

THE
QUARTERLY JOURNAL
OF
ECONOMICS

FEBRUARY, 1937

THE GENERAL THEORY OF EMPLOYMENT

SUMMARY

I. Comments on the four discussions in the previous issue of points in the General Theory, 209. — II. Certain definite points on which the writer diverges from previous theories, 212. — The theory of interest restated, 215. — Uncertainties and fluctuations of investment, 217. — III. Demand and Supply for output as a whole, 219. — The output of capital goods and of consumption, 221.

I

I am much indebted to the Editors of the Quarterly Journal for the four contributions relating to my General Theory of Employment, Interest and Money which appeared in the issue for November, 1936. They contain detailed criticisms, much of which I accept and from which I hope to benefit. There is nothing in Professor Taussig's comment from which I disagree. Mr. Leontief is right, I think, in the distinction he draws between my attitude and that of the "orthodox" theory to what he calls the "homogeneity postulate." I should have thought, however, that there was abundant evidence from experience to contradict this postulate; and that, in any case, it is for those who make a highly special assumption to justify it, rather than for one who dispenses with it, to prove a general negative. I would also suggest that his idea might be applied more fruitfully and with greater theoretical precision in connection with the part played by the quantity of money in determining the rate of interest.¹ For it is here, I think, that the homogeneity postulate primarily enters into the orthodox theoretical scheme.

1. Cf. my paper on "The Theory of the Rate of Interest" to appear in the volume of Essays in honor of Irving Fisher.

My differences, such as they are, from Mr. Robertson chiefly arise out of my conviction that both he and I differ more fundamentally from our predecessors than his piety will allow. With many of his points I agree, without, however, being conscious in several instances of having said (or, anyhow, meant) anything different. I am surprised he should think that those who make sport with the velocity of the circulation of money have much in common with the theory of the multiplier. I fully agree with the important point he makes (pp. 180-183) that the increased demand for money resulting from an increase in activity has a backwash which tends to raise the rate of interest; and this is, indeed, a significant element in my theory of why booms carry within them the seeds of their own destruction. But this is, essentially, a part of the liquidity theory of the rate of interest, and not of the "orthodox" theory. Where he states (p. 183) that my theory must be regarded "not as a refutation of a common-sense account of events in terms of supply and demand for loanable funds, but as an alternative version of it," I must ask, before agreeing, for at least one reference to where this common-sense account is to be found.

There remains the most important of the four comments, namely, Professor Viner's. In regard to his criticisms of my definition and treatment of involuntary unemployment, I am ready to agree that this part of my book is particularly open to criticism. I already feel myself in a position to make improvements, and I hope that, when I do so, Professor Viner will feel more content, especially as I do not think that there is anything fundamental between us here. In the case of his second section, however, entitled "The Propensity to Hoard" I am prepared to debate his points. There are passages which suggest that Professor Viner is thinking too much in the more familiar terms of the quantity of money actually hoarded, and that he overlooks the emphasis I seek to place on the rate of interest as being the inducement *not* to hoard. It is precisely because the facilities for hoarding are strictly limited that liquidity preference mainly operates by increasing the rate of interest. I cannot agree that "in

modern monetary theory the propensity to hoard is generally dealt with, with results which in kind are substantially identical with Keynes', as a factor operating to reduce the 'velocity' of money." On the contrary, I am convinced that the monetary theorists who try to deal with it in this way are altogether on the wrong track.² Again, when Professor Viner points out that most people invest their savings at the best rate of interest they can get and asks for statistics to justify the importance I attach to liquidity-preference, he is overlooking the point that it is the *marginal* potential hoarder who has to be satisfied by the rate of interest, so as to bring the desire for actual hoards within the narrow limits of the cash available for hoarding. When, as happens in a crisis, liquidity-preferences are sharply raised, this shows itself not so much in increased hoards — for there is little, if any, more cash which is hoardable than there was before — as in a sharp rise in the rate of interest, *i.e.* securities fall in price until those, who would now like to get liquid if they could do so at the previous price, are persuaded to give up the idea as being no longer practicable on reasonable terms. A rise in the rate of interest is a means *alternative* to an increase of hoards for satisfying an increased liquidity-preference. Nor is my argument affected by the admitted fact that different types of assets satisfy the desire for liquidity in different degrees. The mischief is done when the rate of interest corresponding to the degree of liquidity of a given asset leads to a market-capitalization of that asset which is less than its cost of production.

There are other criticisms also which I should be ready to debate. But tho I might be able to justify my own language, I am anxious not to be led, through doing so in too much detail, to overlook the substantial points which may, nevertheless, underlie the reactions which my treatment has produced in the minds of my critics. I am more attached to the comparatively simple fundamental ideas which underlie my theory than to the particular forms in which I have embodied them, and I have no desire that the latter should be crystal-

2. See below.

lized at the present stage of the debate. If the simple basic ideas can become familiar and acceptable, time and experience and the collaboration of a number of minds will discover the best way of expressing them. I would, therefore, prefer to occupy such further space, as the Editor of this Journal can allow me, in trying to reëxpress some of these ideas, than in detailed controversy which might prove barren. And I believe that I shall effect this best, even tho this may seem to some as plunging straight off into the controversial mood from which I purport to seek escape, if I put what I have to say in the shape of a discussion as to certain definite points where I seem to myself to be most clearly departing from previous theories.

II

It is generally recognized that the Ricardian analysis was concerned with what we now call long-period equilibrium. Marshall's contribution mainly consisted in grafting on to this the marginal principle and the principle of substitution, together with some discussion of the passage from one position of long-period equilibrium to another. But he assumed, as Ricardo did, that the amounts of the factors of production in use were given and that the problem was to determine the way in which they would be used and their relative rewards. Edgeworth and Professor Pigou and other later and contemporary writers have embroidered and improved this theory by considering how different peculiarities in the shapes of the supply functions of the factors of production would affect matters, what will happen in conditions of monopoly and imperfect competition, how far social and individual advantage coincide, what are the special problems of exchange in an open system and the like. But these more recent writers like their predecessors were still dealing with a system in which the amount of the factors employed was given and the other relevant facts were known more or less for certain. This does not mean that they were dealing with a system in which change was ruled out, or even one in which the disappointment of expectation was ruled out. But at any given time facts and expectations were assumed to be given in

a definite and calculable form; and risks, of which, tho admitted, not much notice was taken, were supposed to be capable of an exact actuarial computation. The calculus of probability, tho mention of it was kept in the background, was supposed to be capable of reducing uncertainty to the same calculable status as that of certainty itself; just as in the Benthamite calculus of pains and pleasures or of advantage and disadvantage, by which the Benthamite philosophy assumed men to be influenced in their general ethical behavior.

Actually, however, we have, as a rule, only the vaguest idea of any but the most direct consequences of our acts. Sometimes we are not much concerned with their remoter consequences, even tho time and chance may make much of them. But sometimes we are intensely concerned with them, more so, occasionally, than with the immediate consequences. Now of all human activities which are affected by this remoter preoccupation, it happens that one of the most important is economic in character, namely, Wealth. The whole object of the accumulation of Wealth is to produce results, or potential results, at a comparatively distant, and sometimes at an *indefinitely* distant, date. Thus the fact that our knowledge of the future is fluctuating, vague and uncertain, renders Wealth a peculiarly unsuitable subject for the methods of the classical economic theory. This theory might work very well in a world in which economic goods were necessarily consumed within a short interval of their being produced. But it requires, I suggest, considerable amendment if it is to be applied to a world in which the accumulation of wealth for an indefinitely postponed future is an important factor; and the greater the proportionate part played by such wealth-accumulation the more essential does such amendment become.

By "uncertain" knowledge, let me explain, I do not mean merely to distinguish what is known for certain from what is only probable. The game of roulette is not subject, in this sense, to uncertainty; nor is the prospect of a Victory bond being drawn. Or, again, the expectation of life is only slightly

uncertain. Even the weather is only moderately uncertain. The sense in which I am using the term is that in which the prospect of a European war is uncertain, or the price of copper and the rate of interest twenty years hence, or the obsolescence of a new invention, or the position of private wealth-owners in the social system in 1970. About these matters there is no scientific basis on which to form any calculable probability whatever. We simply do not know. Nevertheless, the necessity for action and for decision compels us as practical men to do our best to overlook this awkward fact and to behave exactly as we should if we had behind us a good Benthamite calculation of a series of prospective advantages and disadvantages, each multiplied by its appropriate probability, waiting to be summed.

How do we manage in such circumstances to behave in a manner which saves our faces as rational, economic men? We have devised for the purpose a variety of techniques, of which much the most important are the three following:

(1) We assume that the present is a much more serviceable guide to the future than a candid examination of past experience would show it to have been hitherto. In other words we largely ignore the prospect of future changes about the actual character of which we know nothing.

(2) We assume that the *existing* state of opinion as expressed in prices and the character of existing output is based on a *correct* summing up of future prospects, so that we can accept it as such unless and until something new and relevant comes into the picture.

(3) Knowing that our own individual judgment is worthless, we endeavor to fall back on the judgment of the rest of the world which is perhaps better informed. That is, we endeavor to conform with the behavior of the majority or the average. The psychology of a society of individuals each of whom is endeavoring to copy the others leads to what we may strictly term a *conventional* judgment.

Now a practical theory of the future based on these three principles has certain marked characteristics. In particular, being based on so flimsy a foundation, it is subject to sudden

and violent changes. The practice of calmness and immobility, of certainty and security, suddenly breaks down. New fears and hopes will, without warning, take charge of human conduct. The forces of disillusion may suddenly impose a new conventional basis of valuation. All these pretty, polite techniques, made for a well-panelled Board Room and a nicely regulated market, are liable to collapse. At all times the vague panic fears and equally vague and unreasoned hopes are not really lulled, and lie but a little way below the surface.

Perhaps the reader feels that this general, philosophical disquisition on the behavior of mankind is somewhat remote from the economic theory under discussion. But I think not. Tho this is how we behave in the market place, the theory we devise in the study of how we behave in the market place should not itself submit to market-place idols. I accuse the classical economic theory of being itself one of these pretty, polite techniques which tries to deal with the present by abstracting from the fact that we know very little about the future.

I daresay that a classical economist would readily admit this. But, even so, I think he has overlooked the precise nature of the difference which his abstraction makes between theory and practice, and the character of the fallacies into which he is likely to be led.

This is particularly the case in his treatment of Money and Interest. And our first step must be to elucidate more clearly the functions of Money.

Money, it is well known, serves two principal purposes. By acting as a money of account it facilitates exchanges without its being necessary that it should ever itself come into the picture as a substantive object. In this respect it is a convenience which is devoid of significance or real influence. In the second place, it is a store of wealth. So we are told, without a smile on the face. But in the world of the classical economy, what an insane use to which to put it! For it is a recognized characteristic of money as a store of wealth that it is barren; whereas practically every other form of storing

wealth yields some interest or profit. Why should anyone outside a lunatic asylum wish to use money as a store of wealth?

Because, partly on reasonable and partly on instinctive grounds, our desire to hold Money as a store of wealth is a barometer of the degree of our distrust of our own calculations and conventions concerning the future. Even tho this feeling about Money is itself conventional or instinctive, it operates, so to speak, at a deeper level of our motivation. It takes charge at the moments when the higher, more precarious conventions have weakened. The possession of actual money lulls our disquietude; and the premium which we require to make us part with money is the measure of the degree of our disquietude.

The significance of this characteristic of money has usually been overlooked; and in so far as it has been noticed, the essential nature of the phenomenon has been misdescribed. For what has attracted attention has been the *quantity* of money which has been hoarded; and importance has been attached to this because it has been supposed to have a direct proportionate effect on the price-level through affecting the velocity of circulation. But the *quantity* of hoards can only be altered either if the total quantity of money is changed or if the quantity of current money-income (I speak broadly) is changed; whereas fluctuations in the degree of confidence are capable of having quite a different effect, namely, in modifying not the amount that is actually hoarded, but the amount of the premium which has to be offered to induce people not to hoard. And changes in the propensity to hoard, or in the state of liquidity-preference as I have called it, primarily affect, not prices, but the rate of interest; any effect on prices being produced by repercussion as an ultimate consequence of a change in the rate of interest.

This, expressed in a very general way, is my theory of the rate of interest. The rate of interest obviously measures — just as the books on arithmetic say it does — the premium which has to be offered to induce people to hold their wealth in some form other than hoarded money. The quantity of

money and the amount of it required in the active circulation for the transaction of current business (mainly depending on the level of money-income) determine how much is available for inactive balances, *i.e.* for hoards. The rate of interest is the factor which adjusts at the margin the demand for hoards to the supply of hoards.

Now let us proceed to the next stage of the argument. The owner of wealth, who has been induced not to hold his wealth in the shape of hoarded money, still has two alternatives between which to choose. He can lend his money at the current rate of money-interest or he can purchase some kind of capital-asset. Clearly in equilibrium these two alternatives must offer an equal advantage to the marginal investor in each of them. This is brought about by shifts in the money-prices of capital-assets relative to the prices of money-loans. The prices of capital-assets move until, having regard to their prospective yields and account being taken of all those elements of doubt and uncertainty, interested and disinterested advice, fashion, convention and what else you will which affect the mind of the investor, they offer an equal apparent advantage to the marginal investor who is wavering between one kind of investment and another.

This, then, is the first repercussion of the rate of interest, as fixed by the quantity of money and the propensity to hoard, namely, on the prices of capital-assets. This does not mean, of course, that the rate of interest is the only fluctuating influence on these prices. Opinions as to their prospective yield are themselves subject to sharp fluctuations, precisely for the reason already given, namely, the flimsiness of the basis of knowledge on which they depend. It is these opinions taken in conjunction with the rate of interest which fix their price.

Now for stage three. Capital-assets are capable, in general, of being newly produced. The scale on which they are produced depends, of course, on the relation between their costs of production and the prices which they are expected to realize in the market. Thus if the level of the rate of interest taken in conjunction with opinions about their prospective

yield raise the prices of capital-assets, the volume of current investment (meaning by this the value of the output of newly produced capital-assets) will be increased; while if, on the other hand, these influences reduce the prices of capital-assets, the volume of current investment will be diminished.

It is not surprising that the volume of investment, thus determined, should fluctuate widely from time to time. For it depends on two sets of judgments about the future, neither of which rests on an adequate or secure foundation — on the propensity to hoard and on opinions of the future yield of capital-assets. Nor is there any reason to suppose that the fluctuations in one of these factors will tend to offset the fluctuations in the other. When a more pessimistic view is taken about future yields, that is no reason why there should be a diminished propensity to hoard. Indeed, the conditions which aggravate the one factor tend, as a rule, to aggravate the other. For the same circumstances which lead to pessimistic views about future yields are apt to increase the propensity to hoard. The only element of self-righting in the system arises at a much later stage and in an uncertain degree. If a decline in investment leads to a decline in output as a whole, this may result (for more reasons than one) in a reduction of the amount of money required for the active circulation, which will release a larger quantity of money for the inactive circulation, which will satisfy the propensity to hoard at a lower level of the rate of interest, which will raise the prices of capital-assets, which will increase the scale of investment, which will restore in some measure the level of output as a whole.

This completes the first chapter of the argument, namely, the liability of the scale of investment to fluctuate for reasons quite distinct (a) from those which determine the propensity of the individual to *save* out of a given income and (b) from those physical conditions of technical capacity to aid production which have usually been supposed hitherto to be the chief influence governing the marginal efficiency of capital.

If, on the other hand, our knowledge of the future was calculable and not subject to sudden changes, it might be

justifiable to assume that the liquidity-preference curve was both stable and very inelastic. In this case a small decline in money-income would lead to a large fall in the rate of interest, probably sufficient to raise output and employment to the full.³ In these conditions we might reasonably suppose that the whole of the available resources would normally be employed; and the conditions required by the orthodox theory would be satisfied.

III

My next difference from the traditional theory concerns its apparent conviction that there is no necessity to work out a theory of the demand and supply of output *as a whole*. Will a fluctuation in investment, arising for the reasons just described, have any effect on the demand for output as a whole, and consequently on the scale of output and employment? What answer can the traditional theory make to this question? I believe that it makes no answer at all, never having given the matter a single thought; the theory of effective demand, that is the demand for output as a whole, having been entirely neglected for more than a hundred years.

My own answer to this question involves fresh considerations. I say that effective demand is made up of two items — investment-expenditure determined in the manner just explained and consumption-expenditure. Now what governs the amount of consumption-expenditure? It depends mainly on the level of income. People's propensity to spend (as I call it) is influenced by many factors such as the distribution of income, their normal attitude to the future and — tho probably in a minor degree — by the rate of interest. But in the main the prevailing psychological law seems to be that when aggregate income increases, consumption-expenditure will also increase but to a somewhat lesser extent. This is a very obvious conclusion. It simply amounts to saying that

3. When Professor Viner charges me with assigning to liquidity-preference "a grossly exaggerated importance," he must mean that I exaggerate its instability and its elasticity. But if he is right, a small decline in money-income would lead, as stated above, to a large fall in the rate of interest. I claim that experience indicates the contrary.

an increase in income will be divided in some proportion or another between spending and saving, and that when our income is increased it is extremely unlikely that this will have the effect of making us either spend less or save less than before. This psychological law was of the utmost importance in the development of my own thought, and it is, I think, absolutely fundamental to the theory of effective demand as set forth in my book. But few critics or commentators so far have paid particular attention to it.

There follows from this extremely obvious principle an important, yet unfamiliar, conclusion. Incomes are created partly by entrepreneurs producing for investment and partly by their producing for consumption. The amount that is consumed depends on the amount of income thus made up. Hence the amount of consumption-goods which it will pay entrepreneurs to produce depends on the amount of investment-goods which they are producing. If, for example, the public are in the habit of spending nine-tenths of their income on consumption-goods, it follows that if entrepreneurs were to produce consumption-goods at a cost more than nine times the cost of the investment-goods they are producing, some part of their output could not be sold at a price which would cover its cost of production. For the consumption-goods on the market would have cost more than nine-tenths of the aggregate income of the public and would therefore be in excess of the demand for consumption-goods, which by hypothesis is only the nine-tenths. Thus entrepreneurs will make a loss until they contract their output of consumption-goods down to an amount at which it no longer exceeds nine times their current output of investment goods.

The formula is not, of course, quite so simple as in this illustration. The proportion of their incomes which the public will choose to consume will not be a constant one, and in the most general case other factors are also relevant. But there is always a formula, more or less of this kind, relating the output of consumption-goods which it pays to produce to the output of investment-goods; and I have given attention to it in my book under the name of the *Multiplier*. The fact that

an increase in consumption is apt in itself to stimulate this further investment merely fortifies the argument.

That the level of output of consumption-goods, which is profitable to the entrepreneur, should be related by a formula of this kind to the output of investment-goods depends on assumptions of a simple and obvious character. The conclusion appears to me to be quite beyond dispute. Yet the consequences which follow from it are at the same time unfamiliar and of the greatest possible importance.

The theory can be summed up by saying that, given the psychology of the public, the level of output and employment as a whole depends on the amount of investment. I put it in this way, not because this is the only factor on which aggregate output depends, but because it is usual in a complex system to regard as the *causa causans* that factor which is most prone to sudden and wide fluctuation. More comprehensively, aggregate output depends on the propensity to hoard, on the policy of the monetary authority as it affects the quantity of money, on the state of confidence concerning the prospective yield of capital-assets, on the propensity to spend and on the social factors which influence the level of the money-wage. But of these several factors it is those which determine the rate of investment which are most unreliable, since it is they which are influenced by our views of the future about which we know so little.

This that I offer is, therefore, a theory of why output and employment are so liable to fluctuation. It does not offer a ready-made remedy as to how to avoid these fluctuations and to maintain output at a steady optimum level. But it is, properly speaking, a Theory of Employment because it explains *why*, in any given circumstances, employment is what it is. Naturally I am interested not only in the diagnosis, but also in the cure; and many pages of my book are devoted to the latter. But I consider that my suggestions for a cure, which, avowedly, are not worked out completely, are on a different plane from the diagnosis. They are not meant to be definitive; they are subject to all sorts of special assumptions and are necessarily related to the particular

conditions of the time. But my main reasons for departing from the traditional theory go much deeper than this. They are of a highly general character and are meant to be definitive.

I sum up, therefore, the main grounds of my departure as follows:

(1) The orthodox theory assumes that we have a knowledge of the future of a kind quite different from that which we actually possess. This false rationalization follows the lines of the Benthamite calculus. The hypothesis of a calculable future leads to a wrong interpretation of the principles of behavior which the need for action compels us to adopt, and to an underestimation of the concealed factors of utter doubt, precariousness, hope and fear. The result has been a mistaken theory of the rate of interest. It is true that the necessity of equalizing the advantages of the choice between owning loans and assets requires that the rate of interest should be *equal* to the marginal efficiency of capital. But this does not tell us at what *level* the equality will be effective. The orthodox theory regards the marginal efficiency of capital as setting the pace. But the marginal efficiency of capital depends on the price of capital-assets; and since this price determines the rate of new investment, it is consistent in equilibrium with only one given level of money-income. Thus the marginal efficiency of capital is not determined, unless the level of money-income is given. In a system in which the level of money-income is capable of fluctuating, the orthodox theory is one equation short of what is required to give a solution. Undoubtedly the reason why the orthodox system has failed to discover this discrepancy is because it has always tacitly assumed that income *is* given, namely, at the level corresponding to the employment of all the available resources. In other words it is tacitly assuming that the monetary policy is such as to maintain the rate of interest at that level which is compatible with full employment. It is, therefore, incapable of dealing with the general case where employment is liable to fluctuate. Thus, instead of the marginal efficiency of capital determin-

ing the rate of interest, it is truer (tho not a full statement of the case) to say that it is the rate of interest which determines the marginal efficiency of capital.

(2) The orthodox theory would by now have discovered the above defect, if it had not ignored the need for a theory of the supply and demand of output as a whole. I doubt if many modern economists really accept Say's Law that supply creates its own demand. But they have not been aware that they were tacitly assuming it. Thus the psychological law underlying the Multiplier has escaped notice. It has not been observed that the amount of consumption-goods which it pays entrepreneurs to produce is a function of the amount of investment-goods which it pays them to produce. The explanation is to be found, I suppose, in the tacit assumption that every individual spends the whole of his income either on consumption or on buying, directly or indirectly, newly produced capital goods. But, here again, whilst the older economists expressly believed this, I doubt if many contemporary economists really do believe it. They have discarded these older ideas without becoming aware of the consequences.

J. M. KEYNES.

KING'S COLLEGE, CAMBRIDGE