

# A Suggestion for Simplifying the Theory of Money<sup>1</sup>

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AFTER the thunderstorms of recent years, it is with peculiar diffidence and even apprehension that one ventures to open one's mouth on the subject of money. In my own case these feelings are particularly intense, because I feel myself to be very much of a novice at the subject. My education has been mostly in the non-monetary parts of economics, and I have only come to be interested in money because I found that I could not keep it out of my non-monetary problems. Yet I am encouraged on reflection to hope that this may not prove a bad approach to the subject: that some things at least which are not very evident on direct inspection may become clearer from a cross-light of this sort.

It is of course very largely by such cross-fertilisation that economics progresses, and at least one department of non-monetary economics has hardly emerged from a very intimate affair with monetary theory. I do not, however, propose to resume this particular liaison. One understands that most economists have now read Böhm-Bawerk; yet whatever that union has bred, it has not been concord. I should prefer to seek illumination from another point of view—from a branch of economics which is more elementary, but, I think, in consequence better developed—the theory of value.

To anyone who comes over from the theory of value to the theory of money, there are a number of things which are rather startling. Chief of these is the preoccupation of monetary theorists with a certain equation, which states that the price of goods multiplied by the quantity of goods equals the amount of money which is spent on them. This equation crops up again and again, and it has all sorts of ingenious little arithmetical tricks performed on it. Sometimes it comes out

<sup>1</sup> A paper read at the Economic Club, November 1934. The reader is asked to bear in mind the fact that the paper was written to be read aloud, and to excuse certain pieces of mischief.

as  $MV = PT$ ; and once, in its most stupendous transfiguration, it blossomed into  $P = \frac{E}{O} + \frac{I' - S}{R}$ . Now we, of the theory of value, are not unfamiliar with this equation, and there was a time when we used to attach as much importance to it as monetary theorists seem to do still. This was in the middle of the last century, when we used to talk about value being "a ratio between demand and supply." Even now, we accept the equation, and work it, more or less implicitly, into our systems. But we are rather inclined to take it for granted, since it is rather tautologous, and since we have found that another equation, not alternative to the quantity equation, but complementary with it, is much more significant. This is the equation which states that the relative value of two commodities depends upon their relative marginal utility.

Now, to an *ingénu*, who comes over to monetary theory, it is extremely trying to be deprived of this sheet-anchor. It was marginal utility that really made sense of the theory of value; and to come to a branch of economics which does without marginal utility altogether! No wonder there are such difficulties and such differences! What is wanted is a "marginal revolution"!

That is my suggestion. But I know that it will meet with apparently crushing objections. I shall be told that the suggestion has been tried out before. It was tried by Wicksell, and though it led to interesting results, it did not lead to a marginal utility theory of money. It was tried by Mises, and led to the conclusion that money is a ghost of gold—because, so it appeared, money as such has no marginal utility.<sup>1</sup> The suggestion has a history, and its history is not encouraging.

This would be enough to frighten one off, were it not for two things. Both in the theory of value and in the theory of money there have been developments in the twenty or thirty

<sup>1</sup> A more subtle form of the same difficulty appears in the work of Marshall and his followers. They were aware that money ought to be subjected to marginal utility analysis; but they were so dominated by the classical conception of money as a "veil" (which is valid enough at a certain level of approximation) that they persisted in regarding the demand for money as a demand for the things which money can buy—"real balances." As a result of this, their invocation of marginal utility remained little more than a pious hope. For they were unable to distinguish, on marginal utility lines, between the desire to save and the desire to hoard; and they necessarily overlooked that indeterminateness in the "real balance" (so important in some applications of monetary theory), which occurs when the prices of consumption goods are expected to change. On the other hand, I must admit that some versions of the Marshallian theory come very close to what I am driving at. Cf. Lavington, *English Capital Market*, ch. vi.

years since Wicksell and Mises wrote. And these developments have considerably reduced the barriers that blocked their way.

In the theory of value, the work of Pareto, Wicksteed, and their successors, has broadened and deepened our whole conception of marginal utility. We now realise that the marginal utility analysis is nothing else than a general theory of choice, which is applicable whenever the choice is between alternatives that are capable of quantitative expression. Now money is obviously capable of quantitative expression, and therefore the objection that money has no marginal utility must be wrong. People do choose to have money rather than other things, and therefore, in the relevant sense, money must have a marginal utility.

But merely to call that marginal utility  $X$ , and then proceed to draw curves, would not be very helpful. Fortunately the developments in monetary theory to which I alluded come to our rescue.

Mr. Keynes' "Treatise," so far as I have been able to discover, contains at least three theories of money. One of them is the Savings and Investment theory, which, as I hinted, seems to me only a quantity theory much glorified. One of them is a Wicksellian natural rate theory. But the third is altogether much more interesting. It emerges when Mr. Keynes begins to talk about the price-level of investment goods; when he shows that this price-level depends upon the relative preference of the investor—to hold bank-deposits or to hold securities. Here at last we have something which to a value theorist looks sensible and interesting! Here at last we have a choice at the margin! And Mr. Keynes goes on to put substance into our  $X$ , by his doctrine that the relative preference depends upon the "bearishness" or "bullishness" of the public, upon their relative desire for liquidity or profit.

My suggestion may, therefore, be re-formulated. It seems to me that this third theory of Mr. Keynes really contains the most important part of his theoretical contribution; that here, at last, we have something which, on the analogy (the appropriate analogy) of value theory, does begin to offer a chance of making the whole thing easily intelligible; that it is from this point, not from velocity of circulation, natural rate of interest, or Saving and Investment, that we ought to start in constructing the theory of money. But in saying this, I am being more Keynesian than Keynes; I must endeavour to defend my position in detail.

## II

The essence of the method I am proposing is that we should take the position of an individual at a particular point of time, and enquire what determines the precise quantity of money which he will desire to hold. But even to this simple formulation of the problem it is necessary to append two footnotes.

1. "Point of Time." We are dealing with an individual decision to hold money *or* something else, and such a decision is always made at a point of time. It is only by concentrating on decisions made at particular points of time that we can apply the theory of value to the problem at all. A very large amount of current controversy about money seems to me to be due to the attempt, superficially natural, but, in fact, highly inconvenient, to establish a close relation between the demand for money and *income*. Now the simple consideration that the decision to hold money is always made at a point of time shows that the connection between income and the demand for money must always be indirect. And in fact the whole conception of income is so intricate and beset by so many perplexing difficulties, that the establishment of any connection with income ought only to be hoped for at a late stage of investigation.<sup>1</sup>

2. "Money." What sort of money are we considering? For the present, any sort of money. The following analysis will apply equally whether we think of money as notes, or bank deposits, or even metallic coins. It is true that with a metallic currency there is an ordinary commodity demand for the money substance to be considered, but it is relatively unimportant for most of our purposes. Perhaps it will be best if we take as our standard case that of a pure paper currency in a community where there are no banks. What follows has much wider application in reality. Only I would just ask you to keep this standard case in mind, since by using it as a basis for discussion, we may be able to save time a little.

An individual's decision to hold so much money means that he prefers to hold that amount of money, rather than either less or more. Now what are the precise contents of these displaced alternatives? He could reduce his holding of money in three ways:

<sup>1</sup> Cf. Lindahl, *The Concept of Income* (Essays in honour of Gustav Cassel).

1. by spending, i.e. buying something, it does not matter what;
2. by lending money to someone else;
3. by paying off debts which he owes to someone else.

He can increase his holding of money in three corresponding ways:

1. by selling something else which he owns;
2. by borrowing from someone else;
3. by demanding repayment of money which is owed by someone else.

This classification is, I think, complete. All ways of changing one's holding of money can be reduced to one of these classes or a combination of two of them—purchase or sale, the creation of new debts or the extinction of old.

If a person decides to hold money, it is implied that he prefers to do this than to adopt any of these three alternatives. But how is such a preference possible?

A preference for holding money instead of spending it on consumption goods presents no serious difficulty, for it is obviously the ordinary case of a preference for future satisfactions over present. At any moment, an individual will not usually devote the whole of his available resources to satisfying present wants—a part will be set aside to meet the needs of the future.

The critical question arises when we look for an explanation of the preference for holding money rather than capital goods. For capital goods will ordinarily yield a positive rate of return, which money does not. What has to be explained is the decision to hold assets in the form of barren money, rather than of interest- or profit-yielding securities. And obviously just the same question arises over our second and third types of utilisation. So long as rates of interest are positive, the decision to hold money rather than lend it, or use it to pay off old debts, is apparently an unprofitable one.

This, as I see it, is really the central issue in the pure theory of money. Either we have to give an explanation of the fact that people do hold money when rates of interest are positive, or we have to evade the difficulty somehow. It is the great traditional evasions which have led to Velocities of Circulation, Natural Rates of Interest, *et id genus omne*.<sup>1</sup>

<sup>1</sup> I do not wish to deny that these concepts have a use in their appropriate place—that is to say, in particular applications of monetary theory. But it seems to me that

Of course, the great evaders would not have denied that there must be some explanation of the fact. But they would have put it down to "frictions," and since there was no adequate place for frictions in the rest of their economic theory, a theory of money based on frictions did not seem to them a promising field for economic analysis.

This is where I disagree. I think we have to look the frictions in the face, and see if they are really so refractory after all. This will, of course, mean that we cannot allow them to go to sleep under so vague a title.

### III

The most obvious sort of friction, and undoubtedly one of the most important, is the cost of transferring assets from one form to another. This is of exactly the same character as the cost of transfer which acts as a certain impediment to change in all parts of the economic system; it doubtless comprises subjective elements as well as elements directly priced. Thus a person is deterred from investing money for short periods, partly because of brokerage charges and stamp duties, partly because it is not worth the bother.

The net advantage to be derived from investing a given quantity of money consists of the interest or profit earned less the cost of investment. It is only if this net advantage is expected to be positive (i.e. if the expected rate of interest  $\pm$  capital appreciation or depreciation, is greater than the cost of investment) that it will pay to undertake the investment.

Now, since the expected interest increases both with the quantity of money to be invested and with the length of time for which it is expected that the investment will remain untouched, while the costs of investment are independent of the length of time, and (as a whole) will almost certainly increase at a diminishing rate as the quantity of money to be invested increases, it becomes clear that with any given level of costs of investment, it will not pay to invest money for less than a certain period, and in less than certain quantities. It will be profitable to hold assets for short periods, and in relatively small quantities, in monetary form.

Thus, so far as we can see at present, the amount of money a person will desire to hold depends upon three factors: the they are a nuisance in monetary theory itself, that they offer no help in elucidating the general principles of the working of money.

dates at which he expects to make payments in the future, the cost of investment, and the expected rate of return on investment. The further ahead the future payments, the lower the cost of investment, and the higher the expected rate of return on invested capital—the lower will be the demand for money.

However, this statement is not quite accurate. For although all these factors may react on the demand for money, they may be insufficient to determine it closely. Since the quantity of available money must generally rise to some minimum before it is profitable to invest it at all, and further investment will then proceed by rather discontinuous jumps for a while, we shall expect to find the demand for money on the part of private individuals, excepting the very well-to-do, fairly insensitive to changes of this sort. But this does not mean that they are unimportant. For among those who are likely to be sensitive, we have to reckon, not only the well-to-do, but also all business men who are administering capital which is not solely their own private property. And this will give us, in total, a good deal of sensitivity.

#### IV

Our first list of factors influencing the demand for money—the expected rate of interest, the cost of investment, and the expected period of investment—does, therefore, isolate some factors which are really operative; but even so, it is not a complete list. For we have also to take into account the fact, which is in reality of such enormous importance, that people's expectations are never precise expectations of the kind we have been assuming. They do not say to themselves "this £100 I shall not want until June 1st" or "this investment will yield 3·7 per cent"; or, if they do, it is only a kind of shorthand. Their expectations are always, in fact, surrounded by a certain penumbra of doubt; and the density of that penumbra is of immense importance for the problem we are considering.

The risk-factor comes into our problem in two ways: first, as affecting the expected period of investment; and second, as affecting the expected net yield of investment. There are certain differences between its ways of operation on these two lines; but, as we shall see, the resultant effects are broadly similar.

Where risk is present, the *particular* expectation of a riskless situation is replaced by a band of possibilities, each of which is considered more or less probable. It is convenient to represent these probabilities to oneself, in statistical fashion, by a mean value, and some appropriate measure of dispersion. (No single measure will be wholly satisfactory, but here this difficulty may be overlooked.) Roughly speaking, we may assume that a change in mean value with constant dispersion has much the same sort of effect as a change in the particular expectations we have been discussing before. The peculiar problem of risk therefore reduces to an examination of the consequences of a change in dispersion. Increased dispersion means increased uncertainty.

If, therefore, our individual, instead of knowing (or thinking he knows) that he will not want his £100 till June 1st, becomes afflicted by increased uncertainty; that is to say, while still thinking that June 1st is the most likely date, he now thinks that it will be very possible that he will want it before, although it is also very possible that he will not want it till after; what will be the effect on his conduct? Let us suppose that when the date was certain, the investment was marginal—in the sense that the expected yield only just outweighed the cost of investment. With uncertainty introduced in the way we have described, the investment now offers a chance of larger gain, but it is offset by an equal chance of equivalent loss. In this situation, I think we are justified in assuming that he will become less willing to undertake the investment.

If this is so, uncertainty of the period for which money is free will ordinarily act as a deterrent to investment. It should be observed that uncertainty may be increased, either by a change in objective facts on which estimates are based, or in the psychology of the individual, if his temperament changes in such a way as to make him less inclined to bear risks.

To turn now to the other uncertainty—uncertainty of the yield of investment. Here again we have a penumbra; and here again we seem to be justified in assuming that spreading of the penumbra, increased dispersion of the possibilities of yield, will ordinarily be a deterrent to investment. Indeed, without assuming this to be the normal case, it would be impossible to explain some of the most obvious of the observed facts of the capital market. This sort of risk, therefore, will

ordinarily be another factor tending to increase the demand for money.

## V

So far the effect of risk seems fairly simple; an increase in the risk of investment will act like a fall in the expected rate of net yield; an increase in the uncertainty of future out-payments will act like a shortening of the time which is expected to elapse before those out-payments; and all will ordinarily tend to increase the demand for money. But although this is what it comes down to in the end, the detailed working of the risk-factor is not so simple; and since these further complications have an important bearing upon monetary problems, we cannot avoid discussing them here.

It is one of the peculiarities of risk that the total risk incurred when more than one risky investment is undertaken, does not bear any simple relation to the risk involved in each of the particular investments taken separately. In most cases, the "law of large numbers" comes into play (quite how, cannot be discussed here), so that the risk incurred by undertaking a number of separate risky investments will be less than that which would have been incurred if the same total capital had been invested altogether in one direction. When the number of separate investments is very large, the total risk may sometimes be reduced very low indeed.

Now in a world where cost of investment was negligible, everyone would be able to take considerable advantage of this sort of risk-reduction. By dividing up his capital into small portions, and spreading his risks, he would be able to insure himself against any large total risk on the whole amount. But in actuality, the cost of investment, making it definitely unprofitable to invest less than a certain minimum amount in any particular direction, closes the possibility of risk-reduction along these lines to all those who do not possess the command over considerable quantities of capital. This has two consequences.

On the one hand, since most people do not possess sufficient resources to enable them to take much advantage of the law of large numbers, and since even the large capitalist cannot annihilate his risks altogether in this manner, there will be a tendency to spread capital over a number of investments, not for this purpose, but for another. By investing only a

proportion of total assets in risky enterprises, and investing the remainder in ways which are considered more safe, it will be possible for the individual to adjust his whole risk-situation to that which he most prefers, more closely than he could do by investing in any single enterprise. It will be possible, for example, for him to feel fairly certain that in particular unfavourable eventualities he will not lose more than a certain amount. And, since, both with an eye on future commitments with respect to debt, and future needs for consumption, large losses will lay upon him a proportionately heavier burden than small losses, this sort of adjustment to the sort of chance of loss he is prepared to stand will be very well worth while.

We shall, therefore, expect to find our representative individual distributing his assets among relatively safe and relatively risky investments; and the distribution will be governed, once again, by the objective facts upon which he bases his estimates of risk, and his subjective preference for much or little risk-bearing.

On the other hand, those persons who have command of large quantities of capital, and are able to spread their risks, are not only able to reduce the risk on their own capital fairly low—they are also able to offer very good security for the investment of an extra unit along with the rest. If, therefore, they choose to become borrowers, they are likely to be very safe borrowers. They can, therefore, provide the safe investments which their fellow-citizens need.

In the absence of such safe investments, the ordinary individual would be obliged to keep a very considerable proportion of his assets in monetary form, since money would be the only safe way of holding assets. The appearance of such safe investments will act as a substitute for money in one of its uses, and therefore diminish the demand for money.

This particular function is performed, in a modern community, not only by banks, but also by insurance companies, investment trusts, and, to a certain (perhaps small) extent, even by large concerns of other kinds, through their prior charges. And, of course, to a very large extent indeed, it is performed by government stock of various kinds.

Banks are simply the extreme case of this phenomenon; they are enabled to go further than other concerns in the creation of money substitutes, because the security of their promises to pay is accepted generally enough for it to be possible to make payments in those promises. Bank deposits

are, therefore, enabled to substitute money still further, because the cost of investment is reduced by a general belief in the absence of risk.

This is indeed a difference so great as to be properly regarded as a difference in kind; but it is useful to observe that the creation of bank credit is not really different in its economic effects from the fundamentally similar activities of other businesses and other persons. The significant thing is that the person who deposits money with a bank does not notice any change in his liquidity position; he considers the bank deposit to be as liquid as cash. The bank, on the other hand, finds itself more liquid, if it retains the whole amount of the cash deposited; if it does not wish to be more liquid, but seeks (for example) to restore a conventional reserve ratio, it will have to increase its investments. But substantially the same sort of thing happens when anyone, whose credit is much above the average, borrows. Here the borrowing is nearly always a voluntary act on the part of the borrower, which would not be undertaken unless he was willing to become less liquid than before; the fact that he has to pay interest on the loan means that he will be made worse off if he does not spend the proceeds. On the other hand, if the borrower's credit is good, the liquidity of the lender will not be very greatly impaired by his making the loan, so that his demand for money is likely to be at least rather less than it was before the loan was made. Thus the net effect of the loan is likely to be "inflationary," in the sense that the purchase of capital goods or securities by the borrower is likely to be a more important affair than any sale of capital goods or securities by the lender, made necessary in order for the lender to restore his liquidity position.

Does it follow that all borrowing and lending is inflationary in this sense? I do not think so; for let us take the case when the borrower's credit is very bad, and the lender is only tempted to lend by the offer of a very high rate of interest. Then the impairment of the lender's liquidity position will be very considerable; and he may feel it necessary to sell rather less risky securities to an even greater capital sum in order to restore his liquidity position. Here the net effect would be "deflationary."

The practical conclusion of this seems to be that while *voluntary* borrowing and lending is at least a symptom of monetary expansion, and is thus likely to be accompanied by rising prices, "distress borrowing" is an exception to this

rule; and it follows, further, that the sort of stimulation to lending, by persuading people to make loans which they would not have made without persuasion (which was rather a feature of certain phases of the world depression), is a dubious policy—for the lenders, perhaps without realising what they are doing, are very likely to try and restore their liquidity position, and so to offset, and perhaps more than offset, the expansive effects of the loan.

## VI

It is now time for us to begin putting together the conclusions we have so far reached. Our method of analysis, it will have appeared, is simply an extension of the ordinary method of value theory. In value theory, we take a private individual's income and expenditure account; we ask which of the items in that account are under the individual's own control, and then how he will adjust these items in order to reach a most preferred position. On the production side, we make a similar analysis of the profit and loss account of the firm. My suggestion is that monetary theory needs to be based again upon a similar analysis, but this time, not of an income account, but of a capital account, a balance sheet. We have to concentrate on the forces which make assets and liabilities what they are.

So as far as banking theory is concerned, this is really the method which is currently adopted; though the essence of the problem is there somewhat obscured by the fact that banks, in their efforts to reach their "most preferred position" are hampered or assisted by the existence of conventional or legally obligatory reserve ratios. For theoretical purposes, this fact ought only to be introduced at a rather late stage; if that is done, then my suggestion can be expressed by saying that we ought to regard every individual in the community as being, on a small scale, a bank. Monetary theory becomes a sort of generalisation of banking theory.

We shall have to draw up a sort of generalised balance sheet, suitable for all individuals and institutions. It will have to be so generalised that many of the individual items will, in a great many cases, not appear. But that does not matter for our purposes. Such a generalised balance sheet will presumably run much as follows.

<i>Assets.</i>	<i>Liabilities.</i>
Consumption goods	
—perishable	
Consumption goods	
—durable	
Money	
Bank deposits	
Short term debts	Short term debts
Long term debts	Long term debts
Stocks and shares	
Productive equipment (in- cluding goods in process)	

We have been concerned up to the present with an analysis (very sketchy, I am afraid) of the equilibrium of this balance sheet. This analysis has at least shown that the relative size of the different items on this balance sheet is governed mainly by anticipation of the yield of investments and of risks.<sup>1</sup> It is these anticipations which play a part here corresponding to the part played by prices in value theory.<sup>2</sup>

Now the fact that our "equilibrium" is here determined by subjective factors like anticipations, instead of objective factors like prices, means that this purely theoretical study of money can never hope to reach results so tangible and precise as those which value theory in its more limited field can hope to attain. If I am right, the whole problem of applying monetary theory is largely one of deducing changes in anticipations from the changes in objective data which call them forth. Obviously, this is not an easy task, and, above all, it is not one which can be performed in a mechanical fashion. It needs judgment and knowledge of business psychology much more than sustained logical reasoning. The arm-chair economist will be bad at it, but he can at least begin to realise

<sup>1</sup> As we have seen, these risks are as much a matter of the period of investment as of the yield. For certain purposes this is very important. Thus, in the case of that kind of investment which consists in the starting of actual processes of production, the yield which is expected if the process can be carried through may be considerable; but the yield if the process has to be interrupted will be large and negative. Uncertainty of the period for which resources are free will therefore have a very powerful effect in interrupting production. Short-run optimism will usually be enough to start a Stock Exchange boom; but to start an industrial boom relatively long-run optimism is necessary.

<sup>2</sup> I am aware that too little is said in this paper about the liabilities side of the above balance sheet. A cursory examination suggests that the same forces which work through the assets side work through the liabilities side in much the same way. But this certainly requires further exploration.

the necessity for it, and learn to co-operate with those who can do it better than he can.

However, I am not fouling my own nest; I do not at all mean to suggest that economic theory comes here to the end of its resources. When once the connection between objective facts and anticipations has been made, theory comes again into its rights; and it will not be able to complain of a lack of opportunities.

Nevertheless, it does seem to me most important that, when considering these further questions, we should be well aware of the gap which lies behind us, and that we should bring out very clearly the assumptions which we are making about the genesis of anticipations. For this does seem to be the only way in which we can overcome the extraordinary theoretical differences of recent years, which are, I think very largely traceable to this source.

## VII

Largely, but not entirely; or rather a good proportion of them seem to spring from a closely related source, which is yet not quite identical with the first. When we seek to apply to a changing world any particular sort of individual equilibrium, we need to know how the individual will respond, not only to changes in the price-stimuli, or anticipation-stimuli, but also to a change in his total wealth.<sup>1</sup> How will he distribute an increment (or decrement) of wealth—supposing, as we may suppose, that this wealth is measured in monetary terms?

It may be observed that this second problem has an exact counterpart in value theory. Recent work in that field has shown the importance of considering carefully, not only how the individual reacts to price-changes, but also how he reacts to changes in his available expenditure. Total wealth, in our present problem, plays just the same part as total expenditure in the theory of value.

In the theory of money, what we particularly want to know is how the individual's demand for money will respond to a change in his total wealth—that is to say, in the value of his

<sup>1</sup> The amount of money demanded depends upon three groups of factors: (1) the individual's subjective preferences for holding money or other things; (2) his wealth; (3) his anticipations of future prices and risks. Changes in the demand for money affect present prices, but present prices affect the demand for money mainly through their effect on wealth and on price-anticipations.

net assets. Not seeing any *a priori* reason why he should react in one way rather than another, monetary theorists have often been content to make use of the simplest possible assumption—that the demand for money will be increased in the same proportion as total net assets have increased.<sup>1</sup> But this is a very arbitrary assumption; and it may be called in question, partly for analytical reasons, and partly because it seems to make the economic system work much too smoothly to account for observed fact. As one example of this excessive smoothness, I may instance the classical theory of international payments; as another, Mr. Harrod's views on the "Expansion of Bank Credit" which have recently been interesting the readers of *Economica* and of the *Economist*.<sup>2</sup> It would hardly be too much to say that one observed fact alone is sufficient to prove that this assumption cannot be universally true (let us hope and pray that it is sometimes true, nevertheless)—the fact of the trade cycle. For if it were true, the monetary system would always exhibit a quite straightforward kind of stability; a diminished demand for money on the part of some people would raise the prices of capital goods and securities, and this would raise the demand for money on the part of the owners of those securities. Similarly an increased demand for money would lower prices, and this would lower the demand for money elsewhere. The whole thing would work out like an ordinary demand and supply diagram. But it is fairly safe to say that we do not find this straightforward stability in practice.

The analytical reason why this sort of analysis is unsatisfactory is the following: The assumption of increased wealth leading to a proportionately increased demand for money is only plausible so long as the value of assets has increased, but other things have remained equal. Now, as we have seen, the other things which are relevant to this case are not prices (as in the theory of value) but anticipations, of the yield of investment and so on. And since these anticipations must be based upon objective facts, and an unexpected increase in wealth implies a change in objective facts, of a sort very likely to be relevant to the anticipations, it is fairly safe to assume that

<sup>1</sup> Of course, they say "income." But in this case "income" can only be strictly interpreted as "expected income." And in most of the applications which are made, this works out in the same way as the assumption given above.

<sup>2</sup> The above was written before reading Mr. Harrod's rejoinder to Mr. Robertson. As I understand him, Mr. Harrod is now only maintaining that the expansion of bank credit *may* work smoothly. With that I am in no disagreement.

very many of the changes in wealth with which we are concerned will be accompanied by a change in anticipations. If this is so, the assumption of proportionate change in the demand for money loses most of its plausibility.

For if we assume (this is jumping over my gap, so I must emphasise that it is only an assumption) that an increase in wealth will very often be accompanied by an upward revision of expectations of yield, then the change will set in motion at least one tendency which is certain to diminish the demand for money. Taking this into account *as well as* the direct effect of the increase in wealth, the situation begins to look much less clear. For it must be remembered that our provisional assumption about the direct effect was only guess-work; there is no necessary reason why the direct effect should increase the demand for money proportionately or even increase it at all. So, putting the two together, it looks perfectly possible that the demand for money may either increase or diminish.

We are treading on thin ice; but the unpleasant possibilities which now begin to emerge are sufficiently plausible for their examination to be well worth while. What happens, to take a typical case, if the demand for money is independent of changes in wealth, so that neither an increase in wealth nor a diminution will affect the demand for money?

One can conceive of a sort of equilibrium in such a world, but it would be a hopelessly unstable equilibrium. For if any single person tried to increase his money holdings, and the supply of money was not increased, prices would all fall to zero. If any person tried to diminish his money holdings, prices would all become infinite. In fact, of course, if demand were so rigid, the system could only be kept going by a continuous and meticulous adaptation of the supply of money to the demand.

Further, in such a world, very curious results would follow from saving. A sudden increase in saving would leave some people (the owners of securities) with larger money balances than they had expected; other people (the producers of consumption goods) with smaller money balances. If, in their efforts to restore their money holdings, the owners of securities buy more securities, and the producers of consumption goods buy less consumption goods, a swing of prices, consumption goods prices falling, security prices rising, would set in, and might go on indefinitely. It could only be stopped, either by

the owners of securities buying the services of producers, or by the producers selling securities. But there is no knowing when this would happen, or where prices would finally settle; for the assumption of a rigid demand for money snaps the connecting link between money and prices.

After this, we shall be fairly inured to shocks. It will not surprise us to be told that wage-changes will avail nothing to stop either an inflation or a deflation, and we shall be able to extend the proposition for ourselves to interference with conventional or monopolistic prices of any kind, in any direction. But we shall be in a hurry to get back to business.

### VIII

These exercises in the economics of an utterly unstable world give us something too mad to fit even our modern *Spätkapitalismus*; but the time which economists have spent on them will not have been wasted if they have served as a corrective to the too facile optimism engendered by the first assumption we tried. Obviously, what we want is something between the two—but not, I think, a mere splitting of the difference. This would give the assumption that an increase in wealth always raises the demand for money, but less than proportionately; if we had time, it might be profitable to work out this case in detail. It would allow for the possibility of considerable fluctuations, but they would not be such absurd and hopeless fluctuations as in the case of rigid demand.

However, I think we can do better than that. The assumption which seems to me most plausible, most consistent with the whole trend of our analysis, and at the same time to lead to results which at any rate look realistic, is one which stresses the probable differences in the reactions of different members of the community. We have already seen that a considerable proportion of a community's monetary stock is always likely to be in the hands of people who are obliged by their relative poverty to be fairly insensitive to changes in anticipations. For these people, therefore, most of the incentive to reduce their demand for money when events turn out more favourably will be missing; there seems no reason why we should not suppose that they will generally react "positively" to changes in their wealth—that an increase in wealth will raise their demand for money more or less proportionately, a fall in their wealth will diminish it. But we must also allow for the

probability that other people are much more *sensitive*—that an increase in wealth is not particularly likely to increase their demand for money, and may very well diminish it.

If this is so, it would follow that where the sensitive trade together, price-fluctuations may start on very slight provocation; and once they are under way, the rather less sensitive would be enticed in. Stock exchange booms will pass over into industrial booms, if industrial entrepreneurs are also fairly sensitive; and, in exactly the same way, stock exchange depressions will pass into industrial depressions. But the insensitive are always there to act as a flywheel, defeating by their insensitivity both the exaggerated optimism and the exaggerated pessimism of the sensitive class. How this comes about I cannot attempt to explain in detail, though it would be an interesting job, for one might be able to reconcile a good many apparently divergent theories. But it would lead us too deeply into Cycle theory—I will only say that I think the period of fluctuation turns out to depend, in rather complex fashion, upon the distribution of sensitivity and the distribution of production periods between industrial units.

Instead, I may conclude with two general reflections.

If it is the insensitive people who preserve the stability of capitalism, people who are insensitive (you will remember) largely because for them the costs of transferring assets are large relatively to the amount of assets they control, then the development of capitalism, by diminishing these costs, is likely to be a direct cause of increasing fluctuations. It reduces costs in two ways: by technical devices (of which banks are only one example), and by instilling a more "capitalistic" spirit, which looks more closely to profit, and thus reduces subjective costs. In doing these things, capitalism is its own enemy, for it imperils that stability without which it breaks down.

Lastly, it seems to follow that when we are looking for policies which make for economic stability, we must not be led aside by a feeling that monetary troubles are due to "bad" economic policy, in the old sense, that all would go well if we reverted to free trade and *laissez-faire*. In so doing, we are no better than the Thebans who ascribed the plague to blood-guiltiness, or the supporters of Mr. Roosevelt who expect to reach recovery through reform. There is no reason why policies which tend to economic welfare, statically considered, should also tend to monetary stability. Indeed, the presumption

is rather the other way round. A tariff, for example, may be a very good instrument of recovery on occasion, for precisely the reason which free-traders deplore; that it harms a great many people a little for the conspicuous benefit of a few. That may be just the sort of measure we want.

These will be unpalatable conclusions; but I think we must face the possibility that they are true. They offer the economist a pretty hard life, for he, at any rate, will not be able to have a clear conscience either way, over many of the alternatives he is called upon to consider. His ideals will conflict and he will not be able to seek an easy way out by sacrificing either.