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Temi di discussione

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Why do we need a Central Bank?

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The series "Temi di discussione" intends to promote the circulation of preliminary drafts of papers prepared by the staff of the Banca d'Italia or presented by visiting economists at seminars held in the Bank, in order to stimulate critical comments and suggestions.

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During the last few years the main focus of monetary economics has been changing. Previously the main concern was basically macroeconomic, largely concerned with the selection of an optimal monetary target, with the main techniques used for this purpose involving regression analysis of aggregate time series, relating the money stock, prices and output, and interest rates. Now all that is changing. This is partly under the pressure of events, as financial innovations, deregulation, etc., have lead to instability in these time series relationships; and partly owing to theoretical advances by economists in what may be called the Minneapolis school, notably Lucas, Sargent and Wallace. These economists have suggested that many apparent statistical regularities, in what are frequently described as "structural relationships", are conditional on the constancy of the underlying policy regime, and also of the institutional structure. Such arguments have been used by economists of this school, notably by Robert Hall in his Journal of Economic Literature review article on Friedman and Schwartz. Many US economists now claim that such statistical regularities as may have occurred in the United States and in the United Kingdom, for the example in the

period 1900 through to the 1960s, were due to the underlying constancy of the institutional framework. In any case it now seems clear that changes in policy regimes during the 1970s, and the accompanying innovations and structural changes, are bringing about major shifts in quantitative monetary relationships. In the case of the United Kingdom, for example, three such innovations may be noted, all of which are likely to have a major effect on the time series relationships between the various aggregates. These are: first, the provision of market-related interest rates on demand deposits by the main clearing banks; second, the legal and institutional changes that are likely to make building societies increasingly akin to banks in their provision of a widening range of financial services to persons; third, the collapse of the structural divisions between banks and capital market institutions.

One might think that this change of approach would be welcomed by central bankers, because the claim that the best a central bank can do is to select some constant rate of growth of some monetary aggregate, and then leave policy on auto-pilot, is now fading in the light of the increasing instability of the time series relationships. On the other hand the change in theoretical focus, to a greater concern with micro-level questions about the structure and efficiency of the financial system, is bringing with it a range

of further queries and questioning. For example, Kareken and Wallace have argued that it may be certain legal constraints on banks' freedom to compete that provide the essential basis for the Central Bank's ability to control the monetary system. Thus in his Brookings Paper article (number 2: 1984), entitled "Bank Regulation and the Effectiveness of Open Market Operations", Kareken argues that control over both interest rates and monetary aggregates depends on the prohibition for banks to issue their own currency notes. Similarly, in a recent Journal of Monetary Economics article in 1985 Sargent and Wallace argue that, if a market rate of interest was paid on required reserves, there then might be no equilibrium level for nominal incomes. Thus, these authors have sought to unravel the interrelationships between the legal and structural foundations of the monetary system and its macroeconomic functioning.

But the above analytical issues are not the most important raised by the new approach, which, to repeat, emphasises the importance of policy regimes and institutional structures. The key issue, which has been raised, is whether there is a need, and what justification there may be, for having a Central Bank at all. Criticism of Central Banks has moved on from the Friedmanian attack of Central Bank discretion (that is to have this be replaced by a monetary rule), to a greater willingness to query, along the

lines of Hayek (in his latest arguments on the de-nationalisation of money), whether a Central Bank is necessary at all. Why does one need a central public body to look after, and act as a support for, banks when one does not need the same for other producers of goods and services? Bagehot asked the same question in his book Lombard Street. Bagehot was no uncritical admirer of Central Banks; but he felt that he could not at that juncture argue for the abolition of the Bank of England; instead, he used a "second best" argument that, given its existence, one had to make the Central Bank function better.

In practice, a sizeable proportion of the new literature which implicitly or explicitly queries the role and functions of Central Banks, is historical in format, examining periods of free banking in the United Kingdom, the United States, and other countries, usually reaching the general conclusion that such episodes were not so bad after all. Books, papers, monographs, by monetary historians such as Lawrence White, Timberlake, and Rockoff, are examples. Other authors could also be cited. Being a monetary historian myself, I have had a happy time examining some of these historical issues, and I have reported my findings in the latest study that I have had published, as an LSE monograph, entitled "The Evolution of Central Banks", (see especially Appendix A for the historical material).

But rather than spend further time examining the historical evolution of Central Banks, the purpose of this paper is to consider the analytical case for having a publicly-owned Central Bank. One aspect of this discussion has already been worked over at enormous length; that is the question of rules versus discretion in the conduct of monetary policy. If it is right for the government to run a discretionary monetary policy, then it needs an institution to carry out that job, and that institution would effectively be a Central Bank. Although most people would now be unwilling to give up discretionary monetary policy, and that in itself will sustain the existence of such an institution, let me try to put that argument firmly on one side, and go on to ask a second question, which is, within the context of <u>whatever</u> kind of monetary policy that may exist, whether discretionary, or based on rules, gold standard or whatever, is there a necessary micro-function for a Central Bank to undertake, this being primarily to supervise, regulate, and carry out Lender of Last Resort functions. Again, these functions are not carried out generally in other industries. The issue can be put concretely. Why should Johnson Matthey Bankers, or Continental Illinois, be saved, when the governments of both the UK and the US have allowed companies to fail in other industries, and uneconomic coalmines to close down.

Let me plunge into the subject with the general observation that the inadequacy and insufficiency of information may make the workings of markets imperfect, and require the intervention of certain outside bodies to improve efficiency. In particular, in those cases where it is difficult, or costly, for a buyer of a product, a good or a service, to obtain sufficient information on the quality of that good or service that he is buying, there is the tendency for individual sellers to try to raise their profit margin, and their share of the market, by cutting the costs of production and by lowering the quality of the product provided. Both Milton Friedman, in his "Programme for Monetary Stability" and Klein, in his paper on "The Competitive Supply of Money", have applied this general analysis to the production of money. Seen from the other side, that is from the producer's standpoint, the problem presents itself as one of "free riding". That is, producers of cheaper quality products benefit from the better reputation of higher quality producers, and in the process of producing cheaper quality products, also damage every other producer's reputations.

One response to this, of course, is that both buyers and sellers may find it profitable to increase the information available in the market-place by paying for it to be provided. The role of advertising is obvious, as also

are its limitations from the view-point of a buyer wishing to obtain accurate and unbiased information about product quality. Buyers may be willing to pay for additional information from an independent testing agency. In addition to such producers as Which, Good Food Guide, there are credit rating agencies, and agencies that do provide specialist information on banks. The demand for the services of one such agency, Bruyette-Keefe, rose so much in the United States after the Continental Illinois debacle that the agency had to double its staff. Even so, when it is costly and difficult for anyone, even a specialist, to obtain such information, when the criteria for judging quality are subjective and uncertain, and when the form of the service crucially involves the nature of the personal relationships established, so that repeated searching is effectively ruled out (think of your doctor or lawyer), then the option of leaving the provision of information to the market-place can not be fully satisfactory.

This latter claim is challenged by some. Thus, Hayek stresses reputation as a stabilising factor, as do several other economists of that view; but reputation also has a public good element, externalities relating to the reputation of others in the same field, that can easily be misused by free riders. Also, it is only too easy to appeal to the gullible by promising to offer a higher yield.

Particularly when it is difficult to check directly and quickly the quality of the service, it is all too easy to persuade people that you have discovered a miracle cure. By the time that it is patently obvious that this is not so, the fake doctor may have obtained a large sum of money, and have moved on. In the field of banking, for example, it is extremely difficult to distinguish between a relatively high rate of return that is offered because of greater efficiency, or one that is offered because the institution is also undertaking a much riskier strategy, for example by investing in assets with a higher return but of lower general quality, such as "junk bonds". Because high return often is associated with high risk, it is notable that the rate of profitability in banking has not proved to be among the useful forward indicators of the likelihood of failures, for example in Z score exercises. If people had infinite lives, and/or if memory did not decay, and if relationships between buyer and potential seller were capable of being repeated and repeated continuously, than reputation might, indeed, suffice to maintain the stability of the system. In practice these conditions do not occur.

What then generally happens is that the producers of a service join together to form a club. The club has qualifications for entry and rules of conduct. It benefits buyers by representing a guarantee of a certain quality, or

proficiency, and it benefits sellers by dealing with the free rider problem. The club may, of course, also operate as a cartel, which is its main economic drawback. In addition, the club may provide certain compensation funds, or insurance, both to its own members, and to clients who have due cause for grievance, because of the misdoing of one of the club members. Think of almost any professional service, and one will see how it works. So far, however, both theoretical analysis of the provision of information to the market, and the theory of clubs, have hardly been applied at all to the provision of financial services, nor indeed to professional services more generally. Indeed, insofar as it has been developed, the theory of clubs has been analysed at such a high level of abstraction, particularly in the form of mathematical theory, as to be hardly relevant at all to practical economic developments. In this respect, reference may be made to the survey article on the "Theory of Clubs" by Sandler and Tschirhart in the Journal of Economic Literature, December 1980.

There are several problems to be faced in running clubs. One of them is that the task of insuring compliance with the rules of the club, and in awarding any benefits or insurance pay-outs, under club rules, requires detailed information on the activities of club members, as Lloyds Insurance has discovered. If a club manager is also one of

the competing members, he may be in a good position to obtain inside information on the activity of competitors. This may not, however, always be a barrier: witness the set-up of the Stock Exchange Council, but this may only be possible where rules are relatively simple and the entry qualifications are clear. In many other cases the club manager needs, in order to avoid conflicts of interest, to be an outsider, an independent, non-competitive entity. Indeed the whole question of the purpose, and organisation, and role of clubs, notably in the provision of financial services, is topical and important. Thus in the re-organisation of the London Capital Markets during the "big bang" process, the nature and form of the clubs involved are being totally shaken-up and re-arranged. Unfortunately, there has been very little economic analysis of this development.

I would argue that regarding the Central Bank as a manager of the club of banks is fruitful, and explains a lot about a Central Bank's role and functions, in particular its relationships with other commercial banks. But it does not provide a full explanation, particularly not of the Lender of Last Resort function of Central Banks. Other club managers do not have the ability to rescue ailing members in the way that a Central Bank can, and does, rescue banks. So

once again, one may well ask what is so special about banks that they need to have a Central Bank in support?

Let me go back to the question of information. Eugene Fama, in his paper on "Banking in the Theory of Finance", in the Journal of Monetary Economics, (1980), has, I believe correctly, categorised banking as providing two main distinct services. The first of these is the provision of payments transmission services; the second is portfolio management, that is the bank takes a part of depositor's wealth and invests it in a portfolio of assets. Now, the first service is quite simple, and easily observable. There is no information problem that I can see in that aspect of a bank's operations. If banks were no more than a kind of glorified clearing house, cum bureau de change, there would be no need for a Central Bank Lender of Last Resort, or perhaps of a Central Bank at all.

Let us turn next to the second aspect of banking, portfolio management. There are, of course, many portfolio managers which are not banks, unit trusts, or investment trusts for example, and they do not need a Lender of Last Resort. Again what makes a bank special? There are, I believe, two conjoint features. The first of these is that, unlike unit trusts, banks' assets are primarily non-marketable, or at least non-marketed, taking the form of

loans and overdrafts. I am not sure why a secondary market, consisting of packaged personal overdrafts for example, has not grown up, in the way that a secondary mortgage market has developed in the United States and now appears to be developing in the United Kingdom; be that as it may, there is as yet no such secondary market.

There are a number of interesting questions that arise in this respect. First, why are loans made in nominal fixed-interest form rather than in the form of equity participation (though it should be noted that in some more fervent Islamic countries, such as Pakistan, which have prohibitions against the payment of interest, as representing usury, banks are increasingly having to provide lending in a quasi-equity form, as for example mushariqi loans). The main reason for this resides, I believe, in the cost to the bank of trying to obtain information which is only privately known by the borrower. Thus, it is often said that businesses maintain three sets of books, one for the tax inspector, one for their other creditors, and the true ones for themselves. Both the costs of obtaining information on the true conditions of the borrower, and the need to maintain incentives to the borrower to work hard, help to explain the reason for the provision of loans in fixed-interest nominal form rather than in equity form. The second question, however, is: even if the loans are to be made in

this way, why are they not capable of being marketed, rather than being arranged on the basis of a private negotiation, with the resulting contract not being capable of providing the basis for a marketable piece of paper. The answer in this case resides, I think, in the existence of considerable set-up costs to the development of a market in any particular kind of instrument. Among these set-up costs are the provision of sufficient information on the characteristics of the loan in question, in order to ensure that the public will feel sufficiently informed to be able to estimate what the underlying value of the instrument might be. The costs of providing such information, and the probable small number of trades that might be made in any such instrument, mean that such loan agreements would not possess sufficient liquidity to enable them to be traded on their own. If a large enough set of such loans, with a sufficient degree of homogeneity, could be parceled together, then it is possible to imagine a secondary market in such assets. Otherwise there is no real alternative to having such loans provided through a one-to-one arrangement involving a personal inter-relationship, transfer of information and development of trust, between a single borrower and a single lender. The institutions that specialise in the provision of such loans, and the development of such informational and trust relationships, are essentially banks. It is this particular aspect of their

behaviour that distinguishes them from other financial intermediaries.

But the fact that the majority of their assets are non-marketed means that the true worth, the asset value, of a bank is much more generally uncertain, even perhaps to its owners, certainly to outsiders, than is the case with other financial intermediaries. I would myself stress not just the uncertainty of the asset value, but, just as or more important, as I shall try to explain later, the fact that borrower-lender relationships in the case of banks is in many, perhaps most, cases a highly personal, confidential affair. That the relationship is of this kind, rather than being an anonymous market relationship, is a crucial issue in the role of banking, and a feature that has generally not been properly analysed, though, as already noted, it almost certainly relates to problems of information and of principal/agent relationships. Indeed, it is remarkable how little emphasis most survey articles, for example that by Santomero, in a recent issue of the Journal of Money, Credit and Banking, place on this crucial aspect of bank behaviour.

Because the bulk of their assets, in the form of loans to the private sector, do not have an easily ascertained market value, it is in practice very difficult to discover exactly what the true value of bank's portfolio

might be at any time. There are some, for example Professor Michael Beenstock, who argue that it is this informational uncertainty about banks' true value, that causes the potentiality for runs and bank panics. The argument is that sufficient information on the true asset value of banks, allowing the public to differentiate between the solvent and the doomed, would be sufficient to prevent runs and panics and to eliminate the need for a Lender of Last Resort. Apart from the fact that it would be difficult in practice to provide such information, this argument is, I think, mistaken, because of the second key characteristic of banks, which relates to the provision of liabilities with a guaranteed nominal capital value; that is the convertibility promise. Now if the depositor should have information, the more so if he believes it to be accurate, and if there was any significant probability of this bank becoming insolvent, with the value of liabilities becoming greater than the value of assets, then it would still be rational for the depositor to withdraw his deposit, since it would be "first come to the tellers' window, first served." Thus, even with perfect information, if the net asset surplus of a bank ever fell to a point where there appeared to be a realistic possibility that stochastic variations in the asset value of the bank in question might drive the net asset cover available for the depositor negative, then there would certainly still be an incentive to depositors to withdraw, and instigate a run.

So, the existence of a conjuncture in which bank runs are possible, depends on the conjoint circumstance in which both assets are uncertain in value, and deposits offer a fixed value convertibility guarantee, which can not be honoured fully under those circumstances when the net asset surplus falls below zero. Can this latter possibility be met by some form of insurance, whether offered by the private sector or by the public sector? I have dealt with the issue of deposit insurance at some greater length in my monograph on The Evolution of Central Banks. Put shortly, for the reasons developed by Diamond and Dybvig in their Journal of Political Economy article in 1983, the provision of private sector insurance would be less effective and less credible than the provision of public sector insurance. But, in order to deal with the accompanying problems of moral hazard, and with the systemic effects that arise from a bank run, the deposit insurance institution would have to undertake a programme of regulation and supervision, and arrange with the Central Bank to stand by with Lender of Last Resort facilities, which taken together would mimic exactly the prudential and supervisory role of existing Central Banks.

The argument is often made that the withdrawal of deposits, for example in a run, is serious, if and only if, the bank deposits are withdrawn in the form of cash, since this later reduces the high-powered money base available to

the banking system. From another aspect, when there is such a leakage into cash, the bank losing deposits has to sell assets, thereby reducing their price and worsening the solvency position of all other banks, without any other bank gaining deposits and buying assets. Thus, from either point of view, the fall in the high-powered money base available to the banks can result in a multiple contraction.

This description of a banking run, or panic, as necessarily involving a flight into cash is, however, incorrect. In some cases, for example in the UK in 1914, in the United States in 1931-1933, in several of the 19th Century crises, such a flight into cash did occur, but in the majority of cases involving Lender of Last Resort (Barings in 1890, the fringe bank crisis in the UK in 1974, the recent problem of the Less Developed Countries, Continental Illinois, Johnson Matthey Bankers), there was no question of any flight into cash. Instead, there was a major danger of a massive shift of deposits from one part of the banking system to another, with the latter being seemingly safer; or, in the case of LDCs, in the form of a transfer of lending from one part of the world to another. Why does this matter? Why do not the assets sold by the bank losing deposits simply get taken up by the bank gaining deposits? Here we come back to the first key characteristic of banks, the personal, confidential nature of their lending. This was

practically exemplified in the case of Johnson Matthey Bankers, in that it was impossible to value their loan book quickly and accurately enough to get another bank to take it over. Accordingly it is the collapse of the borrowing relationships, as failing banks call in loans, leaving borrowers without the ability to replace the money easily or reasonably quickly, that is at least as responsible, as the loss of depositors' wealth, for the resulting dislocation. Since the borrowing relationship depends on personal trust and private information, it cannot easily or quickly be replicated by transferring the loan to another party. This feature of banking has recently been nicely analysed by Diamond and Dybvig, and its importance in the United States in the Depression noted by Bernanke, in his American Economic Review article.

There are few ideas harder to shift than old myths, and no area so encrusted by myths as the Lender of Last Resort function of Central Banks; this is partly owing to a supposed reliance on Bagehot, who is not only often misinterpreted badly (because he is mistakenly regarded as a general supporter of Central Banks, whereas in fact he was a severe critic), but who actually also got some of his analysis wrong. In particular, Bagehot exaggerated the distinction between liquidity and solvency, suggesting that only banks with liquidity problems should be supported.

Similarly, Bagehot tended to dismiss too easily, notably in his debate with Hankey, the problem of moral hazard. I have just emphasised two myths, first that the Lender of Last Resort function is required primarily because of the particular nature of bank liabilities; this is partly correct, but also partly wrong because it is the particular nature of bank assets that is just as important an element. The second myth is that such lending is required solely to prevent a flight into cash. This is wrong. What a Central Bank has to do is to recycle back to the original banks any large and destabilising movement of funds.

Let me end with two more myths. The first is that the Central Bank does all the lending by itself. In practice, of course, the Central Bank has to put some of its own money up front, to provide a seal of good housekeeping, but the Central Bank not only does not often have enough money itself for the purpose, but it is also usually unwilling to take such a large risk on to its own book. In any case a Central Bank often feels that it should act in its role as club manager to get the club members to act for the good of the club as a whole. Thus, most Central Bank support lending has involved a joint exercise, with the Central Bank acting as overall co-ordinator, and putting up a significant proportion of the funds required itself, but drawing alongside with it the major commercial banks within

the system, and relying on their funds, support and aid. There are many examples of this, for example starting with Barings in 1980, the fringe banking crisis in 1974, together with the more recent examples of the way the bank crisis of Continental Illinois in the US and of Johnson Matthey Bankers in the UK were handled. Actually it is much harder to find examples when the Central Bank did act entirely by itself, though some exist; thus when the Lifeboat (that was arranged between the clearing banks and the Bank of England to provide support for the fringe bank crisis in 1974) had involved such large payments that the commercial banks were not willing to extend further money, the Bank of England took over sole responsibility for the support for a couple of the final institutions failing in that exercise, for example Slater Walker and Edward Bates. The analogy between the way in which a Central Bank tries to associate the main commercial members of the club of banks with itself in such rescue action, and the role of the IMF in trying to deal with the LDC crisis, is remarkably close.

My final myth is that Lender of Last Resort Lending should be confined to cases of illiquidity, and not to insolvency. This myth is even enshrined in certain Central Bank statutes. There may have been a few cases a long time ago when some Lender of Last Resort support was necessary to banks which were temporarily illiquid but

clearly solvent, but even in the 19th Century in such cases the private market mechanism, for example selling consols in the open market in order to buy a cart-full of gold sovereigns, was usually preferred. Nowadays, with perfectly-well functioning wholesale liability markets, no bank, other than a tiny, tin-pot bank, should, and hardly could, ever get into liquidity problems, unless its solvency was suspect in that market. This is not to say that a bank needs to be clearly bust in order for it to become illiquid, but there has to be at least a suspicion of insolvency, because otherwise the bank could raise additional funds to meet any liquidity problem on the open market. Indeed banks generally now only go directly to the Central Bank for support, when any further attempt to draw funds from the wholesale market would lead to an overt worsening in their own credit rating (in the form of a widening in the margin between the rate at which they would be charged for funds, and the rate being charged for funds to banks which had been thought to be of the same general risk standing). Markets, communications, etc., are now such that a bank liquidity problem is virtually by definition a bank solvency problem, though the converse does not also follow. Thus, Johnson Matthey Bankers never ran into a liquidity problem until they became aware that they had a serious solvency problem. Thus illiquidity is inextricably connected with suspicions of insolvency. This does not mean that insolvency is necessarily certain,

only that there is a significant probability that the bank in question has a negative asset value, and will not be able to escape from that situation within the foreseeable future. It is still probably correct to refuse to extend loans to banks, or countries, which are irremediably and absolutely bankrupt, without any hope of ever being able to repay. On the other hand, inevitably support lending will always be required only by those for whom there is at least a suspicion, or a possibility, that they may be in the same position. A Central Bank, therefore, has to make a judgement usually under extreme pressure of time and market pressures, whether the probability of the institution being supported ever recovering and paying off its debts is sufficiently high in order to justify the initial support.

Let me now conclude. If bank assets were fully marketable, and had a known market price, there would be a tendency for banks to develop deposit liabilities whose value would vary with the value of those assets, which might be described as unit trust banking. There would be no great difficulty in providing payments services in association with deposits whose value was subject to variation according to stochastic market price fluctuations. Indeed, such developments are effectively happening today, in such cases as the Merrill Lynch Cash Management programmes. Similarly building societies in the UK, and institutions elsewhere,

are allowing borrowers to increase their mortgages flexibly, i.e. to make cheque payments, up to a proportion of the market value of their house, which market value changes over time. In such cases where the value of the deposits related to the observable market value of the portfolio of assets, it would be difficult to see how or why a run might develop, and there would seem to be no need for a Central Bank at all. However, for banks of the kind that we have there is such a need, primarily because the asset value of their loan book is not clearly ascertainable: because the value of their loans depend on private information, which is private to the borrowers and in some cases to the banks, it is not possible for the banks to offer, not would depositors be prepared to accept, deposits whose value would be changing according to private information which was not generally publicly available. Thus the nature of bank assets determines the nature of bank liabilities. So long as information costs and the set-up costs of markets ensures that there will be a need for anonymous, non-market, lending, then there will be a need for financial intermediaries to undertake this particular activity; these institutions will effectively be banks. Because of the particular nature of their assets, such institutions will be forced to provide liabilities along the lines of the present form of bank deposits, which are nominal value, fixed-interest, deposits, with a guarantee of convertibility into

high-powered money. It is this conjoint feature, the particular nature of bank assets and the convertibility guarantee on bank deposits, rather than the provision of payment services (which could, and in future will, be carried out by a much wider range of financial intermediaries), that provides the key to the special and peculiar features of banks, and brings an associated need for a support institution, such as the Central Bank, with its Lender of Last Resort function.

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