

Keynes and the General Theory

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pediment. His lifelong effort to understand what is wrong with the machine implies an interest in the machine, implies that he wanted us to continue to use the machine, implies, in fact, that he was at bottom an individualist. For a totalitarian all that life work would have been of merely academic interest. But in contemporary economics Keynes had little interest in what was only academically interesting.

Whatever the final verdict on *The General Theory*, Keynes' greatness as an economist will not be questioned. His mental capacities had a far wider range than those usually found in professional economists. He was a logician,

a great prose writer, a deep psychologist, a bibliophile, an esteemed connoisseur of painting; he had practical gifts of persuasion, political finesse, businesslike efficiency; he had personal gifts which made him have profound influence on those who came into direct contact with him. Economics, still young, only in part a fully specialist subject as yet, has gained from its contact with such a comprehensive intellect. I remember his once describing Ricardo as "the most distinguished mind that had found Economics worthy of it." We must surely judge Keynes' mind to be more distinguished than Ricardo's.

KEYNES AND THE GENERAL THEORY

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It would be a mistake, I think, to make too sharp a dividing line between pre-Keynesian and Keynesian economics. That some line has to be drawn I do not believe will be denied by anyone who will examine the economic literature before and after 1936. But every contributor to any field of knowledge stands on the shoulders of his predecessors. Specialists in any field of knowledge know that no one man ever single handed invented anything. In a sense there are no "revolutionary" discoveries. Nevertheless, in the progress of man's thinking new plateaus are from time to time cast up not unlike a geological upheaval. And these *are* revolutionary developments even though the constituent elements composing the structure can be found elsewhere and have long been well known.

If a stranger from Mars should undertake to read the literature of economics from, say, 1700 to the present day, he would be struck, I believe, particularly by the new direction and outlook injected by the publication of (a) *Wealth of Nations*, (b) the works of Jevons, the Austrians, and Walras, and (c) Keynes' *General Theory*. Scarcely has any issue of an economic journal or any serious volume since 1936 ap-

peared which has not been influenced by, or primarily concerned with, the concepts and thinking of Keynes.

The record will also verify, I think, that friend and foe alike have experienced a considerable enrichment of their "mental furniture" by reason of the Keynesian contribution. This indeed is nothing new. Alfred Marshall's *Principles of Economics* was profoundly influenced by Jevons and the Austrians; though he was far from sympathetic when this "attack" on the classical first appeared. There are plenty of parallels today.

While it is not possible now to assess the ultimate place of Keynes in the history of economic thought, it is safe to say that no book in economics has ever made such a stir within the first ten years of its publication as has *The General Theory*. And this interest continues unabated. It is further true, I believe, that economic research has tackled new problems and is better equipped with tools of analysis by reason of the work of Keynes. Moreover, a correct appraisal of Keynes' work cannot be made by confining attention to the contents of *The General Theory*. The Keynesian "revolution" is far from having been completed, and it is, accordingly, not pos-

sible this early accurately to appraise the importance of his work in relation to the great peaks of intellectual achievement which have gone before.

Keynes proved to be quite right when he predicted in his Preface to *The General Theory* that many economists would fluctuate between a belief that he was quite wrong and a belief that he was saying nothing new. This conundrum, it appears, still torments some economists; but many more, during the process of criticizing Keynes, have acquired as a by-product the new analytical apparatus. Keynes himself felt he was "treading along unfamiliar paths," and that the composition of *The General Theory* has been a long "struggle of escape from habitual modes of thought and expression." In the literature of the last 10 years one cannot fail to be impressed with the change that has occurred in the "habitual modes of thought and expression" of Keynes' critics, also.

David McCord Wright, in a recent article on the "Future of Keynesian Economics,"¹ put his finger quite accurately on the basic change in *outlook* effected by the "Keynesian Revolution." We cannot follow, he says, the main lines of Keynes' argument and say that the capitalist system, left to itself, will automatically bring forth sufficient effective demand. Keynes' ideas "derive much of their unpopularity because they form the most widely known arguments for intervention even though such intervention may be quite capitalist in nature." It is the analysis of the problem of *aggregate demand* together with the implications of this analysis for practical policy which challenges the old orthodoxy.

In this connection an illuminating passage appears in the Preface to Pigou's recent pamphlet, *Lapses from Full Employment*, as follows:

"Professor Dennis Robertson . . . has warned me that the form of the book may suggest that I am in favour of attacking the problem of unemployment by manipulating wages rather than by manipulating demand. I wish, therefore, to say clearly that this is not so."

This sentence would not likely have been written prior to *The General Theory*.

It has been my conviction for many years² that the great contribution of Keynes' *General Theory* was the clear and specific formulation of the consumption function. This is an epoch-making contribution to the tools of economic analysis, analogous to, but even more important than, Marshall's discovery of the demand function.³ Just as Marshall's predecessors were fumbling around in the dark because they never grasped the concept of a demand *schedule*, so business cycle and other theorists from Malthus to Wicksell, Spiethoff and Aftalion, never could quite "reach port" because they did not have at hand this powerful tool. It is illuminating to re-read business cycle and depression theories in general prior to 1936 and to see how many things settle neatly into place when one applies the consumption function analysis — things that were dark and obscure and confused without it. The consumption function is by far the most powerful instrument which has been added to the economist's kit of tools in our generation. It is perfectly true that embryonic suggestions (as also with the demand function) appear in earlier literature, but the consumption function was never fashioned into a workmanlike instrument until *The General Theory*. This, I repeat, is Keynes' greatest contribution. And in more general terms, the effect of variations in income upon all manner of economic variables has, since Keynes, become an important field for research and analysis. Income analysis at long last occupies a place equally as important as price analysis. This part of the Keynesian contribution will remain regardless of what happens to that which relates to policy.

Time and again when I thought I had discovered this or that error in the Keynesian analysis either on my own or at the suggestion of a critic, I have been surprised to find how often, upon examination, the point had already been anticipated and covered in *The General Theory*. I regret that I have not kept a list of these points, but only recently I came upon another interesting example which relates to the consumption function. In my *Fiscal Policy and Business Cycles* I had pointed out (p. 233 *et*

² See my *Fiscal Policy and Business Cycles*, Chapter xi.

³ Not until Marshall did the demand function play a significant role in economic analysis. Yet Cournot (and perhaps others) had formulated the principle before.

¹ *American Economic Review*, June, 1945.

seq.) that, on grounds of general reasoning and such facts as are available (Kuznets' long-run data) we may assume an upward *secular* drift in the consumption function. Later, this was elaborated more fully by Paul Samuelson.⁴ This upward secular drift is often (but erroneously) cited as proof that the consumption function analysis is not valid. Until recently, I had supposed that Keynes had overlooked the secular aspect of the problem, and it was therefore of great interest for me to discover that his particular formulation does in fact (possibly inadvertently) cover the matter in a fairly satisfactory manner. The consumption function of two periods, widely separated in time, can be made comparable by correcting for changes in prices, per capita productivity, and population increase.⁵ This would correct for the secular drift, and if the corrected functions were found to be similar, we could say that the consumption function was stable over time. Now Keynes achieves a fairly satisfactory result by casting his consumption function in terms of wage-units. When the consumption income schedules of two different periods are cast in terms of wage units, the effect is to correct for price and productivity changes. Thus the schedules become quite comparable over time,⁶ and we are accordingly in a position to determine whether or not a shift has in fact occurred in the consumption function.

The role and significance of the consumption function can be illustrated by a comparison of the *Treatise* with *The General Theory*. In the *Treatise* $\pi_0 = E + (I - S)$, where π_0 is the current income, E the normal (full employment) income, and S is the current saving which *would* be made from a normal, full-employment income. Thus the current realized income is, according to the *Treatise*, less than the normal or full-employment income by the amount that current investment falls below the potential saving at full employment. But this, of course, is wrong, since it leaves out the multiplier. The missing link is supplied by the consumption

⁴ See Chapter II, in *Postwar Economic Problems* (edited by Seymour E. Harris, New York, 1943).

⁵ This would amount to much the same thing as calculating each schedule as ratios of a full-employment income in each period. Thus the consumption function could be said to be stable over time if the schedules so constructed had the same relation to a full-employment income in each period.

⁶ This, at any rate, is true if the schedules are reduced to a per capita basis.

function. This in a nut shell reveals one of the great advances of *The General Theory* over the *Treatise*.

In this connection it is interesting to compare Robertson's $Y_1 = Y_0 + (I_1 - S_1)$ with Keynes' $\pi_0 = E + (I - S)$ in the *Treatise*. They bear a superficial resemblance. An important difference is that Robertson's is a period analysis which does not pretend to explain the *level* of Y_1 , but only its relation to Y_0 , while Keynes' (*Treatise*) equation pretends to explain the *level* of π_0 . By combining Robertson's formulation with the consumption function analysis (as I have done in Chapter XII in *Fiscal Policy and Business Cycles*) one arrives at a correct solution of the problem attempted by Keynes in the *Treatise*. Keynes, however, chose in *The General Theory* to implement the consumption function analysis in terms of a logical or mathematical formulation⁷ involving no time-lags. Thus if the consumption function is given, the level of income is uniquely determined (time-lags assumed away) by the volume of investment.

With respect to the determinants of investment — the marginal efficiency of capital and the rate of interest — Keynes' contribution relates chiefly to the latter. The real factors, in a dynamic society, which determine the marginal efficiency of capital are largely taken for granted. The psychological and institutional aspects are indeed at points well treated, but the "real" or "objective" aspects — the dynamics of technical progress — are passed by almost unnoticed. The result is that too great emphasis is placed on the rate of interest. The rate of interest is indeed enormously important in the effective implementation of fiscal policy (debt management, lending and guaranteeing operations in such areas as housing, etc.), but as a means of increasing purely private investment it could *only* be of great importance as a determinant of income and employment if the marginal efficiency schedule were very highly elastic. And even so, once a minimum low rate of interest had been reached (Keynes' liquidity preference) nothing more could be accomplished by means of interest rate reduction. In so far as

⁷ It is not correct, as is often done, to identify the Keynesian formulation with the "ex post" or "statistical" formulation.

anything can be achieved (and something can within limits be done) by reducing the rate of interest, this method obviously, from the long-run standpoint, is non-recurring and quickly runs out. The movement *along* the marginal efficiency curve would be a "once for all" movement were it not for the *upward shift* of the curve, due to growth and technical progress. It is the upward shift that provides the outlet for a *continuing* flow of investment.

The volume of investment during the last century can be accounted for mainly by growth and technical progress. "Growth" has provided vast outlets for investment of the "widening" type; technical progress has provided outlets of the "deepening" type (greater capital intensity per worker). In addition, some "deepening of capital" has been achieved through some secular decline in the rate of interest.⁸ This is important in the sense that we have in consequence more nearly approached the condition of "full investment" — a fuller realization of the potentialities of technical progress. But the contribution which the secular fall in the rate of interest has made to *annual* investment over the last century is surely negligible compared with the annual investment due to growth and technical progress.

It is not necessary to argue that the marginal efficiency schedule is highly inelastic. The movement *down* the curve cannot be of great importance for *continuing* income and employment creation. What is needed in order to develop a considerable *flow* of investment is a continuing upward shift of the marginal efficiency schedule such as may be caused by technological improvements, the discovery of new resources, the growth of population, or public policy of a character which opens up new investment outlets. The effect of *lowering* the rate of interest would quickly wear off in the absence of an upward shift in the marginal efficiency schedule. Thus little can be expected for *continuing* investment from progressively lowering the rate of interest even though this were feasible. A low rate of interest is desirable nevertheless because this permits an approach to

⁸ I am aware that secular upswings and downswings in the rate of interest have occurred; these have been associated particularly with the so-called "long waves." Moreover, the rate of interest reached a low level, roughly comparable to that of the present period, in the eighteen-nineties.

"full investment" which would mean higher productivity per worker. But in the absence of dynamic growth and innovation, a constant level of the rate of interest, no matter how low, would ultimately result in zero net investment.

The liquidity preference analysis is important as an explanation of the enormous volume of liquid assets which it is possible for an advanced and rich industrial society to hold without inflationary consequences. And while the growth of liquid assets beyond a certain point may have little effect on the rate of interest, it may nevertheless affect income and employment by raising the consumption function. How important this may or may not be depends upon certain circumstances to which I refer below. Mere *volume* alone is not the controlling factor.

Thus under-employment equilibrium may be reached, given a fairly low consumption function, not merely because of an elastic liquidity preference schedule, but mainly because of limited investment opportunities (technical progress, etc.) combined with a marginal efficiency schedule which is not very highly elastic. Keynes, however, rests his case heavily on the liquidity preference analysis, from which it follows that the economy does not tend toward full employment merely through the automatic adjustment of the rate of interest.

Wage reduction, as a means of increasing employment via the fall in the interest rate (Pigou) is thus, along with other policies designed to lower the interest rate, relatively ineffective.⁹ And with respect to the effect of increased liquid assets (whether in terms of an *absolute* increase or a *relative* increase caused by wage reductions) on the consumption function, that all depends upon who it is that holds the liquid assets. If the liquid assets are largely in the possession of the rich, the consumption function can rise very little unless, indeed, the accumulation of

⁹ Professor Haberler's quotation from Keynes (p. 196, below) that an "increase in employment can only occur to the accompaniment of a decline in the real rate of wages" fails to include the very important conditions which must be assumed to make this statement true, namely, no change in "organization, equipment and technique"; in other words, no change in productivity. Moreover, Keynes (March, 1939, *Economic Journal*) explicitly repudiated the notion that employment must increase *by or through* a lowering of real wages and a movement *along* a declining so-called general demand curve for labor. In his view employment is increased by raising effective demand, thereby causing an upward *shift* in the demand curve for labor.

such assets in the hands of a concentrated few is pushed far beyond the limits of tolerance in a democratic society.

It is therefore important *how* the liquid assets came into being and who it is that holds them. The method of *relative* increase in liquid assets (via wage reductions) is clearly not a realistic method of increasing the consumption function for the general population. And with respect to the method of *absolute* increase, it makes considerable difference whether the monetary expansion merely came about through monetizing assets held by investors and wealthy individuals, or whether the new money was created as part of an expansionist's program of subsidization of mass consumption — school lunches, housing and household equipment for low-income groups, family allowances, etc. — or for public construction projects which directly increase the income of workers and start a round of expenditures (multiplier effect) throughout the economy. There is no assurance that a mere increase in liquid assets (whether absolute or relative) will raise the consumption function appreciably. That depends. Thus it is that monetary policy may be relatively ineffective unless combined with appropriate fiscal policy.¹⁰ And it is considerations such as these here under discussion that reveal the essential differences between pure monetary policy and pure fiscal policy.

After ten years of criticism the Keynesian

¹⁰ Professor Haberler, in his contribution to this symposium, argues that under-employment equilibrium with flexible wages and prices is impossible since wages and prices will under these conditions fall continually. But this is surely no criticism of Keynesian economics. Completely flexible wages and prices would indeed give us a system so unstable as to be unworkable.

But this is not the question. The question is rather whether an orderly reduction of wages and prices which are *relatively* rigid could promote an increase in employment. And it was presumably such a policy which Professor Haberler had in mind when he discussed the *relative* increase of liquid assets (via wage reductions) and the effect of this on the interest rate or on the consumption function. Whether or not this is effective depends, as I have noted above, on circumstances. You cannot cure unemployment *merely* by expanding the money supply (absolutely or relatively) without regard to how this increase is brought about or who holds the money. The position of Modigliani, Polanyi, and others is, I think, a modern recrudescence of an excessive preoccupation with the mere *quantity* of money — a preoccupation no less indefensible than the old. I say this despite the fact that I myself place great stress upon the importance of adequate (but not excessive) monetary expansion as a part of fiscal policy.

analytical apparatus remains as essential equipment if one pretends to work on the determinants of income and employment. The consumption function has become and will remain the pivotal point of departure for any attack on the problem of aggregate demand. Moreover, with respect to policy, little reliance in the future will be placed on the notion that it matters little what the consumption function may be, since, whatever its level, a volume of investment adequate to fill the "gap" will always automatically tend to develop if only price, wage, and monetary adjustments are made. Special models set up to show how wage and price flexibility under certain conditions might so operate are notoriously unrealistic and unworkable in the practical world and so fail to come to grips with economic reality. Finally, a mere increase in the quantity of money, apart from the manner in which it is created and put into circulation, and apart from its distribution among the members of society, is not capable *per se* of raising the consumption function to a level adequate to insure full employment. On the other hand, Keynesian economics has itself been the means of showing the important role of monetary expansion in conjunction with fiscal policy in the creation of adequate aggregate demand. Monetary policy is an essential instrument for an effective full-employment program. The volume of liquid assets and the rate of interest are indeed important, though if applied alone relatively ineffective.

These then are the essentials of the Keynesian system and these are the considerations with which we must grapple in appraising its continuing effectiveness for analysis and policy. Under-employment equilibrium is not dependent upon wage rigidity (properly defined). The fundamental explanation is to be found in (a) the consumption function, (b) investment outlets, and (c) the liquidity preference analysis.¹¹ There are no automatic processes that

¹¹ Professor Haberler's criticism of the elasticity of the liquidity preference schedule seems to me to require cautious interpretation. It relates to factors affecting a *shift* in the schedule rather than to *elasticities* along a given schedule. To be sure, a long-run schedule can sometimes be traced out by determinate shifts of short-run schedules; but Haberler's theory seems to be a special one, which denies, among other things, that as the rate of interest gets nearer and nearer to zero, the difficulties of lowering it further begin to increase.

will produce under all circumstances adequate aggregate demand. Private consumption and private investment outlays will not automatically produce this result. And no other explanation for this has so far been offered that is as satisfactory as that presented by Keynes.

It is evident that a new outlook was injected into economics, both with respect to theory and policy, by the publication of *The General Theory*. That it was not just "old stuff" is evidenced by the terrific effort it required for economists to readjust their thinking and indeed the difficulty they had in understanding what it was all about. Witness, for example, the first reviews (including my own) and the endless controversial articles on concepts which, in retrospect, are rarely a credit to the profession.¹² More and more, even those who pro-

¹² A recent example disclosing a number of elementary misconceptions is the pamphlet by Arthur F. Burns, on *Economic Research and the Keynesian Thinking of Our Times* (National Bureau of Economic Research, 1946). However, the pamphlet does strikingly reveal (perhaps inadvertently) how economic theory — whether Ricardian or

fessed to see little in Keynes that was new or valid began to reveal that they had experienced a rebirth despite their protestations to the contrary. Add to this the fact that the influence of Keynes permeates all official international gatherings grappling with economic problems and is present wherever internal economic problems are under consideration (witness postwar governmental pronouncements). It is difficult to avoid the conclusion that nothing like it has happened in the whole history of economics. It is too early to say, but it does not now appear an extravagant statement, that Keynes may in the end rival Adam Smith in his influence on the economic thinking and governmental policy of his time and age. Both lived at profound turning points in the evolution of the economic order. Both were products of their times. Yet both were also powerful agents in giving direction to the unfolding process of institutional change.

Keynesian — serves the highly useful purpose of pointing up what factual data are relevant to a useful investigation.

THE PLACE OF THE GENERAL THEORY OF EMPLOYMENT, INTEREST, AND MONEY IN THE HISTORY OF ECONOMIC THOUGHT

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I.

I shall confine myself in this essay to the purely scientific content of *The General Theory of Employment, Interest, and Money*, the most famous of Keynes' economic works, whose tenth anniversary coincides with the death of its author. In the light of ten years of intense and voluminous discussion, what remains of the Keynesian revolution, of the New Economics? What will be the verdict of a historian of economic thought 100 years hence? There is no doubt Keynes stirred the stale, economic frog pond to its depth. He has kept economists in a state of agitation for the last ten years, and probably for many years to come. The brilliance of his style, the versatility, flexibility, incredible quickness, and fecundity of his mind,

the many-sidedness of his intellectual interests, the sharpness of his wit, in one word the fullness of his personality was bound to fascinate scores of people in and outside the economic profession. Only a dullard or narrow-minded fanatic could fail to be moved to admiration by Keynes' genius. But the novelty and validity of the propositions which constitute his system are a different matter altogether — quite independent of the challenging way in which he pronounced them, of the psychological stimulus afforded by his bold attack on widely accepted modes of thought, of much needed change in emphasis which we owe to his book, and of the wisdom (or unwisdom) of his policy recommendations. Only with the logical content of his system shall we concern ourselves in the present paper.