction process which he sketched as a simulation suggesting how an actual economic system might arrive at the equilibrium vector of prices. His sketch assumed that actual economic activities were suspended during the 'groping'-process and only resumed when the right solution was found.
[2] . . . provided that each and all are 'atomistic competitors'. The reason for keeping to this assumption is that a central question of the debate has been whether or not Keynesian analysis applies to 'competitive' systems.

labour for 'money' and then 'money' for consumer goods. Indeed, the offer of any good constitutes an exercise of 'effective purchasing power' over any other good that is demanded in exchange.[1]

In order to deal with Keynes' problem, one must begin by taking a more realistic view of the individual decision situation and of the information available to decision-makers. When 'in the real world' the market situation is changing, it is not possible to have all transactors making decisions just on quantities but never on prices. They must decide what prices to charge *or to accept*. This applies also to transactors whom we do not normally think of as 'setting' the prices at which exchanges actually take place. Thus, when excess supply develops in a market (to take the directly relevant case), sellers must decide on their *reservation-prices*, i.e., the minimum prices at which they will consent to sell.

Search behaviour and consumption demand

A newly unemployed worker, for example, does not know where the best job at the best wage is to be found. He must *search* for it—which is to say, engage in a process of acquiring information that is costly, at least, in terms of immediate earnings foregone. In sampling available job opportunities, he must decide what offers at what wages he will turn down. This means setting himself a reservation-wage which, roughly speaking, will reflect the best terms that he *believes* he should be able to obtain for himself.

Initially, the information relevant to fixing this belief will consist primarily of the 'memory' of his past wages and of his knowledge of the current wages of those still working at his past place of employment. As his sampling of job openings progresses, his knowledge of the current state of the market improves and his reservation-wage will be adjusted accordingly—downwards or upwards depending upon whether the market is found worse or better than initially anticipated. At some point, the rate at which the best offer known improves will appear no longer to warrant the costs of further search and he will accept a job.[2]

[1] Cf. Robert W. Clower, 'A Reconsideration of the Microfoundations of Monetary Theory', *Western Economic Journal*, December 1967.
[2] In my book, I cited Professors Armen Alchian and Kenneth Arrow in connection with the analysis here paraphrased. I would here like to make retribution for the worst sin of omission that I have so far found myself guilty of: Professor W. H. Hutt's *The Theory of Idle Resources*, Jonathan Cape, London, 1939, ought to have been my *locus classicus* in this connection.

The analysis assumes so-called 'inelastic expectations'—past experience largely determines what the individual expects he will now be able to obtain. The assumption of inelastic expectations we recognise from Keynes' analysis of behaviour in securities markets and of the speculative demand for money. In a falling market prospective sellers with inelastic expectations will regard their resources as 'illiquid'. Thus the newly unemployed worker will refuse immediate re-employment at a wage much below that previously earned since he would regard it as selling his services 'at a loss'.[1]

During the time that the individual searches for a new job, he is 'unemployed' in the everyday sense of the word. Keynes' multiplier is based on the assumption that the loss of receipts from current sales of labour services during this period will make him reduce his spending on consumer goods. This second-round reduction in effective demand will cause additional unemployment, a consequent third-round reduction in demand, etc. Each successive increment to unemployment and decrement in aggregate demand will be smaller than the last, so there will be a limit to the total decline in income consequent upon an initial reduction in expenditures of given magnitude. But the process entails an *amplification* of the initial deflationary disturbance.

It also entails a distortion of the information disseminated through the system for individual agents to act upon. Following the disturbance of the initial equilibrium, there exists, conceptually, a new full-employment equilibrium—characetrised by a new allocation of resources and a corresponding, new [$\hat{P}$]-vector —towards which the system 'ought' to be moving. If the multiplier-process takes hold, however, some prices that 'ought' to be

[1] If the individual considered the last wage offered him as the only piece of evidence relevant to the appraisal of present market prospects, and thus attached no information value to past experience, we would have the extreme case of 'perfectly elastic' expectations. He would then regard the subjective value of his leisure (as unemployed)—rather than the expected remuneration of some yet-to-be-found job—as the relevant opportunity cost of accepting employment; hence he would take the first job paying enough to recompense him for lost leisure. An individual with such expectations would behave as if his 'wealth' underwent sudden large changes, and at the same time, as if his resources were, in effect, 'perfectly liquid' at each turn. This is not the kind of behaviour we observe in the real world.

rising may be falling, and some industries that 'ought' to be expanding will then be induced to contract.[1]

VIII

UNEMPLOYMENT AND EFFECTIVE DEMAND

THE DEVIATION-AMPLIFYING, information-distorting process just described could never take place in a barter system. The Keynesian disequilibrium problem is peculiar to systems of markets in which goods are always exchanged for *money* and money for goods. The means-of-payment function of money is essential to this model in a way that it is not to monetary general equilibrium models.[2] This feature of his model is the key to Keynes' Effective Demand doctrine, on which the multiplier is based; it is one of the two main arguments in his attack on Say's Law of Markets and it is *the* theme of the critique of Pigou; it provides the explanation of why the forces tending to bring the system out of Keynes' unemployment state are so weak and, consequently, of why this state tends to persist for prolonged periods of time.

The unemployment state à la Walras

These propositions may be illustrated in a simple fashion. Consider the state of the system at a point in time when the multiplier has ceased operating, unemployment has ceased growing, and saving and investment are equal *ex ante*. Keynes would describe the situation as one of 'unemployment equilibrium'. In the standard, highly aggregative, model the system has but four goods: labour services (N), commodities (X), securities (B), and money (M). The state of the system and the tendencies present towards changing that state would be differently characterised by a Walrasian general equilibrium theorist and by Keynes.

[1] Let, for example, the initial disturbance be a lowering of the prospective rate of return on investment. From a 'Classical' point of view, the system 'ought' to adjust to a lower (full employment) growth path, with a lower rate of interest, less investment and *more* output of consumer goods. In the Keynesian analysis of this case, not only investment, but the output of consumer goods as well, will decline. This particular illustration is pertinent because it is the peculiar feature of Keynesian models that they 'have a terrible time' switching from one rate of growth to another whenever this also requires going to lower levels of interest rates.
[2] Cf. Clower, *op. cit.*

With some over-simplification (not affecting the present argument) it would look like this:

	N	*X*	*B*	*M*	*Sum*
WALRAS	Excess supply	Excess demand	o	o	o
KEYNES	Excess supply	o	o	o (ED)	< o (o)

In the top row, we suppose that we have information on the transactions plans that individuals would draw up *if*, at the prices prevailing in this unemployment state, they were to presume (a) that these prices were the best obtainable, and (b) that they were to be able to sell and buy all they wanted to of each and every good at these prices. As presented, the Table assumes that planned purchases and sales of securities would 'mesh' at the prevailing interest rate, and that there would be no tendency, in the aggregate, to attempt either to build up or to draw down money balances. At the given relation between commodity prices and money wages, however, offers of labour services exceed the demand. Corresponding to this excess supply there is an excess demand for commodities (of the same money value)—showing that the unemployed would, on finding their offers of labour services accepted, devote their *entire* wage proceeds to consumption.[1] The sum of the values of excess demands is shown as zero since each and every individual transactor draws up his plan so as to make sources and uses of funds equal—an analytical convention that we refer to as Say's Principle.

In this situation, Walras' hypothetical auctioneer should, in obeying his rules of search for finding the equilibrium vector of prices, *raise the money prices of commodities* and lower money wages. He would then try out the thus 'amended' list of prices in the same manner. On inspecting the new excess demand distribution, having thus lowered the real wage, he would find that planned output and the amount of labour demanded to produce it are higher, while the supply of labour and the demand for

[1] This is the over-simplification admitted to earlier.

[34]

commodities are lower. The trial-and-error process would be continued in this manner until the price vector is found at which all activities are perfectly co-ordinated.

... and à la Keynes

Clearly, the conceptual experiment just described does not simulate the forces acting on a monetary exchange economy in depression. There is no upward pressure on commodity prices[1]—this, indeed, is the problem. In the Keynesian excess demand distribution (bottom row) this is recognised—when saving and investment are equal *ex ante*, there is no stimulus towards expanding production. The offer of labour services (by the unemployed) does not constitute exercise of purchasing power over commodities, i.e., it does not constitute *effective* demand.

If the unemployed demanded 'payment' in the form of the products of the individual firms, producers would perceive this as demand for a larger volume of output than is being produced. As long as the unemployed did not demand more in exchange than their marginal physical product, competitive producers would have no reason to turn such barter-bargains down. But, just as workers find that their labour is not a source of direct purchasing power over output, producers find that their output is not a means of payment for the purchase of labour inputs. In offering their services to firms that do not produce a balanced basket of consumer goods, workers ask for *money wages*. From the standpoint of prospective employers, therefore, the offer of labour services is not directly connected with a demand for additional output.[2] Not perceiving that more output is called for, individual firms will, consequently, turn such offers down (a) even if no more than labour's marginal value product (evaluated at going prices) is being asked for, and (b) even if no more than the money wage rate that the system would have in equilibrium is being asked for. Once the multiplier has done its dirty work, the system may remain in an unemployment state although the money wage is 'right' from

[1] According to the 'Walrasian' way of looking at things, moreover, the pressure of excess demand for commodities should be stronger the higher is unemployment. Thus an *increase* in unemployment—through, say, teenagers leaving school and joining the labour force—should result in an *accelerated* rise in commodity prices. (I have 'borrowed' this illustration from Professor Clower.)
[2] Thus Keynes' critique of Pigou harped on one theme: Pigou insisted on analysing the labour market in 'real' terms—*as if* the wage-bargain was struck in barter terms.

the standpoint of overall equilibrium—a point to which we return below.

In the last two columns of the bottom row of the Table, we recognise an ambiguity of usage. Nothing is ever offered without demanding something (of equal value) in exchange. Consequently, from the conventional standpoint of the Theory of Exchange, we should recognise an excess demand for money of equal value to the labour services going begging. If we do so (as is done within the parentheses), the values of excess demands sum to zero as usual—Say's Law of Markets is upheld. Alternatively, we may argue that the unemployed are not planning to accumulate money balances but are demanding money only in order to buy consumer goods with it. Even if they were planning to 'hoard', moreover, their demand for money is 'ineffective' as long as their offers to sell labour are not accepted. Effective attempts to hoard would mean an ongoing tendency for the 'velocity of money' (and thus for money income) to decline, but the situation portrayed is one of Keynesian income-'equilibrium' where, by definition, no such tendency is present. If, on these grounds, we put the excess demand for money down as zero, we find that the values of the effective excess demands sum to less than zero. Which convention is followed is of little consequence. The point of Keynes' attack on Say's Law is clear—the excess demand distribution that it presupposes is *irrelevant* to the analysis of the dynamic motion of the system.

A comparison of the two rows of our little Table indicates the *communication failure* that prevents the system from just 'bouncing back' from a Keynesian unemployment state. As the top row shows, the unemployed supply labour and demand bread. But, as the second row shows, the demand is an 'ineffective' demand that does not constitute a stimulus to increased (and labour-demanding) production of bread. *The market signals* presupposed in general equilibrium analysis *are not transmitted*.

IX

THE SAVING-INVESTMENT PROBLEM

WE HAVE found that unemployment may persist even with the 'right' level of money wages. Two questions remain: If wages are 'right', what then has gone wrong? What to do about it?

Previously, we associated the equilibrium price-vector, [P̂], of a Walrasian set of excess demand equations with a 'perfect information' state of the system. Keynes' disequilibrium we have discussed as due to a 'communication failure' that disrupts the co-ordination of economic activities. One way of studying 'what has gone wrong', then, is to consider in what ways the vector of prices obtaining in a Keynesian unemployment state differs from the 'perfect' [P̂]-vector.

Saving and effective demand

The clue is provided by the second of the two arguments used by Keynes in his attack on Say's Law. This argument concerns the saving-investment problem and it, also, centres around the concept of effective demand. 'A fresh act of saving,' Keynes argued, may mean a net reduction in effective demand, i.e., in the demands on current resource utilisation *as perceived by producers*. An individual decision to save more is a decision to consume less today in order to consume more at some future date. Ideally, the producing sector should respond to such household decisions by switching resources away from the production of current consumables and into the (current) provision for an augmented output of consumables in the future, i.e., into investment.

The trouble is that, while producers cannot fail to feel the direct impact of the reduction in demand for current consumables, they may fail to pick up any 'signals' that could tell them where to re-employ the resources freed from the production of consumer goods. They 'ought to' revise upwards their forecasts of future demands, but future markets are missing in which the increased demand for specific products could be communicated already now to the respective producers. The 'circuits' for the transmission of the market signals presupposed by inter-temporal general equilibrium theory are missing. They are missing for a good reason, moreover—it does not pay to organise such markets because savers do not wish to place orders for the future delivery of specific products. Rather than committing themselves to some future consumption pattern now, and accumulating such contracts, they wish to command 'wealth as such', that is the 'potentiality of consuming an unspecified article at an unspecified time'. At bottom, it is the Liquidity Preference (in this broad sense) of

households that is the problem. One sector does not receive the appropriate signals simply because the other chooses not to emit.

Since the future demand implicit in the behaviour of savers is not an effective demand, producers' demand forecasts do not respond in an appropriate and reliable fashion to changes in saving behaviour. But the switch of resources into investment may still be accomplished. Increased saving will mean a downward pressure on the yields of securities and in Keynes' theory, as already remarked, investment responds to changes in interest rates. Here, however, Liquidity Preference will again come into play—rising securities prices and declining yields will induce speculators (with inelastic expectations) to sell and hold deposits instead, thereby preventing the decline in yields from becoming as large as required and necessitating a reduction in money income. As indicated at the very beginning of this lecture, Liquidity Preference will, in she same manner, come in the way of proper co-ordination of saving and investment decisions also when the initial disturbance is a change in entrepreneurial expectations (i.e., a 'shift of the marginal efficiency schedule').

Asset prices and money wages

Having sketched how Keynes looked at the problem of co-ordinating the inter-temporal decisions of consumers and producers, we may now come back to the question of 'what goes wrong' with the vector of prices.

Keynes' analysis of movements in income focuses on changes in the investment component of total income. Simplifying somewhat, we may formulate the problem thus: there exists a critical value for aggregate investment that would give full employment at the money wages inherited from the last period. Corresponding to it, a critical ratio of the demand price for productive assets to money wages may be defined such that, when faced with this price constellation, profit-maximising capital goods producers will be induced to undertake the required amount of production of new such assets. If the actual value of this relative price falls below the critical value, $p_a/\hat{w}$, money income will be too low to permit full employment.

If, then, this relative price is too low, and the economy consequently in recession, the first question becomes whether this is

because p_a is too low or $\bar{w}$ too high. In both the *Treatise on Money* and the *General Theory*, Keynes' discussion generally presumes that money wages are 'right' and that the trouble is too low a demand price for capital goods. The most serious consequence of this disequilibrium is the unemployment emerging in the labour market, but this does not mean that the cause is to be found in too high wages.[1]

The level of asset prices, p_a, may be too low for either of two reasons. Estimates of the income that will accrue to such assets may be too low (entrepreneurial demand forecasts may be 'too pessimistic'), or the interest rate, at which these income streams are discounted in order to appriase their present value, may be too high.

Interest rates and expectations

In the bulk of his theoretical writings Keynes was concerned with the case where the interest rate is too high. He regarded the post-First World War period as one in which capital accumulation was steadily running ahead of innovation and population growth, etc., with the result of a persistent downward trend in the rate of return that could be earned on capital. The problem was that rates of interest *tended to lag behind*—in part because of Bank of England efforts to defend the exchange rate with the help of Bank rate—so that the level of asset prices was persistently threatening to sink below its 'critical' value.

If the rate of interest is permitted to fall behind, recession and unemployment will result. In all this Keynes followed in the Wicksellian tradition: deflationary pressure on the system is due to a market rate of interest above the 'natural rate'.

This element of his theory is really a hypothesis about how the boom breaks. Keynes had a broad streak of rationalistic optimism

[1] Note that it is a *relative* price that is wrong. In discussing whether the system could get out of the unemployment state 'on its own' Keynes consequently showed little interest in the case of *balanced* deflation (money prices falling, but relative values staying constant). The possibility of such a deflation being of help in the bitter end is the one elaborated in the Pigou-effect literature. Keynes concentrated instead on the possibility that deflation, by increasing the purchasing power of the given money stock, would become *unbalanced* in such a manner that relative values were 'corrected' in the process. He gave a fully adequate analysis of this possibility, in spite of which his discussion has been given a failing grade in the Pigou-effect literature—where little understanding has been shown for the role of relative prices in Keynes' theory.

in him and concentrated a good deal of his work on how to prevent a recession from developing. During the 'thirties he had to contend with the problem of getting out of a deep depression, of repairing a disaster that had already been allowed to develop. A sketch of this problem had appeared in the last chapter of the *Treatise* in 1930 and is there seen to involve the 'other reason' for too low a level of asset demand prices. In the process of contraction, interest rates come down, while entrepreneurial expectations are, at the same time, undermined by the experience of declining aggregate demand. Although it is assumed that the process is triggered by the concatenation of roughly appropriate demand forecasts and inappropriately high interest rates, in the depths of the depression we have the opposite case—the 'right' interest rate, but too pessimistic expectations.

X

FISCAL POLICY AND THE MULTIPLIER

EARLY IN my first lecture, I promised to close with some observations concerning Keynesian fiscal policy and the concept of the 'government expenditure multiplier'. These will have to be quite brief and even sketchier than what has gone before. I hope they may suggest to you that the issues I have discussed are of more than doctrine-historical interest.

Two diagnoses and the choice of policy instruments

We have outlined two alternative diagnoses of a state of deficient aggregate demand. One is a hypothesis about how the system comes to depart from the neighbourhood of a full employment equilibrium with stable prices. That diagnosis points to a *'wrong' level of interest rates* as the source of the problem. The other is a hypothesis about the salient characteristics of a deep depression state. The diagnosis in this case points to *entrepreneurial expectations* as the root of the trouble. If entrepreneuril expectations were to approximate more closely to the demand that would actually be experienced at full employment, they would become self-fulfilling, for interest rates and money wages are not at levels that would stand in the way of a restoration of full employment equilibrium.

Naturally, these two diagnoses would not apply to the downturn and trough, respectively, of every cycle. If we assume situations to which they would apply, however, it is striking how they seem by themselves to suggest the policy remedies that should be appropriate. Faced with a diagnosis that pinpoints the 'wrong' value of one variable as the source of the disequilibrium of the entire system, the natural impulse is to look around for some policy instrument that would impinge as directly as possible on this variable while, ideally, leaving alone those which are already 'right'. Much more would need to be said, to be sure, to provide the proper *caveats,* and the full context, for Keynes' policy recommendations but, by and large, this natural impulse points in the direction of his prescriptions. Thus, in the neighbourhood of *full employment equilibrium,* where the problem is to keep market rates of interest in the near neighbourhood of the 'natural rate', Keynes would keep close to time-honoured British tradition in stabilisation policy and rely on monetary measures—Bank rate reinforced by open market operations.

It is the other case that concerns us here, for it is this case which caused the break with tradition and the innovation of 'Keynesian' fiscal policies used for short-run stabilisation purposes. Entrepreneurial demand forecasts are attuned to a continuation of depression. The immediate objective is to change them while meddling as little as possible with interest rates that are already at (or below) the level they would have been in general equilibrium. Direct government expenditure would do the trick. The expenditures by themselves will belie the expectations that demand will continue unchanged at its depressed level and thus set in motion a process of upward revision of demand forecasts. This process will be powerfully reinforced by the 'multiplier' which takes hold as previously unemployed workers are gradually re-employed and able to make their demand for consumption goods 'effective'. Consequently, the government's deficit spending can be gradually phased out as the system nears full employment; the effective demand stemming from those reabsorbed into the work force will prevent backsliding into renewed depression. Thus the original case for fiscal measures for stabilisation purposes was a so-called *'pump-priming'* case and the argument for it hinged on the multiplier effects that government spending could unleash.

What does this analysis have to suggest about the usefulness of

[41]

'Keynesian' fiscal policies in dealing with cyclical fluctuations of the fairly 'moderate' variety that have characterised the post-war period? Clearly, counter-cyclical variation of government spending and (whether automatic or discretionary) of its tax-take will help.[1] But it is clear also that, if one were not to be able to count on multiplier effects at all for help, such measures would have to be of a *very* large magnitude to be commensurate with the problem.

The multiplier as an illiquidity phenomenon

The neo-quantity theorists have, of course, attacked the 'multiplier optimism' which they see as in large measure the basis for the popularity among economists of fiscal stabilisation measures. More directly to the point, however, are the modern theories of the consumption function.[2] Professor Milton Friedman's permanent income hypothesis[3] and the Modigliani-Brumberg-Ando 'life cycle hypothesis'[4] alike imply such a low value for the multiplier that it would not be worth bothering about. The modern theories have in common the emphasis on income prospects over the *long* run, or 'wealth'—rather than *current* receipts—as the primary determinant of household consumption. 'Wealth' in this context stands as proxy for what the households, taking the long view, subjectively perceive themselves as 'being able to afford' in terms of current consumption. Changes in current income receipts that the household envisages as temporary (or 'transitory') will have little or no impact on its wealth-position in this sense, and thus little effect on its consumption. In the limiting case, the wage-earner loses his job and thereby all labour income, but the household maintains its consumption at the accustomed level.

[1] At least they will help if monetary policy is simultaneously used to ensure that interest rates are not allowed to move in the 'wrong' direction. The nearer one is to full employment equilibrium, the larger the element of truth that has to be accorded to the despised 'Treasury view'. The use of monetary policy in the manner indicated will, of course, also raise the issue of the extent to which the effects of the total policy package must be ascribed to its monetary policy component.
[2] For a survey of the developments in this area since Keynes, cf., James Tobin, 'Consumption Function', *International Encyclopedia of the Social Sciences*.
[3] Milton Friedman, *A Theory of the Consumption Function*, National Bureau of Economic Research, Princeton, 1957.
[4] Albert Ando and Franco Modigliani, 'The "Life Cycle" Hypothesis of Saving', *American Economic Review*, March 1963.

[42]

We are obliged, in conclusion, to consider this view of the determination of consumption for at least two reasons. First, the modern theories of the consumption function have yielded much better empirical results[1] than the simple consumption-income relation presupposed in our explanation of the multiplier. Secondly, the hypothesis that the household's view of its 'wealth' is insensitive to short-run changes in income receipts 'fits in', most naturally, with our description of individual behaviour in the labour market. To say that a worker shows 'inelastic expectations' with regard to the wages that he thinks he will be able to obtain is, in effect, to say that he regards his *human capital* as more or less unimpaired by the loss of his previous job.

Is it possible to reconcile the explanation of Keynes' multiplier outlined above with the modern theories of the consumption function? We should conduct a second examination of the analysis of the unemployed worker's behaviour, this time while accepting the view that the individual regards his long-run income prospects as virtually unchanged. We emphasised that he cannot offer his labour services in direct market exchange for consumables. They can only be sold for money and he must offer money for goods. The option of selling his labour for money, at *some* price, is open to him, but he does not take it since, at the prices immediately obtainable, he would regard accepting a job as 'taking a loss'. In the given situation, his labour is an 'illiquid' good, i.e., it cannot be turned into cash.

Now, if the same considerations were to apply to *all* other components of his net worth as well, the sought-for reconciliation would be found. To borrow against future labour earnings, for example, can frequently be done only at terms which render it a very expensive way of turning human capital into ready purchasing power. Similarly, those components of his net worth that are in the form of physical capital are generally 'illiquid' too—they cannot be turned into cash without incurring what the individual will regard as a 'capital loss'. Borrowing with such assets as collateral is also an expensive proposition.

We may thus envisage an individual who, while he regards his 'wealth' as in itself justifying a maintenance of accustomed living standards, finds that no component of his net worth can be realised

[1] Cf., Friedman, *op. cit.*; Ando and Modigliani, *op. cit.*

[43]

at a market price that meets the reservation price he puts on it. He finds himself 'locked in', in effect, with the balance sheet he has. Only in this way can we rationalise the behaviour of consumers who let current income receipts be the operative constraint on their consumption. The multiplier emerges from this analysis as an *illiquidity* phenomenon.

By the same token, we should not expect the multiplier to take hold in a recession as long as unemployed households still have a 'cushion' of liquid assets, such as savings deposits. Some pieces of evidence consistent with this view may be noted. Thus P. A. Klein has found that households do maintain their consumption standards for several months of unemployment until their liquid assets are run down quite low. S. H. Hymans has studied the American experience since the First World War and found that consumption held quite steady in the face of falling incomes in all recessions *except one*—the Great Depression of the 'thirties.[1]

A 'monetary' view of Great Depressions

To summarise: We started arguing a case for fiscal policy by considering a disequilibrium situation diagnosed as due to excessively pessimistic entrepreneurial expectations. An increase in government spending rather than central bank action was indicated because it would operate to 'correct' these expectations. Further analysis showed this to be a case for fiscal 'pump-priming', since multiplier effects would be triggered that would reinforce the movement back towards full employment. The two salient features of the situation were not accidentally juxtaposed. They are clearly logically related: producers' demand forecasts could not remain so far off target without any tendency towards self-

[1] P. A. Klein, 'Financial Adjustments to Unemployment', National Bureau of Economic Research, New York, 1965; S. H. Hymans, 'The Cyclical Behaviour of Consumers' Income and Spending, 1921-1961', *Southern Economic Journal*, July 1965.

In connection with Hymans' exception, it is interesting to note that the controversial study by M. Friedman and D. Meiselman, 'The Relative Stability of Monetary Velocity and the Investment Multiplier in the United States, 1847-1958', *Stabilisation Policies*, Commission on Money and Credit, Englewood Cliffs, N.J., 1963, reports *one* sub-period for which the investment multiplier performed better than monetary velocity—the 'thirties. In similar experiments on British data, Professor Walters and associates found the inter-war period, 1921-38, to constitute an exceptional 'Keynesian interlude'. (A. A. Walters, *Money in Boom and Slump*, Hobart Paper 44, Institute of Economic Affairs, London, 1969.)

correction *except* when the consumption demands of the unemployed are in large measure 'ineffective', i.e., except when the feedback of the relevant market signals is interrupted. And it is only under such circumstances that there will be latent multiplier effects of sizeable magnitude for the policy-maker to exploit.

What the analysis of this section suggests is that communication failures of this serious a magnitude are not a normal occurrence in market systems where most economic agents keep 'buffer stocks' of liquid assets. They emerge as products of 'liquidity crises'.

To the extent that preference for the use of fiscal measures for stabilisation purposes rests on the belief that they will have an amplified impact on aggregate demand, we do not find a case for them along the lines of analysis pursued here as far as states of the system 'fairly close' to full employment equilibrium are concerned.

By pursuing Keynes' analysis we have ended up with an essentially 'monetary' view of Great Depressions. In a very general sense, at least, quantity theorists and Keynesians should be able to agree on one thing—how great disasters are fashioned. On one view or the other, the system becomes prone to them only when it has first been squeezed dry of 'liquidity'.

FURTHER READING
(in addition to books listed in footnotes)

Hazlitt, Henry, *The Critics of Keynesian Economics*, Van Nostrand, Princeton, New Jersey, 1960.

Johnson, H. G., 'The *General Theory* after Twenty-Five Years', *American Economic Review*, May 1961.

Lekachman, R. (ed.), *Keynes' General Theory: Reports of Three Decades*, Macmillan, London, 1964.

Schlesinger, J. R., 'After Twenty Years: The *General Theory*', *Quarterly Journal of Economics*, November 1956.

IEA PUBLICATIONS

Subscription Service

An annual subscription is the most convenient way to obtain our publications. Every title we produce in all our regular series will be sent to you immediately on publication and without further charge, representing a substantial saving.

Individual subscription rates*

Britain: £15·00 p.a. including postage.
£14·00 p.a. if paid by Banker's Order.
£10·00 p.a. to teachers and students who pay *personally*.

Europe and South America: £20·00 p.a. or equivalent.

Other Countries: Rates on application. In most countries subscriptions are handled by local agents.

*These rates are *not* available to companies or to institutions.

To: The Treasurer, Institute of Economic Affairs,
2 Lord North Street, Westminster, London SW1P 3LB

I should like to subscribe beginning...

I enclose a cheque/postal order for:

☐ £15·00
☐ Please send a Banker's Order form
☐ Please send an invoice
☐ £10·00 (I am a teacher/student at...)

In addition please send the following from the titles already published:

....

....

(Cash with orders under £2·00, plus postage)

Name ....⎫
⎪
Address...⎬ BLOCK LETTERS PLEASE
⎪
 ....⎭

Signed... Date..

OP 30/7

RESEARCH MONOGRAPHS in print

HOBART PAPERS in print