

5 The Nature of Money

It will no doubt have been taken for granted that in the markets we have been discussing, the typical transaction was an exchange of some article (good or service) for something that was recognized as being money; and it may also have been taken that the money was simply handed over, as one does when one buys a newspaper in a shop. A useful way of introducing the monetary theory, which will be the subject of the chapters which follow, is to begin by calling into question these two assumptions, asking how far they are justified.

It is convenient to start with the second. It is clear from the most common personal experience that *spot* payment—payment 'on the nail' or 'on the spot'—is by no means the only, or perhaps even the most important, way of doing business. I may pay spot for a newspaper as I walk along the street, but I may also give an order to a newsagent to deliver a copy to my house each morning. I should not then pay for each issue as I received it; I should wait until the end of the month when he sent in his bill. At that time I should have been in debt to him for the papers I had got from him; the payment I made to him would have been in settlement of a debt. Surely it is the latter which should be taken as the general form of a transaction (of sale or purchase); it covers the case of the spot transaction, when the debt is settled immediately; but there are many more complicated transactions it also covers.

It is probably true that it is only for small transactions—small, that is, from the point of view of one or other of the parties concerned—that the spot method of payment is ordinarily preferred. People are not, and never have been, in the habit of carrying about them a sufficient quantity of coin or notes to pay for a house or to pay for furnishing it. Even if the notes are of large denomination it is unsafe to carry them about without precaution. Further, when the article is of considerable value, the right of ownership in it has to be transferred; arrangements, usually legal arrangements, have to be made to get the transfer recognized. Each of these considerations tells against the use of the *spot* method. In transactions between firms which, as we have seen, are likely to be a considerable proportion of all transactions, each applies.

I shall therefore insist on regarding the representative transaction, of sale or purchase, as in principle divisible into three parts. The first is the contract between the parties, consisting of a promise to deliver and a promise to pay (both are needed to make even a constituent part of a transaction); the second and third consist of actual delivery, one way and the other. In the case of the spot transaction, all are simultaneous; but they do not need to be simultaneous. If there is any difference in timing, promises precede deliveries; that is the only rule which applies throughout. Delivery of the article may come before it is paid for, as in the case of 'consumer credit'; or it may come after, or partly after, as when the buyer 'puts down a deposit'. All of these are conveniently covered.

What remains, in general, immediately after the making of the contract, are on the one hand a debt 'in real terms' from the seller and on the other a debt in money terms from the buyer. Money is paid for discharge of a debt, when that debt has been expressed in terms of money. Thus money comes into the transaction in two ways, first in the part it plays in formation of the contract, then in the part it plays in paying. Do not these correspond to the classical functions of money, as laid down in textbooks, to be (1) a standard of value and (2) a means of payment? By taking the representative transactions in the form proposed, we have put them into their places in relation to one another.

What however of the third 'function', usually taken to go with them, of being a *store of value*? That money, on occasion, can be a store of value—that, as one used to say, it can be hoarded—is of course not to be denied. But this is no distinguishing property of money as such. Any durable and resellable good can be a store of value. A picture by an Old Master can be a store of value, but no one would want to say that it was money. Nor can money be distinguished, along this line of thought, by saying, as Keynes did, that money is the perfect store of value, that it is the only asset which possesses perfect liquidity, so that it does not have to bear interest in order that it should be held. For liquidity in turn cannot be defined, as we shall have much reason to see, except in terms of exchangeability for money. So to define money as an asset with perfect liquidity is to argue in a circle. It is the other functions of money which are intrinsic; the liquidity property follows from them.

A fourth 'function', to be a 'standard for deferred payments', has by the arrangement here adopted already been covered. It is included

in 'standard of value' if, as I am supposing, payment is usually more or less deferred. 'Unit of account', which has often been taken to be a synonym for 'standard', accordingly says much less than what is needed.

We seem thus to be left with two distinguishing functions of money: standard of value and medium of payment. Are they independent, or does one imply the other? It is not easy to see that there can be payment, of a debt expressed in money, unless money as standard has already been implied in the debt that is to be paid. So money as means of payment implies money as standard. But could a debt expressed in money be discharged otherwise than in money? Surely it could.

It could for instance be set off against another debt, the debt from A to B being cancelled against a debt from B to A. If the two debts have arisen from similar transactions, the net result is a barter transaction, an exchange of goods with no money changing hands. That can happen, even if the debts are expressed in money terms; it is what has in effect happened, in international trade, on many occasions in the present century, particularly in Eastern Europe. There have been two countries which have run out of supplies of an internationally acceptable money, but have kept trade going between them by a more or less successful offsetting of debts. The debts are expressed in a money which is recognized by each of them but maybe not by others. Though this is called a barter deal, it is different from the small-scale swaps that figure in economic textbooks (such as the 'nuts for apples' in Marshall's barter appendix); for these make no use of money, even for accounting purposes. In the international barter deals, money remains as a standard, at least as a unit of account. It is money as a means of payment that is missing.

I will match that fairly recent example with another, also I think illuminating, from much further away. There have been societies, so anthropologists in particular tell us, in which cattle have been used as money. What is the evidence for this? It is not like the evidence for coins, where actual coins have come down to us; it is not derived from bones of cattle that have been dug up. It is derived from what are in essence legal prescriptions, expressed either in written documents or in oral tradition, which set out the fines or compensations which are to be paid on particular occasions, as for offences of various types. If these are expressed in terms of cattle, it need not be supposed that they had always to be paid in cattle. The prescriptions are price-lists; they depend upon a notion of what things are worth. The

things which were delivered in payment had to have recognized, or at least acceptable, values. (And values, it should be noticed, which were fairly unchanging over time.¹)

Indeed, as both of these examples show, the function of money as a standard, if it is no more than a standard, is to make it possible to form a price-list, in which the values of a number of commodities are reduced to a common measure. Without its help, there would be a distinct price-ratio between each pair of commodities, and these would not need to be consistent with one another. And that is a need which (as the cattle example shows) can arise without arising from trading; and (as the other example shows) can also arise from trading between two parties, none others being, even indirectly, concerned. It does indeed seem proper to lay down that barter, in the narrow or even in the wider sense, is appropriate only for bilateral trading.

Bilateral trading, as every economist knows, is an inefficient way of trading; it is at the gateway to multilateral trading that we come to money as means of payment. One might indeed conceivably construct a model in which the effect of multilateral trading was achieved through a sequence, or circle, of bilateral barter transactions. But it would be a very artificial model and we may be sure that if anything like it was ever achieved in practice, it would soon break up. For, as we have seen in Chapter 2, a competitive multilateral system depends on the activity of intermediaries, or merchants who are ready either to buy or to sell. Here, as in other activities, there are gains to be got from specialization; so we may think of the individual merchant coming to trade in a particular line of goods. These are the things he buys and sells; but for what is he to sell them? From whom and to whom is he to buy and then sell? It cannot always be merchants who have exactly the same specialism as he has, for that would get him nowhere. It must in the first place be merchants who have other specialisms, though the whole body of merchants will have dealings 'outside'. At least for dealings between merchants, a medium of payment is needed which is not a speciality, something which is acceptable by a merchant just because he is a merchant, so

¹ So the practice seems to depend upon some notion of a *justum pretium*, a proper or normal price. This is a notion which indeed is comfortable, still remains comfortable, in a legal environment. It is congenial to a lawyer to take prices from precedent, since that is what he does with other things. It is hard for him to accept the fluid prices which are formed on markets.

it must be something which can be readily passed on to a trader of any sort. That the precious metals, gold and silver, should have been found to be the most suitable commodities for this purpose depends on physical characteristics which are set out in all the old gold standard textbooks; they need not be repeated here. What is important is that they were surely able to establish themselves through 'market forces'; no one had to order that they should be used in that way.

There was nevertheless a most important step, on the way to the establishment of a metallic medium of payment, which had still to be taken: the invention of coinage, which appears to be traceable to lands of Greek culture, about 650 BC. A coin is a piece of metal that has been stamped by the issuer; by the stamp it is guaranteed. The guarantee was in the first place one of weight and fineness, of quantity and of quality. In its absence the metal would have to be tested, in ways that were bound to be expensive, almost every time that it was used as money. That would have greatly impeded the use that could be made of it. (We do however have evidence that, at least sometimes, transactions were conducted in this way; for hoards of pieces of uncoined silver have been discovered—archaeologists call them 'dumps'.) Coinage was a great step forward from that.

The stamp, in practice, has nearly always taken the form of an image, or emblem, of some ruler; the guarantee that is given is a state guarantee. How did that come about? Did it have to be a state guarantee? It had to be given by someone, and there would seem to have been only three alternatives: it might be given by one of the merchants, it might be given by some sort of association set up by merchants, or it might be given by the government in whose territory the merchants were working. One can see that the second of these, if it were available, would be better than the first, since the circle of people who might be expected to have faith in the guarantee would be wider; and the third, again if it were available, should for the same reason be better than the second. So it is not surprising to find that it was the third which won out.

But the fact that a guarantee was given did not mean that it was always to be relied on; one does not get the impression that the kings of olden times were a reliable lot. So it was that in practice metallic money had many adventures. They make quite a story; it is economically interesting, but I shall not pursue it here.² It is sufficient to

² I have said most of what I have to say about it in my *Theory of Economic History* (1969), pp. 64–8. The chief thing which emerged from that discussion is that there

emphasize that metallic money, if it was to be usable, depended on a guarantee. In that respect it does not differ so much from paper money as is often supposed.

I shall instead follow up another development, already implied in the foregoing, from which, as we shall see, modern moneys were indeed to be evolved.

can be no assurance that a guarantee will be kept if the guarantor has a monopoly position; the effort, often made by rulers, to prevent the export of the precious metals was an effort to protect their monopoly. So it was that governments tended to be better behaved in this monetary matter when external relations were of major importance to them, or to the peoples over whom they ruled. This holds for the mercantile republics of Venice and Holland, and came to hold for England also. What appears to be a striking exception to this rule, the centuries-long stability of the gold coinage of the Byzantine Empire, may be less of an exception than it looks; for it would be explained by the dependence of those emperors on mercenary soldiers, coming from abroad and returning. (It appears that many of the Saxon army, defeated by William at Hastings, took service at Constantinople.)

6 The Market Makes its Money

We have seen that one way in which a debt can be discharged is to set it off against another debt. Debt is then 'paid' with debt. If there is a perfect match—the two debts, expressed in a common standard, being exactly equal—the net effect, as we saw, is a 'barter deal'. But there could fail to be a perfect match, yet payment by exchange of debts could still be feasible, if another debt could be brought in.

This would have to be a debt from some third party (C) other than the A and the B initially concerned. A is then asked to accept part-payment in the form of a debt from C to B, which is to offset the balance of debt between A and B, a balance we take to be in favour of A. But A can hardly be expected to consent to such an arrangement unless he considers that C is to be trusted. So there is a question of trust, or confidence, as soon as a third party is brought in.

But may not such a question arise even in bilateral trading? A is selling to B; each has promised to deliver; a time comes when A has delivered but B has not yet paid. It is understood that B has some time allowed him before he is obliged by the contract to pay; but it may happen that this time has elapsed and still he has not done so. How is he to be made to pay? The legal answer is that A then has the right to take back what he has delivered. But that (though, as we shall see, it has a part to play in the story) can easily fail to be an effective sanction; B may have hidden the stuff away, or may have consumed it. Nevertheless, if the transaction is not an isolated transaction, but is part of a continuing business, there is another and often a better remedy: if one party to the trading defaults, the trade is unlikely to continue. That may be enough if the trading is bilateral; but if a third party, not concerned in that trade, is introduced, it cannot work. So the issue of confidence is chiefly one of multilateral trading.

In the standard economist's model of multilateral trading (the n -good m -person market of Walras) it is avoided; for there all transactions are spot transactions, taking place—somehow!—simultaneously. But if payments are made by offsetting of debts, and the debts are owing from different people, it cannot be taken for granted that all will be paid, or will be paid exactly when promised:

so the debts may well be of different *quality*. That need not prevent the establishment of a market in debts, a debt of low quality becoming exchangeable for one of higher quality at a discount. It follows that a trader, whose promises are judged by the market to be of poor quality, cannot get as much for his promises as he could if his promises were better regarded. So he has an incentive to improve the quality of his promises.

The quality of a debt from a particular trader depends on his reputation; it will regularly be assessed more highly by those who are in the habit of dealing with him, and know that he is accustomed to keep his promises, than by those who do not have the advantage of this information. Thus we may think of each trader as having a *circle* of traders around him, who have a high degree of confidence in him, so that they are ready to accept his promises at full face value or near it; there is no obstacle to offsetting of debts within that circle from lack of confidence in promises being performed. If he wants to make purchases outside his circle he will not be so well placed. Circles however may overlap; though C is outside A's circle, he may be within the circle of D, who himself is inside the circle of A. Then though A would not accept a debt from C if offered directly, he may be brought to accept it if it is guaranteed by D, whom he knows. D is then performing a service to A, for which he may be expected to charge. A would have to pay more for a guarantee from a trader who is 'further' from him; but he should often be able to get it at a reasonable price from some who are 'near'.¹

We can recognize the market on which such prices are established as a market for *acceptances of bills of exchange*. I am taking that as the first of financial markets to be considered, not only for the historical reason that it is the first which we know to have flourished, but also because one can explain why it had to come first. Unlike the more familiar financial markets which will be shown to follow after it, it needs no specialists in financial dealings (bankers or even brokers) for it to work. It can come into existence through dealings between merchants (who may indeed be specialized in dealings on a particular line of goods, but are not specialized financiers); it can come about, without any particular attention being paid to it, in the ordinary course of trade.

Let us accordingly take that as the beginning and see what follows

¹ The mathematical reader, if there are such, may enjoy the parallel with his concept of analytical continuation in his theory of functions of a complex variable!

from it. We should be thinking of a fully monetized economy, which includes a sector of merchants, who use bills as media of payment between each other, while the rest of the economy uses cash, presumably coins. Then let the mercantile sector get large enough to develop opportunities for division of labour, on the famous principle of Adam Smith. There are at least two sorts of financial operators who should then begin to appear. One works within the mercantile sector, the other on the frontier between it and the rest.

The first are just intermediaries, with the regular function of intermediaries, in the market for bills. We should think of the mercantile sector as being made up of many, only partially overlapping circles, so that, in order to get the best value for a particular bill, a fairly roundabout route has often to be found. It is the business of this first kind of intermediary to find that route, getting a sequence of guarantees, as cheaply as possible.

The other kind of intermediation, which has more of a future before it, is the discounting of bills for cash. Any bill has a date of maturity, so it can (if it is honoured) be turned into cash simply by waiting. But the dates at which a trader finds himself in need of cash, to make purchases outside the mercantile sector, are unlikely to have a perfect match with the bills he happens to hold. So there is a need for intermediaries, between the bill market and the rest of the economy. They can only operate if they hold stocks, both of bills and of cash. Some at least must be doing so, so that when any one of them runs out of cash, he can replenish his stock of cash by selling to others.

For this to be easily and quickly possible, the quality of the bills he holds must be high; there must be no question of lack of confidence in them, no fear of default. So the effect of this second kind of intermediation is for the bill market to develop a 'core', consisting of 'prime' bills, as it should be appropriate to call them—bills which are such that there is no question of lack of reliability. That is a point at which most important things happen.

Until that point, the principal reason why the market value of one bill should differ from another is difference in reliability; but bills, between which no difference in reliability is perceived, may still differ in maturity. A trader who is in need of cash needs it now, not (say) six months hence. So there is a discount on a prime bill which is a pure matter of time-preference—a pure rate of interest.

I have chosen what may be thought to be this unnecessarily com-

plicated way of introducing interest, because there is a reason why a simpler approach would not do. It is tempting to say that financial transactions are always, in some sense or other, loans; so the simplest form of loan contract—money being paid over now, in return for a promise of repayment, with interest, at some future date or dates—is the element from which we should start. One could start that way, and go on to admit that the amounts, and dates, of repayment may be not fixed but conditional on things that may happen in the future; so proceeding to insurance contracts, subscription to equities, and so on. Much of the matter we shall be proceeding to discuss could be reached if one started that way.

The trouble is that the establishment of a competitive market for simple lending is not at all a simple matter. The lender is paying *spot*, for a promise the execution of which is, by definition, in the future. Some degree of confidence in the borrower's creditworthiness—not just his intention to pay, but his ability to pay, as it will be in the future—is thus essential to it. There cannot be a competitive market for loans without some of this assurance.²

We may suppose, in accordance with what was said at the beginning of this chapter, that any particular potential lender will have a circle of potential borrowers around him, whom he knows, and feels that he can trust. We can conceive that there will be competition between these borrowers for loans from him. And we can imagine that a particular borrower might be so fortunate as to belong to the circles of several lenders, so that he can choose between them. But for both of these conditions to be satisfied, without some further complication of the story, looks most unlikely. I accordingly maintain that a necessary, or nearly necessary, condition for the existence of a competitive market for loans is that there should be intermediaries, such as, in our discussion of competitive markets for commodities, we found ourselves obliged to introduce.³

² The rural money-lenders, who so obviously do not have confidence in the creditworthiness of those to whom they lend, who therefore charge usurious rates of interest, in order to have a prospect of profit in spite of their expectation that many of those to whom they lend will default, are of course a well-known phenomenon. But they do not form a competitive market. Their clients accept their terms because they have no choice.

³ It may be that some of my readers, having personal experience of the way in which, at the present day, a bank will offer loans, to such people as students, with hardly any security, will doubt whether my emphasis on trust is not overdone. Why does the bank not charge such people a much higher rate than that at which it usually

Let us accordingly go back to our bills. The simplest model, on that approach, is the model we were on the point of constructing—an economy consisting of (1) a mercantile or commercial sector, which uses bills as means of payment among its members, and (2) an outside sector, which uses cash. Let us further, to sharpen the issue, admit that the bill-using sector has a complete system of guaranteeing bills, along the lines described, so that all the bills it uses are fully reliable. There will still, as we saw, be a need for a special class of dealer who will discount bills for cash. But has not the model then settled into a familiar form, these dealers being similar to dealers in foreign exchange? 'Inside' and 'outside' are like two countries, each having its own money. The determination of the rate of interest, or discount, on the bills is equivalent to the determination of a rate of exchange.

We have learned from experience, though it has not been easy to learn it, that the rate of exchange between two currencies, though it is affected by the *current* balance of payments between the countries which use them, is also affected by speculative 'capital movements', which are sensitive to expectations of the future course of the exchange rate. So it should be here. Consider the position of the exchange dealers, on the boundary between the sectors, who make it their business to trade bills for cash. Changes in their holdings of bills (taking the whole subsector of the exchange dealers together) come about in two ways: first on the initiative of traders who are not exchange dealers, whose *net* demand for cash will rise or fall according to the balance of their trade with the other sector; and secondly on the initiative of exchange dealers themselves, because of changes in their relative willingness to hold bills or cash. We shall find that this distinction runs right through the theory of interest. 'Classical' theorists looked only at the one, Keynesians only at the other. For a proper theory of interest, neither should be forgotten. I shall have much more to say about this in Chapter 9.

It may however already at this stage be objected: is there not a fundamental difference between the market for foreign exchange and our market for bills? The former, if it is a freely competitive market, may surely establish the rate of exchange at any level, high or low; but if our bill market is to be used as an approach to the study of

lends, on the usurer's principle? Surely because it hopes to persuade the young person to become a regular client. The transaction is similar to the offer of a free sample by a manufacturer. The price of zero at which that is offered is not in itself a market price.

actual bill markets, or 'money markets', it needs to incorporate a reason why bills, in practice, nearly always stand at a discount in terms of cash, the rate of interest on them being positive. A sufficient reason, within our model, might perhaps be found in the consideration that bills are only acceptable *within* the mercantile sector, while cash is acceptable within that sector and also outside. So whether the mercantile sector is large or small, cash must always have a wider acceptability.⁴ But it is probably more fundamental that cash is a standard of value as well as a means of payment, so it is fully money; it is the standard in terms of which contracts are expressed and enforced at law; bills, being only a means of payment, are no more than quasi-money. The discount is the expression of the market, of this inferiority.

The purchaser of a bill is, in effect, making a loan to the issuer; he is willing to lend, in this form, because he is assured, and those who have guaranteed the bill are also assured, that the loan, when the time comes, will be repaid. Bills have usually run for quite short periods, at the most for a year or so; it is easy to see that such a method of finance is peculiarly suitable for commercial enterprises, the capital employed in which is turned over quite fast. The lender has just to wait until the 'ship comes home'.⁵ Even before that happens, the bill is represented by the cargo, or some part of it, so that the lender can think of himself as entitled to something more than a promise; indeed, as we saw, he has something against which he can exercise a legal claim. But it is surely the fact that the bill is guaranteed by people who are known to the lender, people who are within his 'circle', that gives him better security.

One can see that there would be people, not within that mercantile sector, who would want to borrow (and possibly, though perhaps not so obviously) to lend. Some of those wanting to borrow would be private people, often no doubt quite wasteful borrowers, just wanting to 'anticipate' an expected inheritance;⁶ more importantly there

⁴ I think this is not upset by the point, which is often noted by historians, that it may be safer to hold bills, in transit from buyer to seller, since cash is more easily stolen. (A thief, or highwayman, will not find it easy to cash a bill that has come into his possession.) That is indeed a consideration which must have facilitated the growth of a bill market; but one must conclude from what happened that it did not outweigh the others.

⁵ Problems of insurance, as the history also shows, are almost from the first involved.

⁶ 'The long-expected death of some old lady . . . Who has kept us youth waiting too long already' (Byron).

would be a demand for loans by the government itself. This would be typically a demand to meet emergencies (wars and other disturbances), expenditure on which it is nearly always hoped at the start will not be long continued; so the ruler needs funds to tide him over, in just the same way as a merchant needs them. So he would like to turn to the bill, or 'money' market. Kings, as a matter of history, have often attempted to get loans on these terms; but there have been two obstacles in their way, each arising from difficulty in providing a credible assurance of repayment.

One was that while the creditor of a private debt could take legal action to recover from a defaulter (and this, though as we have seen it was not very effective, was nevertheless some protection), it was harder to use the king's courts of law to recover from the king himself. This, though intended to be a protection to the king, actually made it harder for him to borrow. The other was that to cover expenditure by raising a loan, to be paid back later, was bound to set the prospective lender to worry: if he cannot get the money now, otherwise than by borrowing, why should he be able to get it when the time comes to repay? It was by finding ways round these obstacles that obligations of the state became 'gilt-edged'.

It so happened, in English history, that ways around them were discovered, more or less simultaneously. The Bank of England and National Debt were founded, together, in 1693-4. A National Bank was the answer to one of the difficulties; to borrow *long* was the answer to the other. But as the experience of other countries shows, the two do not need to go together.⁷ Each requires particular conditions for it to work, but the requirements are different.

A National Bank, which need not be a Central Bank (the Bank of England can hardly be reckoned to have been a Central Bank for the first century of its existence) is an intermediary between the government and potential lenders, themselves most conveniently being the rest of a banking system. Since it is legally separate from the government (though it may be owned by the government) its debts are commercial debts, which in principle are subject to legal action. The government however in a sense stands behind them; so what this in effect amounts to is a way by which the legal privilege of the govern-

⁷ The story in the United States (essentially no doubt because it was the States, rather than the Federal Government, who at first were the needy borrowers) has been notoriously very different.

ment as a debtor is indirectly waived. There is much that follows from that which I shall be discussing in Chapter 9.

In the absence of such an arrangement, short-term borrowing by government must be difficult, for the other reason; it will be taken for granted by a lender that when the time for repayment comes, the government will have no way out but to reborrow, so the trouble will start all over again. That can be avoided if it is faced from the start, if the lender engages himself to relend, that is to say, if he agrees to lend *long*. The promise is then more credible, since it should be easier for the borrower to repay in the form of a moderate, though continuing, interest payment, than to repay the capital sum all at once. That there have long been people who are willing to lend on those terms seems to be shown by experience; but it does not seem to be inevitable that there should be plenty of them. That can hardly be taken for granted.

How far it is the banking system which has come to the rescue is one of the things which will be considered in the following chapter.

7 Banks and Bank Money

What is a bank? This is a question which has lately become quite topical; is one sort of business or another to have the right to call itself a bank? But this is because of the rights and duties which have been conferred on banks by legislation; for the purpose of an enquiry such as the present, these may at first be disregarded. For surely banks existed before there were any such regulations.

So we must define a bank as a firm which does banking business. But what is that? There is one kind of near-banking business with which we are here already familiar—that of the exchange dealers on the edge of the bill market who discount bills for cash. As we saw, this amounts to making loans to the issuers of those bills. We have been thinking of the promise expressed in the bill being credible, mainly because it has been guaranteed by a number of merchants, but also because it has arisen out of a sale of goods, which in principle can be reclaimed if the buyer does not pay. We have seen that borrowing would be more difficult if the borrower could not give something of that assurance.

What then is to happen if trade expands, so that more bills are drawn, and more come in to be discounted? Where is the extra cash that is needed to come from? Any one of the dealers could get more cash by getting other dealers to discount bills that he holds. But the whole body of dealers could not get more in that way. They must get cash from outside the market; they must themselves become borrowers. But what is the assurance which they can give, if they confine themselves to the business so far described, to the outsiders who are to lend to them?

The solution was to combine this business with another sort of business, which in the days of metallic money we know to have already made its appearance.

In excluding 'store of value' from definition of money, I did not of course mean to deny that money, any sort of money, could be hoarded. It would be quite rational to hoard it as a reserve against emergencies—the 'precautionary motive' of Keynes. But hoarding of gold or silver would not have been a simple matter. There would always have been a problem of keeping it safe from theft or pillage.

and yet accessible to the owner, so that he could lay hand on it whenever he wanted it. The obvious solution was to entrust it to a custodian, who could make expert arrangements for looking after it. He would be involved in expenses, of strong-rooms and guards to watch over them; so if the deposit was a commercial transaction, he would have to be paid for his services. If the deposit is looked at as a loan (and it is very like a loan) it carries negative interest. But that is not the way in which at first it is likely to be looked at.¹ It will not be looked at like that until custody has become a regular business.²

Then, once that happens, there will be a clear incentive to bring together the two activities—lending to the market, and 'borrowing', as custodian from the general public—for the second provides the funds which in the first are needed. At that point the combined concern will indeed have been becoming a bank.³

But it will not have quite got there even yet. For there is a further step, what looks like being a risky step, which it is almost bound to be tempted to take. The funds which had become available to it could be more, even much more, than it could use for its business on the bill market; why not look for other borrowers? Borrowers outside the bill market could not give that market's kinds of assurance; but surely there would be some who look like being reliable. We certainly find that the earliest banks, which merit that description, were doing at least some outside lending.⁴

So I shall, I hope acceptably, reckon a firm to be a bank, a fully formed bank, when it is doing all these things: (1) accepting deposits, (2) discounting bills, and (3) making advances to customers. I have tried to show how these could have come together. But what of the fourth function, commonly attributed to a bank, that of providing a medium of payment; how does that fit in? Let us see.

If a bank, as so far described, is to extend its business, it must increase its lending, in the one form or the other; and when it has

¹ The leading custodians, in ancient times, would probably have been temples, or other religious foundations. To put your treasure in the care of a god would have been a prime way of keeping it safe. But this would not be thought of as a commercial transaction. It would have been mixed up with outright gifts.

² It survives as such to the present day, as when a bank makes a charge for keeping a small account.

³ Custody is sometimes described as 'cloak-room banking'. But it surely makes for clarity to regard it as no more than a step on the way to banking.

⁴ I am thinking of early banks in Renaissance Italy.

exhausted the funds which have been entrusted to it for safe keeping (and any perhaps which are in its own possession) it cannot go further without increasing its deposits. Thus it has an incentive to encourage deposits. There are two main ways in which this can be done.

One is to offer a (positive) rate of interest on deposits. The interest it pays must be less than what it earns on advances, or it could not make a profit. Here the bank is acting as an intermediary on the loan market, between those who lend to it and those who borrow from it. This is expensive to the bank, but competition will often ensure that it has to be done.

The other is to make it easier for depositors to make use of the funds which they have deposited. They have been thinking that their deposits were available to be called upon when needed, characteristically to pay a debt. If this meant that cash (gold or silver) had to be taken out of the bank, and then posted to the creditor, the safe keeping (which was the purpose of the exercise) would be most imperfectly achieved, since the package could get lost or stolen on the way. It would however always have happened that when cash was deposited in the bank, some form of receipt would be given by the bank. If the receipt were made transferable, it could itself be used in payment of the debt, and that should be safer. But for this to become a general practice, the bank must co-operate. It must issue receipts in standard amounts (bank notes). It would indeed be necessary that the creditor should have confidence in the bank, so that he accepts the bank's promise to pay as being as good as money. There might at first be sufficient confidence for this only within a narrow circle.

Nevertheless, as time went on, the circle could widen. The bank notes could become a quasi-money, in rather general use. (Historically, when that point was reached, the government could begin to be interested, and could put restrictions on bank-note circulation.) Even apart from that, the more widely acceptable the bank notes are, the more tempting it is to steal them. So the bank-note device, intended as a protection, would defeat itself. A further protection was therefore required.

This was found in getting the bank itself to make the transfer—a device which in the end became payment by cheque. It would at first be necessary for the payer to give an order to his bank, then to notify the payee that he had done so, then for the payee to collect from the

bank. Later it was discovered that so much correspondence was not needed. A single document, sent by debtor to creditor, instructing the creditor to collect from the bank, would suffice. It would be the bank's business to inform the creditor whether or not the instruction was accepted, whether (that is) the debtor had enough in his account in the bank to be able to pay. In most business dealings the debtor would have looked after that before drawing his cheque. But if he had overdrawn, the bank would inform both parties that the cheque was ineffective, so no payment had been made.

It is easy to see why this has become so common a way of making payments, at least in an economy where most people have bank accounts, for it is a superior way of minimizing transaction costs. But the consequences of its general adoption are notable. For it means that the whole of the bank deposits which are withdrawable at sight become usable as money. They are usable as such by the depositors in the bank, and—what is even more remarkable—they are usable as money by the bank itself. It is true that they are not a store of value for the bank, since they figure on the liabilities side of its balance-sheet, not on the assets side. But they can be used by the bank itself as a medium of payment.

When the bank makes a loan it hands over money, getting a statement of debt (bill, bond or other security) in return. The money might be taken from cash which the bank had been holding, and in the early days of banking that may often have happened. But it could be all the same to the borrower if what he received was a withdrawable deposit in the bank itself. The bank deposit is money from his point of view, so from his point of view there is nothing special about the transaction. But from the point of view of the bank, it has acquired the security, without giving up any cash; the counterpart, in its balance-sheet, is an increase in its liabilities. There is expansion, from its point of view, on each side of its balance-sheet. But from the point of view of the rest of the economy, the bank has 'created' money. This is not to be denied.

But before concluding at once, as many do, that this increase in the 'quantity of money' is inherently inflationary, or 'dis-deflationary', we should further examine the effect on the bank itself.

We have seen that the bank can be regarded as an intermediary, between those (depositors) who lend to it and those who borrow from it. The lenders are to be attracted by facility of withdrawal; but what corresponds to that on the borrowing side? An outside

borrower, who wants money now, will usually⁵ want it in order to spend it; but however profitably it is that he spends it, he cannot expect to be able to repay until some time has elapsed. Thus the bulk of the advances that are made by the bank will have to be for appreciable periods. The banker cannot expect to be able to recall his advances just when he wishes to do so. He may try to arrange them so that repayments are coming in fairly steadily; but that does not change the essential point that the money he has advanced will not come back until some date in the future, which he has accepted in the past but cannot now be changed.

If deposits are withdrawable on demand, or at short notice, while advances are relatively immovable, the position of the bank is inherently risky. It must always be exposed to some danger of a 'run'—many withdrawals coming together.

There seem to be three main ways in which a bank can protect itself against these risks, risks which are inherent in the kind of business it is doing.

One is to take advantage of the 'law of large numbers'. There must probably be something of this if banking, as a continuing business, is to function at all; but the protection which it offers does not by itself extend very far. For all that is said by this statistical principle, applied to banking, is that when a large number of similar transactions are being undertaken, in each of which there is a chance of some kind of failure, but the risk in one is independent of that in another, the loss that needs to be allowed for over the whole, when that is taken together, should be fairly predictable. This applies on both sides of the business of the bank. In the case of advances, failure consists in the borrower failing to repay at the appointed date; that can be looked after, on the statistical principle, by making a provision for bad debts. In the case of deposits, the risk that is undertaken by the banker is uncertainty of date of withdrawal; that also can be spread, if there are many depositors, and what makes one withdraw does not affect the behaviour of others. There have nevertheless been important cases when independence, on one side or the other, has been counted on but has failed. If the customers, who receive the advances, are most of them doing the same sort of business, when one is in trouble

⁵ Usually, because in practice there is an exception. He may borrow, although he does not plan to spend until a later date, if he thinks he can get the money more easily, or on more favourable terms, than he would be able to get it later. I shall leave this aside for the present.

many others may be also; thus a bank which is specialized on lending to farmers, itself gets into trouble in an agricultural depression. Withdrawals by depositors, who have begun to suspect that the bank may not be able to pay, are very likely to be imitated by others. So on each side there are possible conditions when the statistical protection does not work.

A second way in which banks have commonly protected themselves is to avoid allowing too much of the funds entrusted to them to be tied up in advances. Some may be held in the form of cash; but even if no interest is being paid on deposits, to hold a money, which bears no interest, as corresponding asset is clearly unprofitable. Bills are obviously a better alternative; and something of the same advantage can be got on suitable occasions, from longer-dated securities also. They can be expected to be sellable in an emergency, though the price at which they can then be sold is uncertain.

A third recourse, which in modern times has become of major importance, is to borrow from another bank. If there exists a group of banks, which are prepared when called on to lend to one another, the group is stronger than any of its constituents would be by itself. Strength is needed; so a certain amount of association of this sort has an economic function. By those who stand for competition 'though the heavens fall' it is under suspicion; but the virtues of competition, in cases where failure has wide repercussions, are open to qualification. How far this dilemma is resolved by the creation of a Central Bank—in fact, even if not in name, a Government Bank—in which the monopoly element is concentrated, I shall be considering in Chapter 11.

It will be observed that of these three protections, it is only the second which has the quality that the extent to which it is used can be continuously under the control of the bank itself. To get a loan from another bank requires the consent of that other bank; to vary the independencies, or interdependencies, between the risks involved in its advances, or in its deposits, can only be matter of long-term policy. But it is open to the bank at any moment to vary the size of its cash holdings, by buying or selling securities. It is therefore inevitable that operation upon this margin should be central to the management of the bank.

It is true that its advances will be 'rolling over'; some, at any time, will be being repaid, and (normally) being replaced by new advances, or continuations. Thus one way in which a bank may replenish its

cash holdings is by cutting down on replacements. But the most that can be got from this source, at all quickly, will be limited. Advances are not so liquid as investments (in securities) are.

So this is where we come to the concept of *liquidity*, and here we have it in the banking context where it first appeared in the work of Keynes.⁶ Bankers, he told us in his *Treatise*, have

three categories [of assets] to choose from: (1) bills of exchange and call loans to the money market, (2) investments, and (3) advances to customers. As a rule, advances to customers are more profitable than investments, and investments are more profitable than bills and call loans; but that order is not invariable. On the other hand, bills and call loans are more *liquid* than investments, i.e. more certainly realizable at short notice without loss, and investments are more liquid than advances.

I regard this passage as extremely important, not merely because it is the first place where Keynes spoke of liquidity (and it may also be the first place where any economic or financial writer spoke of liquidity⁷) but also because it is better than the simplified version of which Keynes himself made use in his later work. But it has not had the impact it deserved, for it needs some explanation and working-out.

First, explanations. 'Realizable' means convertible into cash, or money; but why money? Because it is in money that its liabilities—particularly its sight liabilities, deposits withdrawable on demand—are expressed.⁸ Thus cash, that is held among its assets, would seem to be treatable as perfectly liquid. Advances we have been reckoning not to be cashable at all 'at short notice'. Thus until the time for repayment comes, they are completely illiquid; their liquidity is zero. Degrees of liquidity can only pertain, in the case of the bank, to the securities segment of its assets (bills, bonds or maybe equities). It is only these which can be *more or less liquid*.

When liquidity is defined in this manner, it becomes clear that it is

⁶ *Treatise on Money*, Volume 2, p. 67.

⁷ I maintained this priority, in a paper entitled *Liquidity*, published in the *Economic Journal* (1962) and reprinted in my *Collected Essays*, Volume II (1983), pp. 238–47. It is difficult to prove it. I can only claim that I looked for it in a number of writings of the twenties, where it would have been appropriate for the writer to have used it, and did not find it. No one has told me I was wrong.

⁸ If there is more than one sort of money in which its liabilities are expressed, such as its 'own' money and a foreign money, and there is no fixed rate of exchange between them, things become more complicated. I shall have a little to say about that very contemporary problem later (see Chapter 14).

a *quality* which is attributed to an asset, according to a judgement that is made by its proprietor, or by some other interested party, at a particular moment. The 'loss', of which the definition speaks, must be the difference between the current market price of the asset and what it might fetch if it were to be disposed of at an unfavourable moment. (The need for such disposal might arise on the liabilities side, such as on withdrawal of deposits, or on the asset side, for example a new opportunity for profitable lending in the form of advances.) Just when it would be desired to make such a disposal is unknown.

Let us now look again, in the light of these considerations, at the balance-sheet of the bank. Its 'investments' we are now to reckon as 'more or less liquid'; its advances as nearly illiquid (at least so far as the near future is concerned); its holding of cash, on the principle just explained, as perfectly liquid; but is that right? Most, and sometimes even all, of its cash is normally employed on its regular business, covering gaps between deposits and withdrawals; these go on all the time, without creating any 'emergency'. It needs to have a money holding for this purpose, but this is *not* a liquid asset, from the bank's point of view. When this is allowed for, we ought to say that liquidity is a characteristic of an asset that is held as a *reserve*. The money that is held for current transactions is not a reserve asset; it is what corresponds to the working capital of a manufacturing business. I find it convenient to call this a *running asset*. (Advances also, when it is expected that they will go on being replaced, or renewed, are in this sense a running asset.)

In these terms, it can readily be seen what we should mean by the liquidity of the balance-sheet as a whole. It must be a matter of the quantity, and quality, of the reserves. This must be measured against possible calls on those reserves, which are essentially a matter of withdrawal of deposits. So it is tempting to say that the liquidity of the bank should be measured by the ratio of its reserves to its deposits. If there are advances, so that not all deposits are covered by reserves, then on this measure the bank is always imperfectly liquid.

But liquidity is a matter of quality as well as quantity. Among the reserves there will be some which have high liquidity, some (perhaps) very much less. They shade into one another. So though it is true that banking liquidity is a matter of comparison between reserves and deposits, it is not a comparison that can readily be reduced to an arithmetical ratio. For the liquidity index which is to be

attached to a particular security will vary over time and over state of mind—even the state of mind of the market as a whole.

It is nevertheless understandable that people who make decisions about liquidity (and people, such as economists, who think about people making those decisions) should want to work in such terms as can be put into an arithmetical form. If the 'more or less' liquid assets could be shepherded into two classes, on the one hand those that are very liquid, and on the other those that are decidedly illiquid, an arithmetical comparison between the very liquid and the deposits would serve as a good proxy for liquidity in general. But such a separation may not be easy to make, or to maintain. The best place for making it may shift from one time to another.

This has a bearing on what has happened to one part of the economics of Keynes. I have been greatly helped in this chapter by what he said on liquidity in his *Treatise*; but in his later and more famous book he seems to have fallen into the trap just described. And how many of his monetarist followers—in this respect they were his followers!—he led into it. One can see how it happened. During the years 1932–8 (just when Keynes was writing his *General Theory* and defending it against its first critics) the market rate of discount on bills, in London, was hardly more than one-half per cent. So bills were standing at a discount which was practically negligible; to treat them as *being* money, as Keynes implicitly did, was very natural. If bills were money, there was just one margin to be considered, among the reserves of a bank (or other financier): that between money so extended and other investments (bonds). So he could show his *long-term* rate of interest being determined at that margin. But this was a state of affairs which did not persist; from the perspective of fifty years later it appears an aberration. As things have been since the 1950s, not only in Britain but in other countries, short rates have been much higher, and there have been numerous issues with medium maturities, by governments and others, all the way between the bills of Keynes's time and his long-term bonds, or the nearest to the latter which still exist. Where, in this continuum, do we draw a line? it is no wonder that there has been such a fuss about the sorts of claims that are to be reckoned as money, M_1 and M_2 , and so on! In what has become the modern world, there can be no answer to that question. We have to go back to the qualitative concept of the *Treatise*.

And it is not only for theory of banking that we need it. I shall be looking at it in a wider way in the chapter which follows.