

I. Introduction

Over the last ten years, there has been (again) in the literature an increasing interest in monetary reform, not in terms of a better conduct of monetary policy (a subject of constant concern over the last decades), but in terms of a better institutional framework of the monetary system. We shall call this institutional framework the monetary constitution of an economy. We have borrowed the notion from the relatively unknown, but fundamental monograph by Friedrich Lutz on Das Grundproblem der Geldverfassung, published exactly fifty years ago.(1)

One possible reason for the increased scholarly interest in monetary reform is that of the inflationary experience in the industrialized countries over the 1970s. This inflationary decade coincides with the emergence of a world monetary system which, according to Milton Friedman (1985, p. 2), is "unprecedented". The year 1971, the end of Bretton Woods, is the formal date for the removal of the remaining relics of a bygone commodity standard. Even though, since World War I, the world monetary system moved already gradually toward a dollar standard, some elements of a commodity standard had still been maintained: fixed exchange rates with respect to the dominant currency - the dollar, and the pretense of the U.S.A. that the dominant currency is based on a gold standard. Thus, since the 1970s, the world

monetary system has given up the last formal links to a centuries-old commodity standard and it is now definitely on a fiat standard, i.e., in Irving Fisher's terms, on an irredeemable paper money standard.

The new era of a worldwide fiat standard was accompanied, over the 1970s, by a more than doubled world inflation rate (where the term world stands here for the Western industrialized countries). Whether this inflationary phenomenon was due to an argument of the type post hoc, ergo propter hoc or not, our profession was looking for alternative monetary systems or for the improvement of the actual monetary system which would prevent more efficiently inflation. The better conduct of (a discretionary or automatic) monetary policy or the return to fixed exchange rates or/and to some commodity standard were one of the main preoccupations. Another and a completely new strand of ideas was initiated mainly by Friedrich Hayek's proposal for a [Free] Choice in Currency (1976a) and for the Denationalisation of Money (1976b). While in the "older" literature, the monopoly of currency (base money) creation by government was considered as a necessary condition for price stability, this argument was reversed by Hayek suggesting an unrestricted supply of private high-powered monies:

"The past instability of the market economy is the consequence of the exclusion of the most important regulator of the market mechanism, money, from itself being regulated by the market mechanism." (Hayek, 1976b, p. 79.)

In the recent literature on the competitive money supply, the performance of a competitive versus a monopolistic system of money creation is judged on the grounds of monetary stability. However, our concern is to enlarge the efficiency criteria of a monetary system. Money is a store of value and a means of payments. The highest degree of moneyness is achieved when money is a perfect store of value (monetary stability) and a generally accepted means of payments (monetary integration). The goals of a monetary constitution are the realization of monetary stability and monetary integration within the framework of a country or with respect to several countries or even in regard to the whole world economy (section II). The institutional means and, in particular, the question of whether government intervention is a necessary condition for achieving the two fundamental objectives of a monetary constitution and, thus, for bringing about the "optimum" monetary constitution are considered, successively, for the realization of monetary integration (section III) and of monetary stability (section IV).

The methodology of our arguments will be rather abstract. In section III we ask the question whether there can be made a case for an invisible hand emergence of a money economy from a barter economy and of full monetary integration from a low level of monetization. Section III concerns the demand side of money, i.e. its use and the demand for money holdings, while the supply side of money is discussed in section IV. One of the main purposes of section IV is to know whether a monopolistic or competitive system of money creation is the best regime for achieving

monetary stability and, in particular, whether a competitive fiat standard is viable in comparison with a commodity standard.

II. The Fundamental Objectives of the Monetary Constitution

Each monetary constitution has (or should have) two objectives: monetary integration and monetary stability. Monetary integration aims at improving the quality of money as a generalized means of payments, whereas monetary stability stresses the other function of money which is the store-of-value function.

First of all, we must specify what one could understand by monetary integration and monetary stability. As we shall see, there are different degrees of monetary integration and different interpretations of monetary stability (Claassen, 1984, pp. 49-50).

Different degrees of monetary integration. The highest degree implies the existence of a single currency in the world economy. The other extreme representing the lowest degree of monetary integration is more difficult to define. It could be a world of n countries with n currencies related to each other by flexible exchange rates. In such a case, a world of n currencies with fixed exchange rates would be very near to the hypothetical one-currency world, so that a regime of fixed exchange rates and a

regime of flexible exchange rates reflect the different degrees of monetary integration: the lower the degree of flexibility of the exchange-rate system, the higher the degree of monetary integration within the world economy.

However, one can also imagine an even lower degree of monetary integration by assuming that there are more than n currencies within a system of flexible exchange rates. Thus, for instance, each region of a country may have several currencies which may circulate with the currencies of other regions and even with those of other countries. In this situation the lowest degree of monetary integration would have been achieved.(2)

The number of currencies and the degree of flexibility of their exchange rates have been chosen as the criteria for the degree of monetary integration. If one takes the number of producers as the classification scheme for the degree of competition in the economy (by assuming that the demand side is atomistic), the highest degree of monetary integration would imply a monopolistic monetary system and a low degree of monetary integration would involve an oligopolistic or competitive monetary system.

Different interpretations of monetary stability. At first sight, monetary stability should not evoke any definition problems because it could be specified by a constant general price level (even though the latter may imply statistical difficulties of a well-defined price index). Consequently, a variable price level,

upwards and downwards, would represent the case of monetary instability, and special cases of this monetary instability are inflation and deflation.

We know from the literature that inflation is harmless for the economy provided that it is correctly anticipated: Under this condition, the real variables of the inflationary economy are identical to those of an economy with a constant price level except the level of real cash balances which will be reduced; however, this reduction of real cash balances could be avoided by the payment of an interest rate on money holdings by the amount of the inflation rate. Consequently, the target of monetary stability in terms of a constant price level would not represent fundamentally higher advantages for the economy than the inflationary regime in which money yields an interest rate of the amount of the inflation rate. The case for the absolute superiority of a constant price level can only be made on the grounds of the existence of wrong inflationary expectations. However, even monetary stability in terms of a constant price level does not necessarily involve correct expectations with respect to the future price level because we never know exactly what will be the price level in the future.

When, for reasons of better (i.e. more correct) expectations, a constant price level can be chosen as indicator of monetary stability, it is not entirely evident that deflation is not the best solution for realizing monetary stability because deflation may also yield the optimum quantity of money. But we

shall (or we must) distinguish between the objective 'monetary stability' and the objective 'optimum quantity of money'.

One could argue that the monetary constitution should realize three objectives: the highest monetary integration (a world currency), the highest monetary stability (a constant general price level) and the optimum quantity of money (the payment of an interest rate on money equal to the real market interest rate). However, our attention is concentrated more on the two first objectives since the optimum quantity of money could always be realized whatever may be the actual degree of monetary integration and of monetary stability.

Trade-off between monetary integration and monetary stability.

Both objectives can be incompatible with each other over certain periods. Thus, for instance, higher monetary stability may be attained by the introduction of a flexible exchange rate which implies a lower degree of monetary integration; vice versa, a higher degree of monetary integration through a fixed-exchange-rate system or via the formation of a currency area may involve a lower level of monetary stability. It should be emphasized that this possibility of a trade-off relationship has to be seen in a long-run perspective (or in a historical retrospective). Consequently, the whole argument of this paper is based in terms of decades (and even centuries). Applied to the monetary scene of Europe it could explain the different stages of a higher or lower degree of the European monetary integration, in the past and probably also for the future.

III. Monetary Integration: The Economies of the Use of Money and its Institutional Implementation

The use of money, in contrast to the production of a certain quantity of money, as a unit of account and a medium of exchange represents a revolutionary technique of organizing the exchange of goods in a market economy. This technical progress in the organization of exchange means a considerable reduction in transaction costs associated with the buying and selling of goods. The economies of transaction costs due to the existence of money can be specified by assuming successively a higher monetization degree - or a higher degree of monetary integration - of an economy. The first "quantum jump" in the economies of transaction costs arises from the transition from a barter economy to a money economy. However, the transformation into a money economy needs not to imply a fully monetized economy, and the second decline in transaction costs results from the generalized use of money as a unit of account and a means of payments. Thirdly, several monies could still be used as a unit of account and a medium of exchange, and the "monetary unification" stands for the third type of economies of transaction costs.

The three different kinds of economies in transaction costs could have, each of them, an internal and external component. To the extent that there are non-pecuniary externalities, one could ask the question of whether the monetization of the economy is fully realizable by the private sector of the economy or whether

government intervention is a necessary condition for the accomplishment of the various degrees of monetary integration.

1. The Economies of the Transition of a Barter Economy Towards a Money Economy

The size of the economies in transaction costs of a money economy depends on the type of a barter economy with which one compares the money economy. By assuming an already organized barter economy, the latter can be conceived in terms of trade posts or in terms of trade intermediaries.

Trade posts. One possible organization form for the exchange of n goods within a barter economy is the establishment of $n(n-1)/2$ trade posts. By assuming, for sake of simplicity, the existence of four commodities, A, B, C and D (where $n = 4$), there would be six trade posts. The implementation of this trade pattern is comparable with a traffic system between n villages (Wallace 1972, pp. 838-39) where each village is connected to all other villages by a particular road (Fig. 1). Thus, for village A, there are three different roads connecting A with B, C and D. The total number of roads are six. In analogy, commodity A can be exchanged against commodities B, C and D, respectively. Thus, the resulting six trade posts are AB, AC, AD, BC, BD, CD.

The superiority of a money economy with respect to a barter economy being organized in terms of trade posts, is not evident

at first sight. On the one hand, in a money economy, one would have four specialized trade posts (or markets) for each of the four commodities compared with six trade posts in a barter economy. Thus, for instance, instead of exchanging directly A against B at the trading post AB, in a money economy A has to be sold in the market of commodity A against money and B has to be bought in the market for commodity B against money.

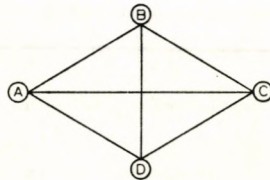


Figure 1

From the point of view of a less costly organization of exchange, a money economy will only emerge from a critical number of commodities to be exchanged. In an economy with 10 commodities, a barter economy of 45 trade posts could still be associated with lower transaction costs than a corresponding money economy with 10 markets. However, when the number of commodities goes up to 100 goods, the lower transaction costs associated with only 100 specialized markets in a money economy compared with 4950 trade posts in a barter economy become more evident. Consequently, the economies of transaction costs emerge from a

critical number of commodities onwards and then they rise, absolutely and relatively, with an increasing number of commodities.

It should be mentioned that the advantages of a money economy are often derived from the disadvantages of a non-organized barter economy. In the latter type of economy, there are two further kinds of transaction costs. On the one hand, there are search costs as a result from the search for the location of potential buyers or sellers. Even after a very intensive search process, the desired exchange between buyers and sellers does not need to coincide such that a complicated chain trade of "intermediary commodities" emerges. On the other hand, there are information costs about the quality of the traded goods (Alchian, 1977). Since there are no specialized agents, each buyer or seller must rely on his own knowledge about the quality of the supplied and demanded goods. Only specialized markets - in form of trade posts in an organized barter economy or of markets for one good in a money economy, respectively - permit an "objective" information about the quality of goods.

How could one conceive that a barter economy of the non-organized type moves gradually toward a money economy directly, or indirectly by passing first via an organized barter economy? Are there sufficient market forces (the "invisible hand") which bring about a money economy or is an external enforcement or coercion (e.g. via government or some collective decisions) necessary to produce a more efficient, i.e. less costly, mechanism of

exchange? If one looks through the glasses of traditional Walrasian general equilibrium theory, one could come to the conclusion that there should be some central decision maker who organizes the exchange of goods. Walras' fictitious auctioneer, with his concepts of "tâtonnement" and "prix créés au hasard" in a world without money, who realizes the equilibrium price at which the demand for each good is equal to its supply, has still not solved the exchange mechanism of goods (Starr, 1972; Barro and Fischer, 1978, pp. 17-19). His function could be augmented by implementing an organized barter economy (e.g. of the above kind of trade posts) or by introducing a general medium of exchange. However, as far as the organization of a barter economy is concerned, it should be considered as rather self-evident that buyers and sellers have a self-interest to introduce such a technical trading innovation since the transaction costs (search costs of location, information costs on quality) decrease sharply. Another question is whether a money economy, out of organized or even non-organized barter economy, will not evolve because of the fact that transaction costs (in terms of the number of "markets") would even be reduced more radically. The evolution of a money economy can be exemplified better by assuming an organized barter economy dominated mainly by trade intermediaries.

Trade intermediaries. This type of an organized barter economy is comparable with a traffic system which connects the different villages (B, C, D in Fig. 2a) with a centre village (A) serving as junction. In our example of a barter economy with four goods

and assuming four economic subjects, the following desired pattern of exchange could be taken as an example:

economic subject I supplies A and demands D;

economic subject II supplies B and demands A;

economic subject III supplies C and demands B;

economic subject IV supplies D and demands C.

One possible trade configuration is that of Fig. 2b in which the economic subject I is simultaneously the trade intermediary. While all other economic subjects undertake a bilateral exchange with I, the latter performs a multilateral exchange with all others.

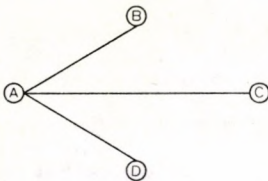


Figure 2a

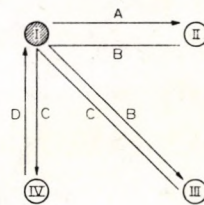


Figure 2b

It should be noted that each of the four economic agents could exercise the role of an intermediary. The one who will overtake the function of the trade centre - in our example the economic subject I - is that agent who offers the best trade services in terms of the knowledge about the location of buyers

and sellers, about the quality of the demanded and supplied goods and about possible price differences. The trade intermediary is, to a certain extent, the trade post for all goods. With an increasing number of goods, it is highly probable that there is an emergence of several trade intermediaries which become specialized geographically and/or in certain types of goods. And again, as in the case of trade posts, from a certain critical number of goods, it seems more "rational" (i.e. less costly) that a money economy emerges.

The emergence of a money economy may be related intimately with the existing trade centre(s). Thus, it is possible that the economic agents choose gradually as an "intermediate commodity of exchange" a commodity in which the trade intermediary is particularly specialized or for which the trade intermediary has created a perfect market in terms of the perfect certainty about the quality and the price of the concerned commodity (besides other traditional attributes like homogeneity, diversibility, transportability ...). After the market participants having selected progressively the most convenient commodity as the unit of account and the medium of exchange, historically government was tempted to step in for certifying additionally the quality of the commodity having been chosen as money:

"Historically, a single unit of account linked to a single dominant ... money has tended to emerge, initially via a market process of transactors settling on a particular commodity, followed almost invariably by government's exercising over one or more aspects of the issuance of ... money - typically with the ostensible purpose of standardizing the coinage and certifying its quality (purity, fineness, etc.). Occasionally, two commodities, with a flexible rate of exchange between them, have simultaneously

been ... monies, one for small transactions, the other for large, as with silver and gold in the Middle Ages, or copper and silver in China." (Friedman and Schwartz, 1985, p. 10.)

As Carl Menger (1982) has emphasized, there is a clear-cut case for the invisible hand explanation of the genesis of money from the initial state of a barter economy since it is in the interest of each trader to diminish the transaction costs associated with barter, even if the barter economy is already of the organized type (in form of trade posts and trade intermediaries). The "spontaneous" emergence of money concerns the unit of account as well as the medium of exchange. Theoretically, it is conceivable that both money functions are separated from each other. There could be one commodity serving as numéraire, and another serving as medium of exchange. However, the economies in terms of calculation costs would simply impose that both functions are wedded to a single commodity (White, 1984, p. 704).

Another advantage of a money economy consists of the desired imperfect synchronization between purchases and sales (Brunner and Meltzer, 1971). For the economic agent it can be preferable to proceed with purchases at one point in time and to undertake sales at another moment. This non-simultaneous pattern of "expenditures" and "receipts" can be made possible also in a barter economy with the help of credit. However, the barter credit refers normally to the reimbursement in terms of a specific commodity (trade posts) or, possibly, in terms of a bundle of

commodities (trade intermediary). In a money economy, the "purchasing power value" of credit comprises necessarily all commodities, and credit contracts for the desired non-synchronization of receipts and expenditures are mainly replaced by money holdings. This aspect of money as a "temporary abode of purchasing power" represents the basis for the motive of the demand for transaction balances in contrast to the motives of the use of a medium of exchange.

2. The Economies of Scale of a Medium of Exchange

The economies in transaction costs associated with the use of money are of the internal and external type. The internal economies refer to the savings of transaction costs each individual realizes when he uses money as a unit of account and as a medium of exchange. The same is true for the use of a common language or the use of a telephone system: The communication with other individuals is easier, i.e. less costly. However, there are also externalities for others when an individual uses a common medium of exchange, a common language and a telephone system, since for the other participants the exchange of goods or informations becomes also more convenient. To the extent that the individual considers his costs of the use of money superior to his (private or internal) return, he will refrain from money transaction. If the social return of the use of money is higher than its (private or social) costs, there could be made a case

for government intervention in order to generalize money transactions.

It should be noted that these considerations stand for the possibility of an economy which is based partly on barter and partly on money. In general, the literature treats the alternative of an economy fully on barter terms or fully on a money standard. Consequently, the in-between case is not treated which is relevant for the gradual transition of a barter economy toward a fully monetized economy, i.e. toward complete monetary integration.

The externalities of the use of money can be illustrated by a simple model elaborated by Vaubel (1984a, pp. 33-41). For the sake of simplicity, we assume an economy consisting, for the moment, of four individuals: I, II, III and IV, and where N stands for the number of individuals who are using money for transaction purposes. The individual functions of the demand for money are assumed to be identical among each other. The lowest degree of monetary integration would be an economy in which at least two individuals use money as a unit of account and medium of exchange. In Fig. 3, the individual curves of the demand for money, $N = 2$, are traced for the hypothesis that only two among the four individuals renounce barter and use money. The symbol m stands for real cash balances. The rate of interest, r , is given at the level r_0 . Each demand curve reflects the marginal return of transaction balances. We assume that there is a minimum amount of real cash balances (m_{\min}) which is necessary to be

held in order to regulate the purchase and sale of goods with the medium of exchange. This minimum holding of cash balances is assumed to be independent of the transaction volume.

From the individual point of view, there would be no reason to use money when monetary transactions take place only between two individuals, since the marginal return of money holdings (which are necessary for the use of money as a medium of exchange) would lie below their marginal opportunity cost. Thus, for instance, if only I and II would start the money economy, they would come to the conclusion to continue the exchanges in barter terms provided that they are not able to persuade individual III to join the money economy. The participation of III is advantageous for all three since the marginal return of real cash balances increases for each of the three from $N = 2$ to $N = 3$ (Fig. 3). The membership of III to the money economy would confer externalities - Vaubel calls them "transaction cost externalities" (1984a, p. 33) - by the amount of PR for the account of I (ST) and II (VW). Similarly, when IV joins the money economy, he creates externalities (YZ) for I (TU), II (WX) and III (QR) where $YZ = TU + WX + QR$.

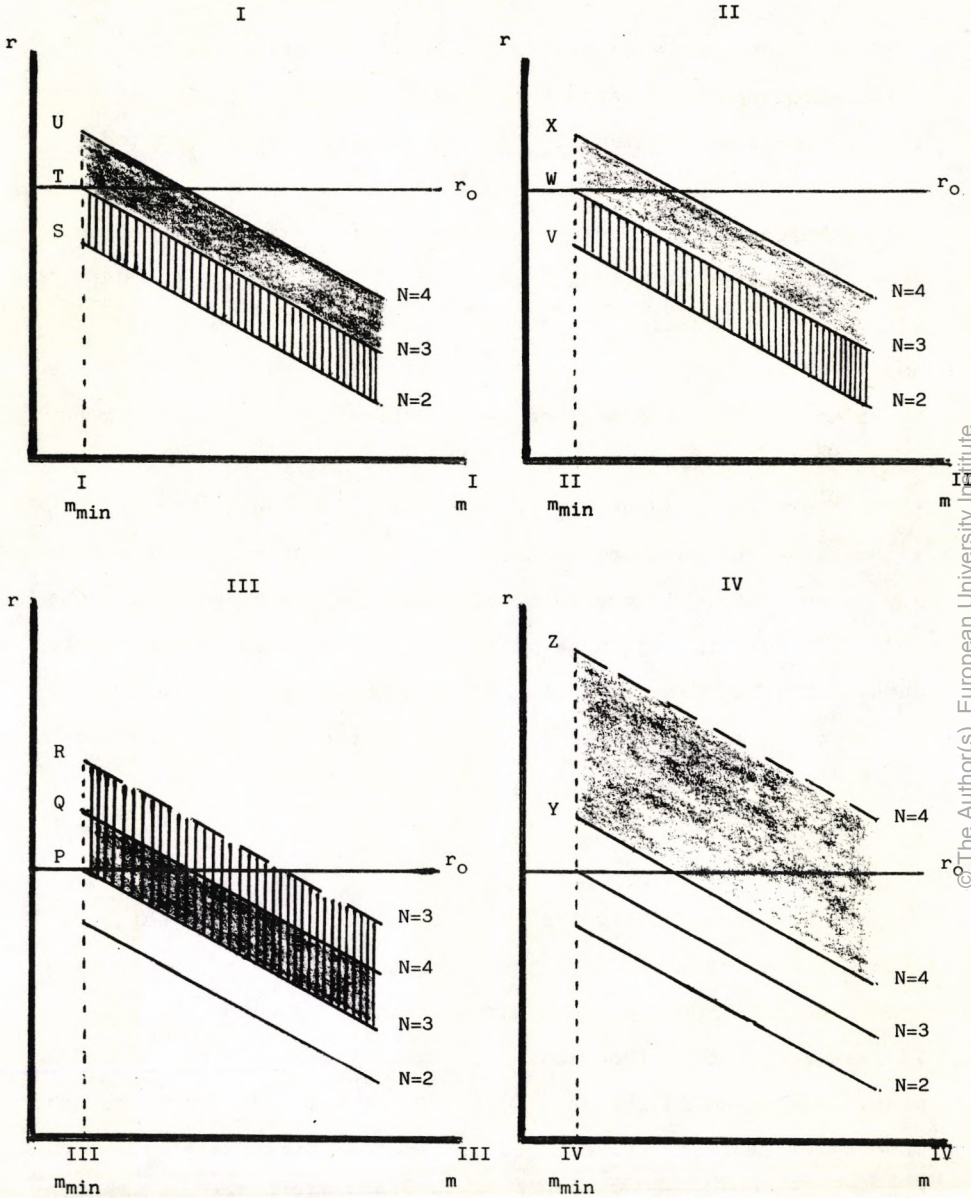


Figure 3

In order to establish a completely monetized economy, the critical question concerns the means by which one could motivate III and IV to accomplish the process of monetary integration.

1. One possibility would be a once-and-for-all government subsidy of PR for III. Individuals I and II could also compensate III for the externalities they have received by him at the amount of $PR = ST + VW$. However, they would be net losers in the starting period because then their net marginal return of money holdings is below the opportunity cost r_0 . It should be noted that there is no necessity to subsidize individual IV since his association to monetary exchanges will be profitable for him at any rate; he could try to obtain some compensations from I, II and III for the externalities he has created for them even though they may behave as free riders. Consequently, the critical marginal money user is III or the "'critical mass' which the system must attain to be viable" (Vaubel, 1984, p. 38) is, in our example, $N = 3$.

2. Another possibility for the full monetization process of an economy concerns our previous argument of the invisible hand emergence of money from a barter economy in which there is an increasing number of commodities. The efficiency criterion of a money economy could motivate most, if not all individuals to use money instead of barter. Since our "critical marginal money user" could be anyone among our four individuals, all four could decide, spontaneously or rationally (and thus, without command by government subsidies), to engage in monetary transactions.

This possible outcome is more likely in our model of identical demand functions for money since everybody draws the same amount of advantages from the use of money. Further, when all four individuals begin to use a medium of exchange simultaneously, they confer to each other the externalities so that all externalities are mutually internalized.

3. Until now, we have not mentioned which agency or individual supplies the money - a subject which will be treated in section IV. As we shall see, the most probable money which emerges during the transition of a barter economy toward a money economy will be a commodity money. If we choose gold as a likely candidate for the commodity money and if the suppliers are private gold mines, it will be in their profit interest to "overcome the infant industry stage" (Vaubel, 1984a, p. 41) and to subsidize the critical marginal money user or, more likely, the three money users I, II and III to the extent that I and II have not yet agreed to use gold as medium of exchange. The money producers will only supply gold coins when the cost of coinage is contained in the face value of the coin which is equal to the gold content plus the cost of coinage, plus a seigniorage profit in case of monopoly. If the cost of coinage underlies decreasing production costs, the money producer(s) will subsidize III, or I, II and III for the start-up costs which will be financed by future profits resulting from the use of money by IV (and others).

3. The Economies of the Use of a Single Medium of Exchange

The function of money as a means of payment refers to a generally acceptable means of payment. The general acceptability may differ between areas and between types of transactions. The latter case concerns the 'technical' question according to which different kinds of the same currency unit (coins, bank notes, sight deposits) are not complete substitutes such that for many cases, each of them can be used more easily for certain types of payments. However, the real economic issue is related to the area of the money circulation. If there are many monies within an area, for instance, within the largest one, which is the world economy, the optimum number of monies will be one and this for the following reasons (Claassen, 1984, pp. 51-53).

1. As Swoboda (1968) has shown, the average holding of transaction balances will be more important, the higher the number of monies. This result is based on the assumption that certain payments (for instance, intra-national ones) can only be effected in one money and other types of payments (for instance, international ones) in another money.(3)

The necessary use of different monies (which is analogous to the above 'technical' question of the existence of different kinds of the same currency unit) may not be the result of legal restrictions with respect to the exclusive use of a certain money. It could (but must not) be conceived equally in a world of private money producers without any government intervention.

2. Calculation costs and currency conversion costs are another item which reduces the optimum number of monies to one. Calculation costs are minimized when there are fixed exchange rates and when monies are exchanged in a relation of 1:1. In this case, the calculation costs are approximately zero because such a fixed-exchange-rate system resembles a one-money world. But even in such a world currency conversion costs are still existent due to the conversion of one money into another when payments have to be made in this other money. One reflection of these currency conversion costs are the opportunity costs of the average higher transaction balances individuals must hold and which we have already mentioned above.

As Vaubel (1984a, pp. 41-42) shows, the economies of currency conversion costs have also an internal and external component. An individual who used formerly currencies X and Y and chooses now only currency X, will have lower - internal - transaction costs in terms of the savings of lower transaction balances and of lower conversion costs. He will also confer externalities on the other users of currency X (and he will withhold external benefits from the users of currency Y).

To the extent that the money supply is competitive producing several currencies linked to each other by flexible exchange rates, it is conceivable that the competitive market forces drive the private money producers to currencies with, successi-

vely, stable purchasing power, fixed exchange rates and, eventually, with a denomination in a relation of 1:1. This possibility has been envisaged by Hayek (1984, p. 39):

"I believe that complete freedom to offer to the public alternative monies would rapidly lead to a number of types of money, all of them essentially stable in value, all widely known for their quality and - this is perhaps a surprising feature - all of them stable in terms of each other. They would represent more or less the same store of value under different names ... These monies, I believe, would be partly expressed in denominations of the same magnitude, though bearing different names according to the issuer of a particular type of token or money. It is a strange picture, I admit, but the more one thinks about it, the more realisable it appears."

The monetary quality of a single, universally accepted means of payment is the highest one in comparison with the existence of several monies. For instance, the existence of two monies can be compared with the existence of two telephone systems, T_1 and T_2 in Fig. 4. In the non-shaded section of the area $T_1(T_2)$, all telephone users can communicate with each other via the system $T_1(T_2)$; the monetary analogy would be that in this area section the only money used is the money of type $T_1(T_2)$. In the shaded section, both systems are used. One possible (and the most costly) type of organization would be that their inhabitants must possess a second phone receiver. In order to eliminate the 'calculation costs', the phone number of each user should be the same in both telephone systems. Thus, the remaining costs - the 'conversion costs' - consist of 'holding' two receivers for the inhabitants of the shaded section. At first sight, these transaction costs may not be considerable, but two further considerations make them more relevant.

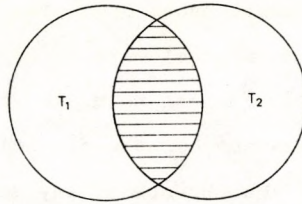


Figure 4

1. Suppose that each area is penetrated completely by both telephone systems (the shaded surface of Fig. 4 would cover both circles). To merge both systems into a single one which, from a technical point of view, could imply a simple, nearly costless linking of the lines between the two telephone centres, would (or could, depending on the production function) create economies of scale of which the telephone users profit by having only one single phone receiver and by paying lower charges due to the lower average production costs. The lower price implies that the natural monopoly is regulated in the sense that the price of phone calls is equal to the average cost (or, in the case of the natural monopoly of money creation, that the seigniorage gain is transferred to the money holder). If this condition is not fulfilled, then it may be that the former oligopolistic structure was less costly for the telephone users even though, under the aspect of the whole economy (producers and users), more resources are tied up in the telephone industry.

2. Instead of two telephone systems, suppose there exists a competitive system of n telephone companies covering simultaneously all areas. The economies of merging several companies will be extremely high. On the one hand, the telephone users will welcome such a monopolization because of their lower transaction costs provided - in the absence of any monopoly regulation - that the price of the product is not increased. On the other hand, among the producers, there will be a tendency to merge the production such that, in the end, an oligopolistic or monopolistic structure of production will develop. Both aspects could explain the regional monopolization of money production which would have ended in a world monopolization in the absence of government monopoly and by neglecting the second quality of money which is its store-of-value aspect.

Before analysing the realization of this second quality of money through a monopolistic or competitive money supply process, we summarize our results with respect to the economies of transaction costs when the concerned (national or world) economy converges gradually from a (non-organized or organized) barter economy to a money economy in which the unit of account and the medium of exchange reach eventually their highest degree of moneyness in terms of a single medium of exchange - a situation which we have called perfect monetary integration.

Lower transaction costs imply lower prices for goods and a higher production volume. In Fig. 5, the demand and supply conditions of a good are represented with and without transaction

costs. In the case of the non-existence of transaction costs, the demand and supply functions are D^* and S^* , respectively, the equilibrium price p^* and the equilibrium output Q^* . Transaction costs increase the supply price (production cost S^* plus transaction costs of the suppliers) and decrease the demand price (by the transaction costs of the buyers). In Fig. 5, transaction costs are considered as an excise tax on the supplied and demanded quantities. The equilibrium output is reduced to Q_1 . The equilibrium price is p_1 to the extent that it comprises the transaction costs. The "pure" production price is p_2 and the "gross" demand price is p_3 .

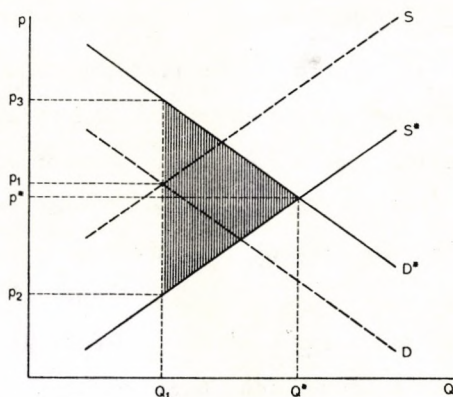


Figure 5

The shaded triangle in Fig. 5 illustrates the economies of transaction costs when the economy converges, e.g., from a barter economy to a money economy with several media of exchange

and from that to an economy with a single medium of exchange. A more efficient form of exchange organization (resulting, respectively, from non-organized barter to organized barter, from an organized barter to a money economy with increasing degrees of monetary integration) changes necessarily relative prices and the volume of exchange.(4)

IV. Monetary Stability: A Monopolistic versus Competitive Framework for the Money Supply

While the last section emphasized the demand side of money since it was concerned with the private and social use of money, the present section treats the supply side of money in terms of an appropriate institutional framework for the production of money in order to guarantee price stability.

Economies of scale exist with the use of money and they can also exist with the production of money. If the second proposition reveals to be relevant, there will be a case for a monopolistic structure of the money supply. The latter would assure monetary integration in terms of a single medium of exchange. However, if a monopolistic production does not realize monetary stability, the two fundamental objectives of the monetary constitution would be antagonistic to each other within a monopolistic framework of the money supply.

If one evokes the monopoly of the money supply, it is not necessarily a state monopoly, but it can also be a private one. Government intervention could be justified with the existence of externalities. As far as the use of money was concerned, we had come to the conclusion that there were economies of scale - of the internal and external type - associated with a more generalized use of a common medium of exchange. However, as we have shown, the externalities could be appropriated mutually by the members of the money economy so that there would be a sufficient incentive for them to start off with monetary transactions without any intervention by government. Consequently, from the point of view of the economies of transaction costs connected with the use of a (single) medium of exchange, the supply of money could be provided by the private sector of the economy. Whether the (private) supply should be monopolistic or competitive is another question which will be discussed under the following three aspects. On the one hand, price stability may be better maintained by a competitive system. On the other hand, internal economies of scale in the production of money and, in particular, in the production of monetary confidence may imply the existence of a natural monopoly even though the latter can be run by a private producer; in order to avoid the possibility of monetary instability, free entry conditions into the money industry should be maintained. Finally, a government role in monetary affairs is often proclaimed with another aspect of externalities which concerns the possible financial breakdown of the monetary system. Whether "liquidity crises" could be avoided efficiently by the market mechanism replacing the traditional

government role of a lender of last resort will be analysed at the end of section IV.

1. Monopolistic versus Competitive Supply of Money and the Objective of Price Stability

In the 'older' literature, the monopolistic constitution of currency creation (base money) by government is supported by the argument of a necessary condition for price stability (Vaubel, 1978, pp. 59-60):

"... it has not the slightest sense to render the money creation to the free competition of the private sector ... Since, in principle, each quantity of money can buy all goods provided that prices are adjusted, the desire to possess possibly the highest amount of it is senseless. A higher quantity of money leads only to a higher price level ... Money creation belongs to the activity of government." (Lutz, 1936, pp. 4-5.)

"So long as the fiduciary currency has a market value greater than its cost of production - which under favorable conditions can be compressed close to the cost of paper on which it is printed - any individual issuer has an incentive to issue additional amounts. A fiduciary currency would thus probably tend through increased issue to degenerate into a commodity currency - into a literal paper standard - there being no stable equilibrium price level short of that at which the money value of currency is no greater than that of the paper it contains. And in view of the negligible cost of adding zeros, it is not clear that there is any finite price level for which this is the case." (Friedman, 1959, p. 7.)

"Competition is ... inappropriate for determining the amount of fiat currency." (Friedman, 1951, p. 211.)

"The banking industry will destroy itself as a money producer by being competitively driven to deteriorate the quality of the product." (Pesek and Saving, 1967, p. 129.)

"A competitive banking system would be under constant incentive to expand the nominal money supply and thereby initiate price inflation ... Stability in the trend of

prices (a special case of which is price stability) and in the trend of expectations about the future course of prices - which are generally agreed to be important to the social welfare - requires social control over the total quantity of money supplied by the banking system." (Johnson, 1968, p. 976.)

"Control of base money remains the responsibility of the government or of a chartered monopolist, and this monopoly must continue to assure that society retains the benefit of producing money at lowest cost." (Meltzer, 1969, p. 35.)

The Hayek proposal of 1976 pretends just the opposite of the traditional view on the state monopoly of currency creation. Since history shows us monetary periods of high monetary instability associated with government monopoly of the money supply, he conceives a competitive money supply process as a producer of a better quality of money in terms of higher monetary stability:

"Governments prevented the people from searching for the right solutions and experimenting with a process of selection which would have led to continuous improvements. The monopoly prevented a spontaneous formation of money in ways similar to what we have seen in the area of law, language and morals, where, through a process of evolution, the more effective forms displaced the less effective forms. If we had been allowed to benefit from a similar form of selective evolution where money was concerned, we would have had a money which would have been entirely different from the money we have today." (Hayek, 1984, p. 31.)

Recent literature has shown that a system of privately issued and competing monies assures price stability. One of the most original writers in this field is Klein (1974). He has shown that, generally, the case of price instability in terms of an infinite price level can be made when money producers offer an indistinguishable homogeneous money product (for instance, by not placing their names on the money they issue) - a situation

which furthermore implies fixed exchange rates among the various money products. In such a case, any money producer can overissue money which is indistinguishable from other monies such that competition would lead to an infinite price level. A competitive interest payment on money would not prevent the overissue because the interest rate on money would reflect the higher inflation rate (even by supposing that it is expected correctly) where the latter one can have whatever level. This special case was probably in the mind of the authors we mentioned above, who postulated the government regulation of the money supply.

If each money producer is enforced to 'print' his particular name on his money product, counterfeiting by overissue becomes a less relevant case. Now the (interest-bearing) money products are differentiated among each other - a situation which involves flexible exchange rates (unless there is a government or privately issued dominant money - (high)-powered money - into which the other monies are convertible). A profit via an overissue by a single firm can be realized to the extent that some part of the inflation rate, in terms of the particular money, is not anticipated. This overissue implies a disinvestment in the money producer's 'brand-name capital' (Klein, 1974) - the confidence in the money concerned will sharply decrease with respect to other monies, such that the firm will be driven out of the market. Consequently, the money producer's decision to overissue will be determined by the comparison between the short-run profit of over-production and the long-run profit yielded by staying in the market.(5)

Consequently, a competitive system of privately issued monies is viable with respect to the maintenance of a stable price level. It is even conceivable, as Hayek emphasizes (1984, p. 39) and as we have mentioned in section III (p. 24), that the competition mechanism among distinguishable monies (i.e. monies with different names) with stable purchasing power leads to denominations of the same magnitude - in the very extreme case to an exchange relation of 1:1 - such that a perfect monetary integration could also be realized in the course of time (even though the monies remaining distinguishable from each other are linked to each other on the basis of flexible exchange rates where the latter would be stable).

However, a case against currency competition could be made, not on the grounds of monetary stability which can be refuted as we have seen, but along the lines of the existence of economies of scale in the production of monetary confidence, i.e. in the production of information about the quality of a stable money. This case concerns the natural monopoly hypothesis of the supply of money.

2. The Natural Monopoly Hypothesis of the Money Supply and the Creation of Monetary Confidence

In a situation of 'natural' monopoly, economies of scale are so important that one firm can always produce more cheaply than can any large number. Public utilities such as electricity,

telephone, gas are commonly believed to belong to this category. Traditional economic policy with respect to natural monopoly has been to retain the single large firm but to prevent monopolistic exploitation through regulation.

Does money production constitute a natural monopoly? The answer is affirmative if one can show that there are production costs of money and that the average production costs are falling with higher output (Claassen, 1984, pp. 50-54).

With respect to the existence of the production cost of money, one has to distinguish between the cost of producing the quantity of money and the cost of producing the monetary services which are associated with the quantity of money. The costs of producing the quantity of money may be extremely low: In the case of paper money produced by a central bank they refer to the cost involved by the employment of a printing (and bookkeeping) machine plus the workers ('officials') who serve the machine, sell the money and administer the money circulation; the production costs of sight deposits by banks imply more bookkeeping, but they are essentially of the same nature as the former ones. To the extent that these costs are mainly fixed costs and that the average production cost is falling with a higher quantity of money, a (potential or effective) natural monopoly may emerge which operates within a certain region, which coincides with the national borders, is extended to a larger area or covers the whole world, depending on the final limit of the economies of scale. The regulation of such a monopoly should be interpreted

as aiming at making the economic profit equal to zero (i.e. that seigniorage gain which lies above the normal profit necessary to attract and retain the resources employed in the money industry) in order to obtain the optimum quantity of money.

However, this view is a rather naive one because it neglects the quality aspect of the money product, i.e. its monetary services. There are costs for producing a certain quantity of money and there are other costs for producing a certain quality of money where the quality refers to the degree of moneyness of the money products. Traditionally, this degree of moneyness refers to the two functions of the quantity of money: to money as a means of payments and to money as a store of value.

Money is generally accepted as a means of payment when people have confidence in this money and this confidence is basically founded on its purchasing-power-value stability. Confidence belongs to the domain of information and information is based on past experience and future expectations. It follows that newly created monies and existing monies imply completely different degrees of confidence. Thus, for instance, a newly created money which lacks, by definition, any historical dimension of (good or/and bad) value-stability behaviour has to be equipped by resources which create confidence, and these resources may consist of backing the money by commodities, by other currencies as reserves, by respectable names in bank management or by various other techniques. Consequently, the money producer has costs of selling (and not only producing) the money which are

equivalent to the investment cost of building up a 'brand-name capital', as Klein (1974) calls it, which assures a certain degree of monetary confidence.

Under this aspect, certain past monetary experiences no longer constitute a puzzle for monetary theory. If one looks at the gold standard, gold was not necessarily a costly money for the economy compared with paper money, because the cost of constituting the 'brand-name capital' in terms of the gold content of money can be considered to be lower at that time than the investment cost of creating confidence associated with paper money.(6)

Friedman and Schwartz (1985, p. 13) indicate that monetary history does not provide any single example where money emerged on the basis of an abstract unit of account - our present fiat unit. In the starting period, all monies had been linked to a commodity. Even our present monetary systems had been founded on a commodity standard over centuries and, as we have mentioned in the introduction, it is only very recently - i.e. since the beginning of the 1970s - that their last remaining relics of a commodity money had been removed and that they are only now on a pure fiat standard.(7)

Consequently, the exclusive emergence and long-lasting life of commodity monies are explained by the necessity for creating and maintaining monetary confidence. These lessons from monetary history are not only valid for government money, but also for

the production of private moneys. The two standard examples of private competitive note issue in monetary history is that of Scotland (1749 - 1845) and of various parts of North America during the 19th century (Vaubel, 1984b). As Friedman and Schwartz (1985, p. 14) have emphasized with respect to these monetary experiments of competition among private money producers, there cannot be found any single case of a privately produced "pure fiduciary" currency:

"Historically, producers of money have established confidence by promising convertibility into some dominant money, generally, specie. Many examples can be cited of fairly long-continued and successful producers of private moneys convertible into specie. We do not know, however, of any example of the private production of a purely inconvertible fiduciary moneys (except as temporary expedients, e.g., wooden nickels, clearing house certificates)..."

From these historical monetary lessons of private money production one could derive the conclusion that, at the present, any private money would only have a chance to be accepted when it is on a "commodity standard". And to cite again Friedman and Schwartz (1985, p. 19):

"Historical experience suggests that the only plausible alternative to a government issued fiduciary currency is a commodity currency, with private issuers producing inside money convertible into the commodity. And we believe that even that outcome is highly unlikely unless there is a major collapse of national currencies - something approximating hyperinflation on a worldwide scale."

When the high investment costs for creating and maintaining monetary confidence (with respect to public money as well as with respect to private money) are coupled with decreasing costs

of disseminating information about the quality of a money, then the possibility - but not the necessity - for the emergence of a natural monopoly can arise. There could be made a case where "the cost of disseminating information about a money declines, as the number of issues decreases." (Vaubel, 1984a, p. 46.) If it is true that the production of the store-of-value service of money follows the principle of decreasing cost, then the existence of a natural monopoly would be justified. However, on the one hand, our present knowledge about the cost structure of a money producer is still insufficient. On the other hand, if a natural monopoly reveals to be the true solution, there could be made no case that government should be the money producer.

As far as the first point is concerned - our imperfect knowledge about the cost behaviour of the production of monetary confidence, the monetary constitution should always guarantee the free entry of any potential money producer. As Vaubel (1984a, p. 47) puts it:

"Since ... we cannot even be sure that money or the currency unit is a natural monopoly, the case against restrictions of entry is overwhelming. Only if a governmental producer of money can prevail in conditions of free entry and without discriminatory subsidies, he is an efficient natural monopolist."

But even if a natural monopoly is the natural issue, there is no necessity that it should be held by government. It can be run also by a regulated private monopoly. The reasons for government monopoly are various, but fundamentally fallacious:

- because of stabilization policies (government can pursue them also in terms of its own money beside the existence of other private monies when there is no clear-cut case for a natural monopoly);
- because of the 'legal-tender' character of government money (but legal tender is not a sufficient condition to create monetary confidence);
- because of the constitutional existence of an independent central bank whose obligation is the maintenance of price stability (officials do not own the capital of the central bank and therefore they have less incentive to conserve it than a private producer);
- because of government as a "lender of last resort". To this issue we shall turn now.

3. The Government's Role as a Lender of Last Resort

Welfare economics have taught us that government intervention may be justified or even a necessity if there is some market failure. One type of market failure consists of the phenomenon of externalities. The stability of the financial system and its maintenance could be conceived as producing positive externalities, and their contrary, the instability of the financial

system and its possible collapse, as a case of negative externalities (Solow, 1982). The financial instability can be prevented by the central bank in its function as a lender of last resort (LLR) and by an insurance agency in insuring deposits against bank failures. However, both institutions create the phenomenon of moral hazard in terms of more risk-taking by banks. If credit surveillance by the central bank or by the insurance agency is insufficient, another solution called market solution could be envisaged according to which it is in the proper self-interest of banks to produce sufficient funds to other banks being exposed to a temporary liquidity problem. (Claassen, 1985, pp. 219-224.)

Externalities. The instability of the financial system in present monetary systems is caused by the appearance of a lack of confidence depositors of a bank (and of any other financial institution) may have with respect to the bank's ability to convert the deposits - sight or time deposits - into cash. A resulting run on the bank would involve its default provided it cannot sell immediately its assets at a "reasonable" price or borrow sufficient external funds (liquidity problem). The default by one bank can induce the default of other banks which constitutes the proper phenomenon of negative externalities. That other banks can also be confronted simultaneously by a "convertibility test" (bank run) results from a subsequent generalization of lack of confidence by the public in other banks or at least in those banks which have credit relationships with the first bank on which the run began. Consequently, a

default by many banks is a conceivable outcome and depending on their relative size within the financial system and on the duration of the default, it may be identified with a collapse of the financial system.

In most, if not all cases (when one excludes situations of wars or catastrophes), the very beginning of the lack of confidence is based on the default of some debtor A who is not a bank, but an enterprise and who is indebted towards B and where B in his turn may also be debtor against C. Thus, a default of A may imply the default of B and C. This chain reaction creates an externality for the lenders of C to the extent that they are well able to judge the creditworthiness of C but not the soundness of the whole network of interrelated debtor-creditor relations. If the market does not provide a sufficient transparency of the interlocking debt structure, government should intervene by forcing such a transparency and by imposing credit standards. However, the nature and size of externalities are fundamentally different if B and C are commercial banks operating on the basis of a fractional reserve requirement system, since then the specific confidence problem arises and the subsequent run on banks is set in motion with the consequences of the instability threat to the whole banking system and of its repercussions on the real sector of the economy.

Central Bank as LLR. How could government interventions avoid this type of externalities? One possible way would be to introduce a 100 per cent reserve requirement system, at least for

sight deposits, which would exclude any lack of confidence by depositors and, by this, any bank run in terms of a convertibility test from sight deposits into currency.

If one remains within our present monetary systems of fractional reserve requirements, the other solution would consist of assigning to the central banks the function of the LLR. The role of central banks for dealing with liquidity crises has already been discussed in the literature of the 19th century and favoured by Thornton (1802) and Bagehot (1873). The essence of this discussion was that only illiquid and not insolvent banks should have unlimited access to the central bank. Thus, an insolvent bank should not be preserved from failure, but the possible cumulative chain reaction in terms of runs on other banks - the proper externality aspect - should be avoided by the LLR-actions of the central bank. Thus, Bagehot argued that only "fundamentally sound" banks should be rescued and that the Bank of England should lend unlimitedly, but at a penalty rate, since only a fundamentally sound bank would be able to pay off the high interest rate.

Deposit insurance. Another solution for avoiding any bank run is the adherence of the banks to a deposit insurance. Such an insurance system would wipe out the appearance of a bank run only to the extent that all deposits are insured.

In the present compulsory deposit insurance systems existing in nearly all industrialized countries, the insurance is

mostly limited to an upper amount of a bank client's deposit (e.g. in the USA to \$ 100,000). The motivation for introducing a compulsory deposit insurance was initially the paternalistic protection of small depositors assuming that large depositors have sufficient information about the quality of the bank assets. However, if the main function of a deposit insurance system is conceived as that of the prevention of a run on banks, then each deposit amount should be insured.

According to Friedman (1959, p. 38), the Federal Deposit Insurance Act has made the LLR function of the Federal Reserve System obsolete for the USA since depositors will not engage in any sudden wide-spread demand for currency at their banks anymore, "... not because the LLR function has been taken over by someone else but because it no longer needs to be performed". This optimistic view only holds if the deposit insurance system is of the generalized (comprehensive and complete) type. On the other hand, at least at the very beginning of the insurance system, the need for the LLR function may still exist to the extent that the insurance company has not accumulated a sufficient amount of reserves out of the insurance premiums over the past.(8)

Moral hazard. The prevention of liquidity crises by the LLR function or by a generalized deposit insurance system raises a well-known problem of moral hazard - a phenomenon which is omnipresent in all types of insurance contracts and according to

which the insured individual is less careful in preventing damages than in the case of the inexistence of the insurance. The example of a fire insurance is often cited in the literature (Solow, 1982, p. 243). The social benefit of fire insurance consists of the reduction of uncertainty among risk avertors. Its social cost refers to the increased number of fires which occur if the insured are less careful about fire prevention. There is a net social advantage from fire insurance to the extent that the lower individual cost of risk-taking outweighs the additional incidence of damages from fires.

The analogy of the net social benefits arising from the existence of a LLR or of a deposit insurance with those of a fire insurance is rather doubtful since the extra damages of a more risk-taking bank may be disastrous for the whole economy compared with the extra fire damages of the less careful house proprietors or tenants. More risk-taking by banks increases the probability of insolvency and, by this, the probability of the instability of the financial system. The comparison with the fire insurance concerning the social cost of moral hazard would be more adequate if the increase of fire damages implied the danger for wide areas of towns to be destroyed by fire which is nothing else but the manifestation of the externality aspect.

The existence of moral hazard suggests that insurance should be partial (coinsurance) involving that the central bank

in its function as a LLR offers only a limited amount of currency or that the deposit insurance indemnifies only one part of the outstanding deposit volume.

However, such a partial insurance scheme would not exclude the possibility of bank runs and of a financial collapse. Consequently, insurance coverage should be complete if financial instability is to be avoided. But then moral hazard would again be omnipresent. It could be reduced either by randomizing the action of the LLR or of the deposit insurance, or by imposing strict creditworthiness standards. Because the first solution does not solve the confidence problem of depositors, the second one is mostly chosen.

Market solution. For several reasons one could doubt the usefulness or the necessity of the LLR function or of the compulsory deposit insurance if the market already fulfils the function of "internalizing (or avoiding) the externalities". A bank, being "fundamentally sound" but facing a liquidity problem due to a temporary lack of confidence of its depositors, may obtain the necessary funds by borrowing from other banks. To the extent that it cannot raise a sufficient amount, it may offer a higher price as it would also have obliged to do in the case proposed by Bagehot (1873) where the Bank of England should require a penalty rate.

The counter-argument to the private-market solution of a liquidity crisis consists of indicating the imperfections of the credit markets. Since information about the future default risk

of any bank debtor is imperfect, credit may be granted to a limited amount even with collateral lending. According to Stiglitz and Weiss (1981), an excess demand in the credit market may not produce a rise in the interest rate since it drives from the credit market those borrowers with low default risks and attracts those with high default risks. This adverse selection process driving the low-risk borrowers out of the market would imply that the lenders are stuck with the "lemons". The consequence of a higher interest rate could be a decrease in the expected return on banks' assets such that banks would practise credit rationing by trying to satisfy the credit demand of low-risk classes. Others in high-risk classes including a bank facing a liquidity crisis would obtain only a limited amount of credit or nothing at all. This dilemma for the above credit-seeking bank has already been noticed by Bagehot (1873, p. 69): "Every banker knows that if he has to prove that he is worthy of credit, however good may be his argument, in fact his credit is gone".

Despite the prima facie convincing argument according to which a sound but illiquid bank may not have a sufficient access to the credit market, another consideration may render it completely obsolete. Banks are conscious of the externality aspect as the consequence of the illiquidity of a bank and, in the case of an institutional and factual inexistence of any LLR function by the central bank, it is in their own interest to rescue the illiquid bank since otherwise they may suffer the same fate.

Furthermore, the information concerning the assessment of whether the concerned bank is either illiquid or insolvent is not a priori more detailed and accurate for the central bank than for the private banks since otherwise there would exist a certain priority to the LLR function of the central bank. From this point of view, Vera Smith (1936, p. 148, cited by Friedman and Schwartz, 1985, p. 27) concludes that:

"A central bank is not a natural product of banking development. It is imposed from outside or comes into being as a result of Government favours."

But there are two cases where one could doubt the efficiency of the solution of the liquidity crisis by commercial banks. First, the illiquid bank may be so big that the other banks are not capable of collecting a sufficient amount of currency without the aid of the central bank. Secondly, a certain number of commercial banks may behave as free riders, in particular when there is some doubt about the "soundness" of the illiquid bank so that the other banks may not procure the necessary volume of currency.(9)

Consequently, the market solution does not represent a clear-cut superior alternative for all circumstances of bank illiquidity compared with the government solution. On the other hand, the government solution implies social costs in terms of moral hazard since credit surveillance by the central bank or the deposit insurance agency does not absolutely exclude more risk-taking by banks. Thus, the disadvantage of one solution (insufficient rescue measures by banks in the illiquidity case

of a single large bank) has to be weighted against the disadvantage of the other (moral hazard).

The above described market solution could be conceived to function better if banks create their proper private deposit insurance system since the stability of the financial system and the avoidance of instability by the creation of a private insurance agency are in their own self-interest. If some banks do not subscribe to the deposit insurance, they may behave like free riders, but then either their depositors will shift to the insured banks or the non-insured banks have to pay a higher interest rate on deposits as an equivalent to the default risk premium. Since the phenomenon of moral hazard is also existent for a private deposit insurance system, partial insurance coverage may be the appropriate means of limiting it. A run by the public on illiquid banks is cushioned, if not even excluded by the confidence of the public into the rescue operations by other banks and/or by the private insurance agency operating as a LLR.(10)

V. Concluding Remarks

If one looks at monetary history which presents a large range of monetary experiments, one could emphasize the fact that there have been waves of monetary integration followed by monetary dis-integration (several moneys, flexible exchange rates). The latter one always emerged with increasing monetary instability. Our contention is that there is no monetary constitution which guarantees permanently the optimum optimorum in terms of monetary integration and monetary stability (and of the optimum quantity of money). The arguments in our paper have shown that the targets of monetary integration and monetary stability may be, at one time, opposing forces and, at another time, converging forces.

There is, therefore, no a priori first-best solution for the monetary constitution. But this conclusion does not mean that the government monopoly of money production is superior. We hope that the arguments in this paper have shown that a case can be made that a privately run production of money (competitive or monopolistic, but with existence of potential competition) is superior to government monopoly. However, this private production of money does not imply, for the whole future, the highest degree of monetary integration and the highest degree of monetary stability which are the fundamental aims of each monetary constitution.

As we have stressed in the introduction, the recent discussion of alternative (i.e. private) monetary systems was motivated by the highly inflationary bias of the world fiat standard during the 1970s. However, since 1980, we observe a deceleration of the world inflation rate and there is no inherent reason why our present monopolistic fiat standard must necessarily produce again higher monetary instability in terms of waves of accelerated and decelerated inflation rates. This optimistic view is based eventually on the political motivation for inflation which has been attenuated progressively over the last years for several reasons.

On the one hand, the general belief in any (even short-run) trade-off relationship between inflation and unemployment has collapsed with respect to past and recent experience, and it could be argued that just the opposite - a positively sloped Phillips curve - is relevant for the present time. However, such a belief does not exclude the possibility that in some future, after having attained monetary stability, there will be again a revival of a presumably existing (at least short-run) trade-off relationship. On the other hand, government revenues from inflation which could have been initially the cause of inflation, have declined considerably. The first government revenue resource from inflation is the paper money issues themselves (the "inflation tax" on real holdings of high-powered money); however, this "hidden" tax provides a low government receipt of less than 1% to the extent that the inflation rate is moderate

(e.g. 10%). The second component of government revenue from inflation is that of a partial indexation of the personal income tax; however, political pressure during the inflation process leads to a more or less full indexation scheme. Thirdly, the reduction in the real value of outstanding government debt issued at interest rates that did not take into account sufficiently the allowance for future inflation, has been sharply eroded by the developments in financial markets which have become increasingly conscious ("rational") of the future evolution of inflation.(11)

Footnotes

- 1 F.A. Lutz, Das Grundproblem der Geldverfassung, Stuttgart 1936. During the same year, another fundamental monograph on the institutional structure of the monetary system was published by Vera C. Smith: The Rationale of Central Banking, London 1936, to which we shall also refer. Some years later, Vera Smith became Vera Lutz.
- 2 As a matter of course the zero degree of monetary integration would be a barter economy. Under this aspect a world economy with n currencies having $n(n-1)$ flexible exchange rates can be conceived to be in the neighbourhood of a barter economy as far as the international transactions are concerned.
- 3 The Baumol-Tobin formula for the transactions demand for money (M) is:

$$M = \sqrt{\frac{tT}{2r}} \quad (1)$$

where T is the real value of transactions (payments), t the fixed costs per transaction 'selling bonds - buying money' and r the interest rate. Suppose the existence of n monies expressed by the same numéraire. The transactions demand for the n monies will be:

$$\sum_{i=1}^n M_i = n \sqrt{\frac{tT_i}{2r}} \quad (2)$$

where T_i is the transaction volume in i 's money and where t and r are supposed to be identical for all monies. Assume for the sake of simplicity that there is the same transaction volume in each money ($T_1 = T_2 = \dots = T_n$) such that the total transaction volume is $T = n T_i$. Then, formula (1) can also be written as:

$$M = \sqrt{\frac{tnT_i}{2r}} \quad (1a)$$

Consequently, the transaction balances in a world of n currencies are higher than in a single money world by:

$$\sum_{i=1}^n M_i - M = (n - \sqrt{n}) \sqrt{\frac{tT_i}{2r}} \quad (2)-(1a)$$

The economy of transaction balances increases with a decreasing number of monies (cf. Swoboda, 1968, pp. 39-41).

- 4 In this "qualitative" sense money in comparison to barter could never be "neutral". Consequently, the concept of money neutrality is only conceivable in the quantity-theoretical sense: Money is neutral when an increase in the quantity of money leads to an equi-proportional increase in all money prices:

"We had, so to speak, qualitative and quantitative theories of money. According to our qualitative theory, money was not neutral; it made a big difference. Pity the country that was still dependent upon barter, for it would have an inefficient economic system. But once this qualitative advantage had been realized by the adoption of the market structures using M, the quantitative level of M was of no particular significance (except for indicated transient states and uninteresting resource problems involved in gold mining or mint printing)." (Samuelson, 1968, p. 3.)

- 5 "... a private institution which must issue money in competition with others, can only remain in business if it provides the people with a stable money which it can trust. The slightest suspicion that the issuer was abusing his position when issuing money would lead to a depreciation of its value and would at once drive him out of business. It would make him lose what might be an extremely profitable kind of business." (Hayek, 1984, p. 30.)
- 6 "A reasonable explanation of why credit money did not replace commodity money before it did may not be because someone did not happen to think of the credit money idea, but rather may be because commodity money was, at the time, the cheapest way to produce confidence; i.e. a forced movement from commodity to fiduciary money would have implied a negative social saving." (Klein, 1974, p. 435.)
- 7 Other (relatively recent) monetary experiences can be cited to underline the investment costs of new monies for the creation and maintenance of monetary confidence.

1. Currency reforms as a means for confidence renaissance in hyperinflating countries (as those of some European countries like Germany after World War I) could be considered as relatively easy to implement to the extent that the credibility of the existing currency had been completely eroded by the hyperinflation such that the newly created currency could not be worse than the former one. However, since the aim of a currency reform is to stop the inflation, this money has to be equipped with full monetary confidence. Consequently, one necessary (but not sufficient) condition for the creation of monetary confidence is the return to a commodity standard. Thus, the new currencies in the inter-war period were backed by gold or (other) international reserves.

The initial investment cost for the establishment of a new and fully convertible currency is relatively low in terms of the necessary stock of gold or international reserves. Since, in a hyperinflationary economy, the real value of existing cash balances is at an extremely low level, their conversion amount into the new currency fully backed by (owned or borrowed) international reserves is also negligible. When, after the currency conversion, the currency reform (with its accompanying monetary and fiscal stabilization programme) disseminates increasing monetary confidence, the subsequent increase in the real demand for the new money can be satisfied by the monetization of additional international reserves coming from balance-of-payments surpluses (along the lines of the monetary approach of the balance of payments). (See Dornbusch, 1985, pp. 17-78.)

2. The creation of new national currencies by less developed countries after their access to political independence represents another example of the "commodity investment" cost of new monies. On the one hand, their quality had to be equivalent to that of the formerly circulating currency of the mother country. The newly created currencies had to be fully backed by reserves. On the other hand, the maintenance or intensification of monetary confidence necessitates the maintenance of fixed exchange rates, at least over some decades from the time when the new national monies were created.

3. When in the late 1970s the plans for the political independence of the province of Quebec from the rest of Canada were discussed, the most critical point was that of the monetary independence of Quebec. By recognizing the high resource costs for creating monetary confidence in a new money, the proposition by the "indépendantistes" (violently rejected by the other provinces) was that of the maintenance of the Canadian dollar for a politically independent Quebec (the plan "indépendance-association").

- 8 In the case of bankruptcy of a bank, the insurance company by reimbursing the depositors may also be forced to borrow from the central bank - in the case of insufficient reserves - and to serve its debt service afterwards out of future insurance premiums.
- 9 A particular free-rider phenomenon from banks arises in the case where the lending banks have formed a syndication. When a loan to a debtor is of considerable size, the creditor side tends to be composed of a larger number of banks who, for reasons of risk diversification, join a syndicate. The formation of a syndicate is observable, in particular, in international lending operations where hundreds of banks constitute a syndicate. To the extent that the debtor becomes illiquid and that there is either suspicion of insolvency about the debtor or - as Sachs (1984) has shown - the necessity of rescheduling the debts at below-market rates in order to avoid a default by the borrower, each

creditor has an incentive to free-ride in order to escape with its credit intact if the others renew the loan agreement. In particular, such a free-rider behaviour may be observable with respect to banks with small participation in the syndicate who then rely on the larger banks to forestall default.

- 10 In this context the question could be asked why there had not been installed already a generalized deposit insurance system before the introduction of the compulsory one. The answer runs probably in terms of costs and benefits. To the extent that the banks relied on the already existing institution of the LLR function of the central bank, there was no additional motive for them to take part in a private insurance system since that would have been more costly for them.
- 11 "Until recent years, true hyperinflation has occurred only in countries undergoing revolution or severe civil unrest or that have been defeated in a major war, with the possible exception of John Law's experiment of doubling the French bank-note issue in the four-year period 1716 to 1720. However, currently, several countries seem on the verge of hyperinflation under relatively peaceful circumstances - Bolivia, Argentina and Israel, to mention only the most prominent. The misfortune of these countries promises to provide us with some evidence on a so far rarely observed phenomenon." (Friedman and Schwartz, 1985, p. 17.)

References

- Alchian, A.A., "Why Money?", Journal of Money, Credit and Banking, 1977.
- Bagehot, W., Lombard Street, London 1873, reprinted Homewood, Ill., 1962.
- Barro, R.J. and Fischer, S., "Recent Developments in Monetary Theory", Journal of Monetary Economics, 1976.
- Brunner, K. and Meltzer, A.H., "The Uses of Money in a Theory of an Exchange Economy", American Economic Review, 1971.
- Claassen, E., "Monetary Integration and Monetary Stability: The Economic Criteria of the Monetary Constitution", in: P. Salin (ed.), Currency Competition and Monetary Union, The Hague, 1984.
- Claassen, E., "The Lender-of-Last-Resort Function in the Context of National and International Financial Crises", Weltwirtschaftliches Archiv, 1985.
- Dornbusch, R., Stopping Huperinflation: Lessons from the German Inflation Experience of the 1920s, Working Paper No. 1675, National Bureau of Economic Research, 1985.
- Friedman, M., "Commodity-Reserve Currency", Journal of Political Economy, 1951.
- Friedman, M., A Program for Monetary Stability, New York, 1959.
- Friedman, M., Monetary Policy in a Fiat World, Hoover Institute, mimeo, May 1985.
- Friedman, M. and Schwartz, A.J., Has Government any Role in Money?, Hoover Institute, mimeo, June 1985.
- Hayek, F.A., Choice in Currency: A Way to Stop Inflation, London, 1976a.
- Hayek, F.A., Denationalisation of Money, London, 1976b.
- Hayek, F.A., "The Future Unit of Value", in: P. Salin (ed.), Currency Competition and Monetary Union, The Hague, 1984.
- Johnson, H.G., "Problems of Efficiency in Monetary Management", Journal of Political Economy, 1968.
- Klein, B., "The Competitive Money Supply", Journal of Money, Credit and Banking, 1974.
- Lutz, F.A., Das Grundproblem der Geldverfassung, Stuttgart, 1936.

- Meltzer, A.H., "Money, Intermediation and Growth", Journal of Economic Literature, 1969.
- Menger, C., "On the Origin of Money", Economic Journal, 1982.
- Pesek, B.P. and Saving, T.R., Money, Wealth and Economic Theory, London, 1967.
- Sachs, J.D., Theoretical Issues in International Borrowing, Princeton Studies in International Finance, 1984.
- Samuelson, P.A., "What Classical and Neoclassical Monetary Theory Really Was", Canadian Journal of Economics, 1968.
- Smith, V.C., The Rationale of Central Banking, London, 1936.
- Solow, R.M., "On the Lender-of-Last-Resort", in: C.P. Kindleberger and J.P. Laffargue (eds.), Financial Crises, Cambridge, 1982.
- Starr, R.M., "Exchange in Barter and Money Economies", Quarterly Journal of Economics, 1972.
- Stiglitz, J.E. and Weiss, A., "Credit Rationing in Markets with Imperfect Information", American Economic Review, 1981.
- Swoboda, A.K., The Euro-Dollar Market: An Interpretation, Essays in International Finance, Princeton, 1968.
- Thornton, H., An Enquiry into the Nature and Effects of the Paper Credit of Great Britain, London, 1802; reprinted London, 1962.
- Vaubel, R., Strategies for Currency Unification, Tuebingen, 1978.
- Vaubel, R., "The Government's Money Monopoly: Externalities or Natural Monopoly?", Kyklos, 1984a.
- Vaubel, R., "The History of Currency Competition", in P. Salin (ed.), Currency Competition and Monetary Union, The Hague, 1984b.
- Wallace, N., "An Approach to the Study of Money and Nonmoney Exchange Structures", Journal of Money, Credit and Banking, 1972.
- White, L.H., "Competitive Payment Systems and the Unit of Account", American Economic Review, 1984.

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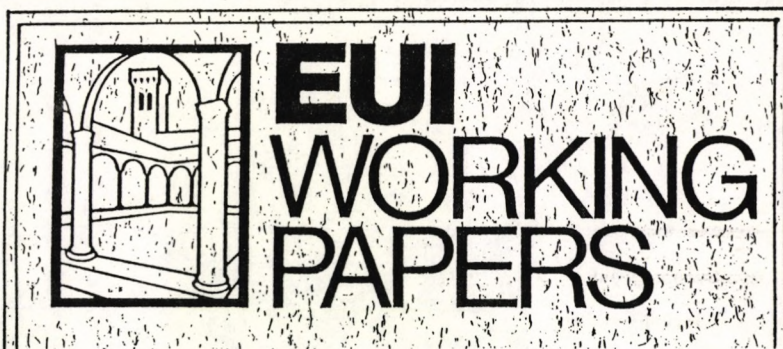
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