is no reason why we should commit ourselves to the regular use of one method or the other. It is indeed very useful to have two methods to serve as a check.

The important advantage which Mr. Keynes himself derives from his way of putting it is that it gives him an excellent opportunity of stressing the closeness of the connexion between money and interest. That is a matter to which it is high time for us to turn.¹

¹ It appears that my earlier attempt to convince Mr. Keynes that the above is a valid way of approaching his theory was not very successful. (Keynes, 'Alternative Theories of Interest', E.J., June 1933, quoting my review article, 'Mr. Keynes's Theory of Employment', E.J., June 1936.) I think the obscurity in this article of mine arose mainly from the fact that I was not clear when I wrote about the different properties of a spot economy with short lending and a spot economy with long lending. Mr. Keynes habitually works with the latter model; I was already, before the appearance of his book, beginning to work out the properties of the former. The device of eliminating the losses (or securities) equation can be used with either model; I had discovered its convenience for my model before Mr. Keynes’s book came out. (See my 'Wages and Interest', E.J., Sept. 1935, p. 467.) I hope the present chapter will clear up the matter.

CHAPTER XIII
INTEREST AND MONEY

1. Every kind of fixed-interest bearing security (bill, bond, or debenture) is a promise to pay certain sums of money in the future; but there are certain kinds of promissory documents, usually not reckoned as securities, but included as types of money itself, which in fact fall under the same classification. Bank deposits, commonly reckoned as money nowadays, are promises to pay money in the future; even bank-notes are promises to pay money. This character of bank-notes is plain and agreeable to common sense, when the bank-note is a promise to pay some other money (gold or the notes of some superior bank); when the superior money has disappeared, the situation becomes very paradoxical. Yet that paradox reflects an essential part of the problem, and is not at all an accident; it is good to have a perpetual reminder of it in our pockets, in the inscription on the £1 note of the Bank of England: 'Promise to pay the Bearer on Demand the sum of One Pound'.

These kinds of securities which are money differ from those which are not money by the fact that they bear no interest; that is to say, their present value equals their face value, instead of falling below their face value, as is the case with bills. Looked at in this way, money appears simply as the most perfect type of security; other securities are less perfect, and command a lower price because of their imperfection. The rate of interest on these securities is a measure of their imperfection—of their imperfect 'moneyness'. The nature of money and the nature of interest are therefore very nearly the same problem. When we have decided what it is which makes people give more for those securities which are reckoned as money than for those securities which are not, we shall have discovered also why interest is paid.

We have already seen, in our earlier chapter on interest, that a part of the interest paid on actual securities is to be attributed to default risk; and a part of the interest paid, at least on long-term securities, is to be attributed to uncertainty of the future course of interest rates. Both of these elements are purely risk-elements; if these were the only elements in interest, it would be true to say
that all interest is, in the end, nothing but a risk-premium. That is, I take it, the view of Mr. Keynes; his doctrine of 'Liquidity Preference' appears to reduce all interest into terms of these two risk factors.1 But to say that the rate of interest on perfectly safe securities is determined by nothing else but uncertainty of future interest rates seems to leave interest hanging by its own bootstraps; one feels an obstinate conviction that there must be more in it than that. Let us try to discover what that something more can be.

2. We shall get nearest to the true nature of interest if we consider the relation between money and that type of security which comes nearest to being money, without quite being money. This is to be found in the very short bill, a bill payable in the very near future, when that bill is regarded as perfectly safe from risk of default. If we can find a reason why such a bill should stand at less than its face value, at less, that is to say, than money of the same face value, we have found a reason for the existence of pure interest.

Let us begin by considering this problem in the light of the model system we have been using hitherto. (Actually, it is not one of those questions which can be discussed wholly in terms of our model system; still that system will give us a good start.)

If markets are open every Monday, and the shortest currency of any bill is from one Monday to the next, is it possible for such a bill to stand at a discount relatively to money? (We have hitherto assumed that it is possible, but we now see that we ought to call that assumption into question.) If bills stand at a discount, and consequently earn interest, is there anything to stop any individual from investing all his surplus funds in bills, and holding them during the week in that form? If there is nothing to stop him, then money has no superiority over bills, and therefore cannot stand at a premium relatively to bills. The rate of interest must be nil.

The only possible incentive to hold money is one which we have already touched on in an earlier chapter, but must now explore more fully. If people receive payment for the things they sell in the form of money, to convert this money into bills requires a separate transaction, and the trouble of making that transaction may offset the gain in interest. It is only if this obstacle were removed, if safe bills could be acquired without any trouble at all, that people would become willing to convert all their money into bills, so long as any interest whatever was offered. Under these conditions of our model, it must be the trouble of making transactions which explains the short rate of interest.

The level of that rate of interest measures the trouble involved in investing funds, not in general, but to the marginal lender. There is no reason to suppose that the cost of such investment will be the same to different lenders. Relatively large transactions can usually be made with very little more trouble than small transactions, but the total interest offered on a large sum is much larger than on a small sum; thus large capitalists will be tempted to buy bills much more easily than small capitalists. If the demand for loans of one week was low enough for it to be capable of being satisfied entirely by the largest capitalists, the rate of interest on these loans would be very low indeed, practically zero. But if it became necessary to call upon the funds of smaller capitalists, the rate might be expected to rise sharply after a point.

This is one way of looking at the determination of the short rate of interest, but it is not wholly satisfying, even in terms of our model system. For the cost of investing funds to be an effective barrier to the acquisition of bills it is necessary for people to have to make a separate transaction, in order to acquire bills. But they only have to make such a transaction if they are paid for the things they sell in something else, namely money. Now if bills are perfectly safe (and we assumed that we were dealing with bills on which there was no risk of default), why should not people be paid in the form of bills, and not in the form of money? If this were to happen generally, there would be no cost of investment, and therefore, so it would appear, no reason for the bills to fall to a discount.

This is not at all a fanciful hypothesis; it is what does actually happen with a certain class of bills. As we saw at the beginning of this chapter, bank-notes (and even bank-deposits) are bills, which do not stand at a discount, and are therefore reckoned as a kind of money. If default risk is so generally ruled out, that all traders reckon, and are known to reckon, a particular bill as perfectly safe, then there is no reason why that bill should stand at a discount, for the obstacle of cost of investment can be circumvented. But this general acceptability is something different from

1 Keynes, General Theory, ch. 12.
the mere absence of default risk, which we assumed previously. A class of bills may be regarded as perfectly safe by those who actually take them up, and yet these persons may be different from those to whom the borrower has to make payments. These latter would not accept his bills, so he has to pay cash; the former are perfectly willing to lend, but require interest to compensate for their cost of investment.

Thus the imperfect "moneyness" of those bills which are not money is due to their lack of general acceptability; it is this lack of general acceptability which causes the trouble of investing in them, and that causes them to stand at a discount.

3. So far as our model economy is concerned, that is really all that needs to be said about the relation between money and interest. We have now seen how there comes to be a short rate of interest; long rates have been explained in Chapter XI in terms of speculation on the future course of the short rate. But since, in reality, there is no minimum period of borrowing and lending, and no division of trading into discontinuous "market days" (as we have conveniently supposed), those influences which we have described as working on the short rate become entangled with the speculative elements discussed previously. In practice, there is no rate so short that it may not be affected by speculative elements; there is no rate so long that it may not be affected by the advantages of the alternative use of funds in holding cash.

Any one purchasing a bill whose currency is for more than the minimum period (this means in practice any bill whatever) has to take into account the possibility that he may want the use of his funds again before the bill matures. If this should happen, he would have to rediscount his bill; rediscounting will necessarily involve trouble, equal to (or even greater than) that of the original act of investment; it may also involve a further risk, that if rates of interest have risen between the date of the original investment and the date of rediscounting, he may only be able to rediscount on unfavourable terms. The longer the time before the maturity of the bill, the more serious this latter risk is likely to be; and thus, as we saw in our previous discussions of the long-term rate of interest, the long rate is normally likely to exceed the short rate by a risk-premium, whose function it is to compensate for the risk of an adverse movement of interest rates. This sort of risk-premium is fundamental to the difference between long and short rates; but the shorter the period for which a bill is to run, the less important this risk is likely to be. The main loss involved, if the bill has to be rediscounted, will generally be nothing else but the sheer trouble of rediscounting; it is the risk of being involved in this trouble which is the main risk to be taken into account.

To sum up these conclusions. Securities which are not generally acceptable in payment of debts bear some interest because they are imperfectly "money". Even if the possibility of default is ruled out by the actual lenders, nevertheless costs and risks are involved when funds are held in the form of securities rather than money, for which the lenders require some compensation. (1) For a bill so short that the possibility of having to rediscount is ruled out, the only inferiority of the bill is the cost of investment; so the rate of interest on the bill corresponds to the cost of investment to the marginal lender. (2) For a bill of rather longer maturity than this, the possibility of having to rediscount the bill has also to be considered. The rate of interest on such a bill will have further to offset the risk of such rediscounting being necessary, to offer some compensation for the trouble which would be incurred in that eventuality. (3) For bills of still longer maturity, for long-term securities in general, and (sometimes) even for short bills, there has to be considered the additional risk that, if rediscounting becomes necessary, it will only be to be had on unfavourable terms. But this additional risk, though it is always important for long-term securities, only becomes important for short-term securities as well, if the first risk (of having to rediscount at all) is already serious; thus it is essentially in conditions of great strain—more or less crisis conditions—that it may be expected to influence short rates of interest.

4. The various sorts of securities we have been considering—
including money—behave in very much the same sort of way as a chain of substitute commodities, say different qualities of wheat or sugar. Money is naturally the highest grade, and that is why other grades ordinarily stand at a discount relatively to money. It is

1 The only exceptions to this rule will be found in those cases when the holding of money is not regarded as perfectly safe, stocks of money being exposed to depreciation (in money terms) through theft or confiscation. This is the reason why people are prepared to pay bank charges for the keeping of small sums—that is to say, they accept a negative rate of interest.
because money and securities are a chain of substitutes that rates of interest are ordinarily positive; and for the same reason (except when default risk is very heavy) they are generally small—only a few points per cent. per annum.

In early stages of society, the ‘money’ which stood alone in the highest grade was usually some sort of durable material commodity; as long as this was the case, it was not easy to distinguish the demand for the commodity as money from the demand for it as durable consumption good—or even to see what the demand for it as money could mean. But when some sort of promises to pay money began to be so generally acceptable as to become perfect substitutes for the original money—and thus to stand with the original money in the highest grade—it became clear that the pure monetary demand had acquired an independent existence. Money had left its chrysalis stage of durable consumption good, and had developed into pure money—which is nothing else but the most perfect type of security.

Bills of short maturity form the next grade, being not quite perfect money, but still very close substitutes for it. How close can be seen in an impressive way if we compare the sort of fluctuations which take place (on an organized market) in the money value of good three months’ bills, with the variations which take place in the relative values of different grades of the same physical commodity. £100 is an impossibly high price, and £58 an exceedingly low price for a £100 bill; we should regard two material commodities as very good substitutes even if their relative values were subject to much greater fluctuations than that.

Longer term securities form a yet lower grade, worth less and—from the fluctuations which take place in their values—obviously much less perfect substitutes. (The rate of interest per annum on long-term securities, free from default risk, may be less liable to fluctuate than the rate of interest per annum on short-term securities; but the capital value of long-term securities is much more liable to fluctuate.) Still, substitution between money and long-term securities does take place. It may be useful to follow out some of its different forms.

First, there is the case of the ordinary small investor, who buys long-term securities in order to live upon the interest from them. He will have to accumulate a money balance before he can invest it, since he is deterred from investing too small sums by the cost and trouble of investing. From his point of view, the cost of investment is the really important thing; it is probably the main determinant of the rate at which he converts his money into securities. Thus there cannot be very much direct substitution here; a change in the rate of interest may sometimes affect the date at which he makes his purchase; but one would suppose that it would need a large change in the rate of interest to have much effect on this sort of margin.

Secondly, there is the more speculative investor. If he is not sufficiently in touch with the market money to have ready access to short-term issues, he will use the long-term security market as a repository for funds only temporarily idle. This class includes all private investors who have to pay much attention to the capital value of their securities, because they want to sell them for the acquisition of property (houses and so on); those concerns and institutions which invest a portion of their assets in securities (a very important group nowadays); and finally also speculative investors in the narrow sense, who are out to make capital gains by speculation, and who have, as a consequence, to be prepared to meet capital losses. For all these, the margin between money and securities is a very sensitive margin; the more conscious they are of the importance of capital losses, the more easily they will switch about when the rate of interest varies.

Nevertheless, for most of this second class, at least one form of short-term security is available; they can place their funds on deposit account at a bank. Thus the second class melts imperceptibly into the third. Banks themselves, financial houses, public institutions, large industrial and commercial firms, all of these have at their disposal a whole gamut of securities of different maturity. Therefore their substitution between money and long-term securities probably takes place mainly through the mediation of shorter-term securities and bills; if the long rate is too low to compensate for the risk of capital loss, they begin to go into shorts; if the short rate is too low to compensate for the risks involved even there, they hold cash; it does not take much to induce them to make these changes. It is these professional investors, operating upon the whole gamut, and paying close attention to small differences in rates, who provide most of the logic of the interest system (just as it is the professional arbitragers who provide most of the logic of the system of foreign exchange rates). It is not necessary
to suppose that the small investor has to do much in that direction; the specialists can do it quite sufficiently by themselves.\footnote{The important part played by banks and public authorities in determining the system of interest rates has, of course, a great bearing upon the possibility of controlling that system; a possibility much exploited in recent years.}

The whole working of the system of interest rates is an example of the working of the general rule of substitution: if two commodities are close substitutes for an important section of a market, they will behave as close substitutes for the market as a whole.

5. No attempt has been made in this chapter to give a complete theory of the demand for money; still less to give a complete theory of the working of interest rates. Both these matters must be left over for the more systematic analysis of Part IV. But I have felt that some preliminary indication of the point of view from which we intend to approach monetary problems had to be given here—and some preliminary survey of the relation between money and interest. The fact that money and securities are close substitutes is absolutely fundamental to dynamic economics; we should waste our time if we did not bring ourselves to realize it as soon as possible.

This close substitutability is much the most important property of actual money which we shall need in our further inquiries. For the rest, it will do little harm if we continue to think of money in the same light as we have considered it in earlier chapters—as standard commodity, a commodity selected from the rest to serve as standard of value. Since one of the properties of actual money is that it is used as a standard of value, the various propositions which we established in earlier chapters about the standard commodity are true of actual money; but they are not only true of actual money, they would also be true of any other commodity we might like to take as standard of value for purposes of argument. (That this is so has been made clear by the ease with which we could change our standard commodity when we chose.) Actual money has the property of being a standard of value, but it has also other properties—the familiar properties of being a 'medium of exchange' and a 'store of value'. These properties we have considered for the first time in the present chapter. Their important consequence for the working of the price system is simply this: they explain why there is such a close relation of substitution between money and securities, that is to say, they explain the phenomenon of interest—\textit{money interest}.

\section*{CHAPTER XIV}

\section*{INCOME}

1. We have now concluded our discussion of interest; and, by so doing, we have also concluded all that it is absolutely necessary to say about the foundations of dynamic economics. If we chose, we could thus proceed at once to analyse the working of the dynamic system, proceeding on parallel lines to those on which we analysed the working of a static system in Part II. That is what we shall do, ultimately; but meanwhile the reader has the right to raise an objection. Nothing has been said in the foregoing about any of a series of concepts which have usually been regarded in the past as fundamental for dynamic theory. Nothing has been said about Income, about Savings, about Depreciation, or about Investment (with a capital I). These are the terms in which one has been used to think; how do they fit here?

My decision to abstain from using these concepts in the last five chapters was, of course, quite deliberate. In spite of their familiarity, I do not believe that they are suitable tools for any analysis which aims at logical precision. There is far too much equivocation in their meaning, equivocation which cannot be removed by the most painstaking effort. At bottom, they are not logical categories at all; they are rough approximations, used by the business man to steer himself through the bewildering changes of situation which confront him. For this purpose, strict logical categories are not what is needed; something rougher is actually better. But if we try to work with terms of this sort in the investigations we are here concerned with, we are putting upon them a weight of refinement they cannot bear.

I do not think that any one who has followed the theoretical controversies of recent years will be very surprised at my putting forward this view. We have seen eminent authorities confusing each other and even themselves, by adopting different definitions of saving and income, none quite consistent, none quite satisfactory. When this sort of thing happens, there is usually some reason for the confusion; and that reason needs to be brought out before any further progress can be made.
VALUE AND CAPITAL
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