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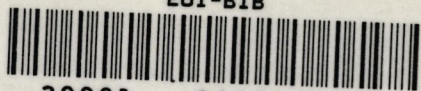
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**Market-Led Approaches
to European Monetary Union
In the Light of a Legal Restrictions Theory of Money**

STEPHAN L. KALB

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ECONOMICS DEPARTMENT

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BADIA FIESOLANA, SAN DOMENICO (FI)

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MARKET-LED APPROACHES TO EUROPEAN MONETARY UNION IN THE LIGHT OF A LEGAL RESTRICTIONS THEORY OF MONEY

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ABSTRACT

Market-led approaches to European Monetary Union have been developed and proposed as a way to obtain monetary union without the problems involved in political-institutional approaches. The Parallel Currency Approach and the Evolutionary Approach are therefore supposed to obtain monetary union automatically and gradually without any substantial political harmonization. In this paper, however, it is argued that considerable political commitment is in fact also necessary for these approaches: that is, they can only be successful if they are backed by a corresponding legal framework which involves waiving sovereignty rights.

* Part of this work was done when I was affiliated with the Center for International Affairs at Harvard University. I would like to thank Peter Hammond, Wolfgang Gebauer, Alan Kirman, and Robert Waldmann for helpful comments.

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1. INTRODUCTION

The consensus view is that the current European Monetary System (EMS) succeeded in creating a zone of monetary stability.¹ However the system will face a new challenge during the period of transition for the removal of capital controls which started mid 1990. On the other hand monetary integration has to be seen as an integral part of the plans towards a single European market based on the Single European Act. In this context, reforms or at least some adjustments within the system seem to be unavoidable.

In contrast to the Delors Report² which recommends following a strictly institutional approach to monetary union, some economists and politicians favour the so-called market-led approaches, which are at stake here.

Here it will be argued that the implementation of these approaches implies reforms of the present legal structure in the monetary field. Based on theoretical arguments and historical evidence it will be shown that the exclusive reliance on market forces without creating a sufficient legal framework for competition to work could lead to ambiguous results. It is unlikely that the outcome of currency competition would be the expected one.

¹ See for instance De Grauwe and Peeters (1989), Giavazzi *et. al.* (1988), or McDonald and Zis (1989).

² Committee for the Study of Economic and Monetary Union "*Report on economic and monetary union in the European Community*", March 1989.

2. MARKET-LED APPROACHES TO MONETARY UNION

The market-led approaches to monetary union rely on market forces rather than on institutional developments in order to obtain monetary union. Although they share similar hopes in terms of market forces, they have different views about what the outcome of *currency competition* would be and therefore also divergent strategies. Moreover they have divergent definitions of what "monetary union" is.

2.1 The Parallel Currency Approach

The Parallel Currency Approach (PCA) was designed and first proposed by a group of economists in the *All Saints' Day Manifesto*.³ The PCA was suggested as ideal because "...it is difficult to envisage a monetary union created by official edicts and legalistic structures. It must evolve on the market place." Instead of discretionary government decisions, reliance is placed on the automatic and gradual effects of market forces.

The main feature of the original PCA is the creation of an inflation-proof⁴ parallel currency, the *Europa*, which would be allowed to circulate freely side by side with the national currencies

³ See Basevi *et. al.* (1975). Many other works followed. For one of the most comprehensive treatments see Vaubel (1978).

⁴ Vaubel (1978, pp. 111-119) suggests indexed money. As a base for the index he discusses an asymmetric currency basket, in which the shares of a basket currencies would change according to their stability.

of the Community. The advocates of the PCA assume agents will prefer the most stable money in terms of purchasing-power if they can choose among different currencies. Money in the form of cash does not bear interest and holding cash of an inflating currency involves higher opportunity costs than holding cash of a stable currency. Since the *Europa* is inflation-proof it would be the most preferred, hence it would quickly drive the national currencies out of circulation. The *Europa* would be the only remaining currency in the Community and monetary union would be obtained.

The concept of a parallel currency makes sense only in a intermediate stage of monetary union when different currencies are not perfect substitutes. Even with relatively fixed exchange rates plus capital mobility this may not be the case, if national financial markets and payments systems are not completely integrated.⁵

After setting up the present EMS, proposals were made for using the current European Currency Unit (ECU) as a parallel currency.⁶ Though the ECU as a basket currency with fixed currency shares will be less stable than the *Europa* would be, in an environment of generally low inflation rates the need for an "inflation-proof" new currency respectively for a reform of the ECU seemed to vanish. However, this modified approach is not motivated on economic grounds but by the political perception it were unlikely that, apart from the ECU, a new European currency could be created.

⁵ See Gros (1989b).

⁶ See for instance Schmidt (1985).

2.2 The Evolutionary Approach⁷

The most recent market-led proposal for European Monetary Union was made by the UK Government with its *Evolutionary Approach to Economic and Monetary Union* [HM Treasury (1989)]. According to this approach the most important objectives of monetary union can be achieved within a competitive multi-currency system. These objectives include price and currency stability, low costs of financial transactions, and equal access to financial instruments and services by all borrowers and lenders in the EEC.

Only the first stage of the proposal laid down in the Delors Report [Committee (1989)] should be implemented; this would mainly involve the dismantling of barriers to the movement of people, goods and services and the liberalization of capital movements. According to the Evolutionary Approach, stage one would lead to an environment in which currency competition would not only become operational and increasingly effective but it would also support the results of stage one. The only two official measures beyond stage one would be the "complete removal of all unnecessary restrictions on the use of Community currencies" and

⁷ The proposal to allow currency competition without implying asymmetry between the national currencies and a European parallel currency was already discussed by Vaubel (1978). However, Vaubel concluded that since currency competition would lead to monopolization of the strongest currency, a national currency as "European currency" would politically be intolerable.

the removal of remaining barriers which burden costs and inconvenience on the exchange of Community currencies.⁸

Liberalized capital markets would lead to currency competition and be a powerful stimulus for monetary authorities to adopt low inflationary policies. Potential capital outflows and currency substitution would ensure tight monetary policies. The result would be stable prices and therefore convergent stable exchange rates. The liberalization in the field of financial services and the reduction in uncertainty of prices and exchange rates would lead to lower costs and a Community-wide integrated payment system.

The whole argument follows Hayek's proposal for currency competition [Hayek (1976, 1978)]. The only difference between his proposal and the UK proposal seems to be that the UK proposal narrows competition to government issued money, whereas Hayek proposed also to allow private agents to issue money.

In the view of the *Evolutionary Approach* monetary union would not have to involve a single European currency but a competitive multi-currency system with interchangeable Community currencies. This definition of monetary union does not harmonize with conventional definitions, which would, at least, require the fixing of exchange rate parities or the development of a single currency.⁹

⁸ HM Treasury (1989, paragraphs 21 and 22).

⁹ For a discussion of different meanings of monetary union see Gros (1989a, p. 219).

3. THE ECONOMICS OF CHOICE IN CURRENCY

The *Parallel Currency Approach* and the *Evolutionary Approach* predict different outcomes of currency competition: the *Parallel Currency Approach* expects the EPC to replace the national currencies of the Community over time, while the *Evolutionary Approach* postulates coexistence between (stable) national currencies.

These conclusions seem to be contradictory, but they may not necessarily be exclusive. Both results seem in general feasible, depending on the legal framework in which currencies compete. Before we proceed to study these structures, we will in general (that is without legal restrictions) discuss the factors which make monies attractive for economic agents as media of exchange, units of account, and as stores of value.

Let us define money as an asset which, unlike other assets, can be used as a medium of exchange.¹⁰ In an ideal Arrow-Debreu world there would be no need for such media of exchange; all economic agents would be completely informed and therefore able to make contracts and to undertake exchanges without any additional costs.

¹⁰ This definition of money conforms with what is usually understood as money. According to Menger (1909, p. 600) the main feature of money is its ability to serve as a medium of exchange. He writes: "Was das Geld von allen übrigen Marktgütern unterscheidet .. und somit seinen allgemeinen Begriff bestimmt, ist seine Funktion als allgemein gebräuchlicher Vermittler des Güterausstausches." For a discussion see also Mann (1982, pp. 3-29).

In the real world holding and using money makes sense since frictions prevent people from making direct and costless transactions. Monies serve as universal media of exchange which bridge exchanges across agents and across time in a decentralized market. It is obvious that for *bridging the gap* between receipts and payments, money serves as store of value although this is a function which monies have in common with other assets.

Suppose that in our economy a small number of different monies are supplied by different institutions, called "central banks" in the absence of any legal restrictions on the use of these monies and the supply of new monies. Then agents' behaviour will determine not only whether the different monies coexist in serving their respective functions but also whether non-interest bearing monies (cash) will be used side by side with interest bearing monies (deposits) and other financial assets as media of exchange.

3.1 Choice of Units of Account and Stores of Value

The issue of competition among financial assets and units of account is well covered by traditional monetary theory. Based on the interest parity theorem [Fisher (1896), Gebauer (1982)] these approaches explain the conditions of market equilibrium with several assets.¹¹

¹¹ Fisher (1896) only discussed the irrelevance of the choice of different standards of value under perfect foresight. For an extension to the case with flexible exchange rates (open economy) under uncertainty which is more important here see Gebauer (1982, part II).

If we consider perfect foresight and flexible exchange rates, market forces ensure that exchange rate adjustments exactly mirror different inflation rates and these would be reflected in different interest rates, thus the interest parity theorem would hold. Agents would be indifferent in their choices of debt standards and store of values. It would not matter in what currency to invest or in what unit to contract, since future developments of the values of the different currencies are known and the differences of these developments are reflected in different nominal returns or different nominal contracts.

Under uncertainty, future inflation rates, devaluation rates and interest rates are no longer known. Economic agents will have to base their decisions on expectations about the future values of these variables and market exchange rates will reflect these valuations. Provided the inflation rates are anticipated correctly by economic agents, they could still be indifferent between different standards and assets with identical maturities and default risks.

For this reason the level of inflation observed for different currencies may not have an influence on the choice of the debt standard or the denomination of assets *per se*, although it has an important indirect effect via its predictability. Empirical observations tell us the higher the rate of inflation, the more volatile and unpredictable it will be.¹² Therefore, an asset denominated in a currency unit which is expected to inflate more

¹² This view is shared by McDonald and Zis (1989, p. 191), Klein and Melvin (1982), and Padoa-Schioppa and Papadia (1984). For empirical findings see also Klein (1977) and Mizon (1990).

than others will have to earn a nominal interest rate higher than the difference in inflation rate expectations would imply. If it does not earn a *risk premium* it will not be demanded - hence, its price will fall, i.e. its return will rise until the risk premium required by the market is paid.

There is no *a priori* reason to believe that securities denominated in more inflating accounting units will disappear as long as the inflation rate is moderate and a corresponding risk premium is paid on investments denominated in these units. Only in the case of hyperinflation, when buying a bond denominated in the inflating currency becomes more a gamble than an investment, will it be avoided.

For the choice of an accounting unit similar considerations have to be taken into account. However, even if the inflation rates could be perfectly foreseen, inflating accounting units could imply menu cost, i.e. costs for printing new price lists. Hence, if menu costs are significant, preference will be given to the most stable accounting unit.

When choosing a debt contract menu cost are not likely to be important and choices are made according to selecting assets. But here, unlike the case of buying and selling an asset in a big market, the two individual attitudes towards risks of creditor and debtor have to match and will determine what the accounting unit will be. All risk-return combinations available in the market for securities may not be available for non-securitized debt contracts.

3.2 Choice of media of exchange

The quality of a money to serve as a means of payment is inherently linked to its store-of-value quality. As media of exchange (cash) do not explicitly bear interest, the rate of devaluation (or appreciation!) is crucial.

Competition among a number of different media of exchange is often rejected because the well known *Greshams' law*¹³ tells us that in a multi-currency system under certain circumstances "bad money drives out good money". Given a fixed disequilibrium exchange rate between the "good" and the "bad" money, the bad money will buy an equal amount of commodities as the good money, but the good money is more valuable in other markets. A simple arbitrage effect leads to the use of the undervalued good money in alternative ways; the good money will be stored, exported or melted.

In a system with floating exchange rates, markets are supposed to find the equilibrium exchange rate between different currencies. According to the interest parity theorem in equilibrium, the expected change in the exchange rate among two monies (both with a zero nominal interest rate and the same degree of liquidity) is related to their rates of inflation. Real interest rates are equalized through devaluation of the more inflating currency against the more stable one.

¹³ Mann (1982, p. 19) gives a concise description of Gresham's Law and references to its historical record (footnote 94).

If agents in an economy with two media of exchange of identical liquidity expect that currency A will inflate more than currency B continuously over the next year, they will avoid holding currency A. Thus currency A will be sold against currency B since agents try to prevent losses of wealth. This will push the market value of A lower until its equilibrium exchange rate is reached.

Some economists¹⁴ claim that with flexible exchange rates the so-called *anti-Greshams' law* holds, that is "good money drives out bad money" and therefore all currencies but the one with the lowest (expected) inflation will be driven out. Indeed, especially when monies are fiat monies without direct value in consumption, their demand depends basically on their expected future value. In extreme cases the underestimation of the experienced depreciation of a currency may then lead to a loss of credibility in its stability. Agents with positive expectations elasticities will expect further depreciations and act accordingly.¹⁵

In cases where the expected devaluation rates are moderate it seems to be more likely that the exchange rates mechanism will adjust adequately to find the market equilibrium. Only during the process of adjustment will the market share of a "weak" currency suffer, since it is sold against the others. With substitutable monies

¹⁴ See e.g. Brunner and Meltzer (1971) and Vaubel (1977 and 1978).

¹⁵ Expectations elasticity is defined as the ratio between the proportional rise in the expected future price of good x to the proportional rise in its current price [Hicks (1946, p. 204)]. See also De Long *et. al.* (1990) and the references therein on the effects of positive expectations elasticities.

the respective central bank will certainly react in order to prevent future losses of its market-share and profits.¹⁶

In reality the devaluation of a transaction medium is only one of the factors which determines its demand, though an important one. If one of the monies is more widely accepted than the other it will be demanded even if its devaluation rate, i.e. the opportunity costs of holding it, is higher. People will be willing to pay more for it because it is "more money" than the others.¹⁷ In fact, in some cases a currency of similar stability may be crowded out because it cannot compete with its "moneyness" or marketability.

However, references to experiences in countries with very high inflation rates in which, despite large inflation differentials, significant currency substitution is not observable are in most cases not appropriate.¹⁸ The illegality of using foreign money rather than the high moneyness of the domestic currency or the inconvenience of using another currency is likely to be the main explanation.

With regard to transaction costs it would be better to have a single currency. The great advantage of having only one money lies in the ease of comparison and transaction when everything is

¹⁶ See Girton and Roper (1981, pp. 20-26) on possible supply side reactions.

¹⁷ This aspect is ignored by Padoa-Schioppa and Papadia (1984). They argue that the international use of a money only depends on its quality, e.g. its rate of inflation.

¹⁸ Gros (1989a, p. 191) argues, that currency substitution does not take place because of the inconvenience of using another currency.

denominated in terms of the same thing. These advantages might not be completely lost if prices were marked in terms of all currencies. Nevertheless an important question is, whether currencies in a competitive multi-currency system can coexist, or whether the system will converge towards a uni-currency system. To analyze this we will have to distinguish competition between established national currencies and new forms of currencies from competition between almost equally established currencies.

In the latter case Klein (1974) believes that the costs of valuing and money changing are so large that a single dominant money would emerge. The large costs of exchanging currency would seem to deter individuals from using more than one currency contemporaneously for everyday retail transactions. Cobham (1989, p. 213) on the other hand is more sceptical. He agrees that a single currency would be optimal but remarks that the economy may not arrive at the optimal point.

However, different currencies might be used in different sectors of the economy; for example, the wholesale financial sector, which has lower transaction costs, might use an international currency, whereas the retail sector which has higher transaction costs, might use the domestic currency.¹⁹

If we consider currency competition through the elimination of barriers for new currencies in an economy where an established currency already exists, the outcome will be different. According to

¹⁹ For more on this argument see Gros (1989b).

Klein and Melvin (1982) in this case it is quite unlikely that the established money will be displaced by a competing one especially if the established currency is reasonably stable.

On the one hand established monies are already in use and therefore more marketable than a new one, on the other hand by being in the market for a while the national currency might have built up a good reputation, or in other words, it may have created a *brand name*²⁰. Hence, a newly created money has a comparative disadvantage in relation to the established monies since it does not have a historical dimension. Nevertheless, it is not clear whether these disadvantages are always strong enough to prevent other media to enter the market.

3.3 Vertical Currency Competition

Without legal restrictions on the intermediation of money some forms of assets may develop having features which make them useable as media of exchange, thus those assets would be (interest-bearing) monies. The choice among non-interest bearing monies (which we call cash) as media of exchange cannot be separated from the availability of interest-bearing monies (assets). The question arises whether in a competitive environment non-interest bearing monies can coexist with interest bearing monies. This question can be answered affirmatively.

²⁰ Currency competition by the means of *brand name* quality of a currency was first discussed by Klein (1974).

Even in the absence of legal restrictions²¹ different forms of money and assets have different degrees of liquidity, hence in an efficient market the most liquid form of money can sustain the lowest (zero) rate of return and will still be demanded.²² Nevertheless, "vertical" currency competition can be expected to lead to substitutions between different assets with different levels of liquidity, whenever the spread in rates of returns do not reflect their differences in their liquidity. As long as frictions exist we can expect that competition is not eliminating cash holdings. Cash can coexist with interest-bearing monies because it is more liquid. However, competition may urge the central banks to pay implicit interest on these "non-interest bearing" forms of money (cash) and shift the equilibrium combinations of return and liquidity to a higher level.

In this context Hicks' (1935) classical explanation for the existence of money (cash) is to extreme. According to Hicks utility maximizing individuals will economize their cash holding by transferring low yield assets into higher yielding assets whenever possible, but transaction costs will prevent them from reaching a point of zero-cash holding. Hicks (p. 19) explains: "The most obvious sort of friction, and undoubtedly one of the most important,

²¹ According to Bryant (1989) and Wallace (1983) legal restrictions on the intermediation of money are the only substantial reason for the existence of return-dominated money.

²² In contrast with the advocates of the *Legal Restrictions Theory of Money*, White (1987, pp. 451-452) argues that interest-bearing bonds and non-interest bearing money can coexist because of different degrees of "saleability".

is the cost of transferring assets from one form to another ... Thus a person is deterred from investing money for short periods, partly because of brokerage charges and stamp duties, partly because it is not worth the bother."

Although Hicks is right in describing the behaviour of the demand side for a given supply structure, he does not consider dynamics of the supply side which will occur in a competitive system. If intermediation is profitable, assets with other combinations of liquidity and return will be offered, hence the demand side will also react. By doing so the newly created assets will become more liquid and in the end the market will offer a continuum of different assets useable as media of exchange which coexist with different rates of return according to their liquidity (or intermediation costs).

4. COMPETING CURRENCIES: HISTORICAL EVIDENCE

Contemporary experiences with currency competition under flexible exchange rates are limited to international payments. On the domestic scale currency competition is not only limited to fixed exchange rates but also restricted to a very few areas (e.g. credit cards). Therefore for empirical work on multi-currency systems only historical experience can be used to find some answers to the questions addressed:

- (1) Did the competitive supply of money tend to lead to a single currency because *anti-Gresham's* law was at work?
- (2) Did new forms of money enter the market easily?
- (3) Did the legal tender legislation have an influence on the choice in currency?

4.1 Competing Currencies in the Pre-Suffolk System

The monetary system of Massachusetts from 1800 to 1824 provides valuable information on the operation of a relatively unrestricted multiple currency system with flexible exchange rates. In 1824 a clearinghouse system, the so-called Suffolk system, was established and all Massachusetts paper money became accepted at par. Almost all banks became members of the system and price competition no longer took place.

Besides gold and silver coins, which were legal tender²³, bank notes issued by the *State-banks*²⁴ and notes issued by the First Bank (1791-1811) and later by the Second Bank of the United States (1816-1836) served as media of exchange. Bank notes typically sold at varying discounts, according to the financial standing of the bank by which they were issued and the distance the bills had to be sent for redemption. Hepburn (1915, p. 104) estimated the average costs of sending in the money home for redemption to country banks at less than 1 %. Therefore differences in discounts of bank notes of 1 % or more between banks in Massachusetts can be explained by differences in the financial standing of the banks concerned.

Table 1 gives an idea of the extent to which discounts applied (in Philadelphia) for bank notes issued in Massachusetts and other areas.

In 1816 the ratio of circulating coins to circulating bank notes for the entire US was on average about 1:10 [Secretary (1856, p. 51)]. In New England the bank notes were almost entirely supplied by State Banks, while the notes of the Second Bank of the United States, like the notes of the First Bank before it, played only a

²³ See Sumner (1874, pp. 57-58). The Federal Constitution stated that no State shall "coin money, emit bills of credit, or make anything but gold or silver coin a tender in payments of debts".

²⁴ The term *State bank* refers to banks chartered by a State; according to the Federal Constitution from 1787 States were not allowed to issue money themselves.

Table 1: Prices of bank notes and the Mexican Gold \$ in Philadelphia quoted in terms of Philadelphia bank notes (agio or discount in percent):

Date	Boston Banks	other Mass.	Maine	New York Country	Mexican Gold \$
7.11.1814	+10/+20	-	-	-	+7/+9
6.10.1817	par	-	-	-2	+1
2.10.1820	-1/-2	-3/-5	-4	-1/-3	par
1.10.1825	-1	-2	-2	-1.5	+1.5
7.10.1826	-1	-2.5	-2.5	-1.5/-3	+0.5
1.12.1827	-1	-1	-1.5	-1.5/-2.5	-

Remark: These prices are the average prices of bank notes issued in the era mentioned and the Mexican gold Dollar in Philadelphia in relation to Philadelphia bank notes. Prices of some bank notes were higher or lower if more information about the financial standing of the respective bank was known.

Source: Elliot's Funding System (1845) Doc. No. 15, 28th Congr. 1st Sess. Sec. No. 142: "Mr. Woodbury's Rates of Exchange, and Prices of Bank Notes", pp. 1103-1119.

minor role. The fact that the Second Bank issued no notes of a denomination less than ten dollars created a comparative disadvantage in serving as media of exchange against the State bank notes, some of which were denominated even in fractional parts of the dollar [Secretary (1856, p. 56)]. The notes of the Second Bank should therefore be considered as complements to the State bank notes not as substitutes.

4.2 Empirical Findings

(1) The development of the market-shares of the banks in Massachusetts at the time concerned clearly rejects *anti-Gresham's* law. Table 2 and the graph demonstrate that no concentration towards one or a small number of currencies was observable. On the contrary, the number of different currencies increased. The circulation of the five biggest banks as in 1803, who then held a market-share of more than 80 %, decreased relatively and absolutely. If these banks had belonged to the *weak* banks they should have been driven out of the market, if they had belonged to the *strong* banks they should have prevented new banks from coming in.

Although we do not have exact data on the purchasing power stability of individual bank notes the mere fact that exchange rates were flexible and adjusted over time is sufficient to claim that the strongest currency did not drive out all weaker ones.

One could object that the banks faced decreasing returns to scale after reaching a certain size due to the technology available at that time, so it was relatively easier for new banks to enter the market than for old banks to expand their circulation. This view is not supported by the empirical findings. As the data show, the five biggest banks lost more than half their circulation after 1803. As the banks before 1803 also operated in a competitive environment it is very unlikely that they produced at a level 100 % above their average cost minimum circulation.

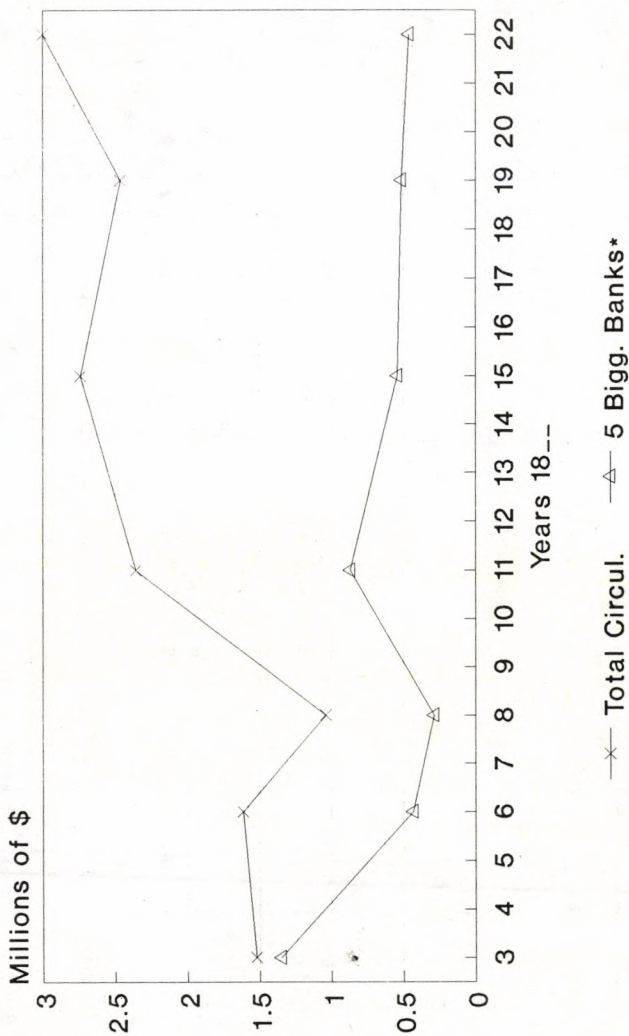
Table 2: Circulation of bank notes in Massachusetts

Date	Total bank note circulation	No. of Issuing Banks	Circulation and Market-Share (%) of Individual Issuing Banks			
			Union Bank Boston	Essex Bank Salem	Massachusetts B. Boston	Merrimack Bank Haverhill
06/1803	1,522,271 \$	7	474,840 \$ 31 %	301,336 \$ 20 %	240,000 \$ 16 %	185,810 \$ 12 %
06/1806	1,613,684 \$	15	154,246 \$ 10 %	112,271 \$ 7 %	55,050 \$ 3 %	0 \$ 0 %
01/1808	1,038,042 \$	16	103,383 \$ 10 %	64,925 \$ 6 %	74,370 \$ 7 %	0 \$ 0 %
01/1811	2,355,571 \$	15	287,670 \$ 12 %	240,685 \$ 10 %	258,146 \$ 11 %	0 \$ 0 %
01/1815	2,740,511 \$	25	130,048 \$ 5 %	115,484 \$ 4 %	246,865 \$ 9 %	18,612 \$ 1 %
01/1819	2,464,057 \$	28	184,900 \$ 8 %	15,887 \$ 1 %	242,759 \$ 10 %	27,625 \$ 1 %
06/1822	3,132,552 \$	33	172,143 \$ 6 %	0 \$ 0 %	225,425 \$ 7 %	32,809 \$ 1 %

Remark: The five individual banks mentioned above were the five biggest banks in June 1803.

Sources: Bank Commissioner of the Commonwealth of Massachusetts: *Annual Report*, div. Issues, Boston. Commonwealth of Massachusetts: *Schedule exhibiting the conditions of the banks in Massachusetts*, Senate Doc. No. 38, Boston 1838.

Circulation of some Bank Notes in Massachusetts (1803 - 1822)



* The five biggest banks in 1803.

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(2) New currencies entered the market and gained reasonable market share relatively quickly. Between 1803 and 1806 the number of banks grew from seven to fifteen and reached 33 in 1822. This increase cannot be explained by a demand shift for more currency the existing banks could not supply, but by increasing competition, as the absolute decrease of the circulation of the four biggest banks from 1803 shows. As already mentioned, decreasing returns to scale are unlikely to be the reason for the success of the new banks.

(3) The legal tender status of gold and silver coins did not prevent bank notes from being the main media of exchange. In fact 90 % of all media of exchange were not legal tender.

When transferring historical experiences into contemporary Europe one should, of course, be cautious about their applicability. In our case the main economic difference between early 19th century Massachusetts and Europe today is the availability of information and technology.

Relative to findings (1) and (2), despite the poor availability of information new currencies were able to enter the market and economic agents managed to use a respective number of currencies side by side. Because of fewer information problems today, the market for media of exchange is even less likely to monopolize. The availability of advanced technology nowadays has certainly led to an increase in the output necessary to reach the average cost

minimum. But considering the volume of money issued by each national central bank at present, even if there were now increasing returns to scale, the average costs and marginal costs would hardly differ and would not be a drive towards concentration. With respect to finding (3), the difference of the availability of information and technology can be neglected.

5. LEGAL RESTRICTIONS AND THE DEMAND FOR MONEY

In the real world, choices of assets and currencies are substantially influenced by the legal system.²⁵ The legal system supplies a framework which directs the demand for currencies or assets in either way, it enforces the use of certain media (e.g. by defining a legal tender) and prohibits or discourages the use of other media (e.g. through capital controls).

²⁵ The maxim "money is a creature of the State" was discussed with enthusiasm in the early 19th century in Austria and Germany. The Austrian economists, especially Karl Menger (1892 and later works) argued that money evolved according to market forces whereas Knapp (1921) overemphasised the role of the State. Recently the *legal restriction theory of money* criticizes government intervention as the main reason why interest-bearing monies do not evolve [See Bryant (1989) and Wallace (1982)].

5.1 Legal Tender Legislation

One of the most striking state intervention in the business of money is the determination of a legal tender. Nussbaum (1950, p. 45) defines such means of payments as legal tender which the creditor is not privileged to refuse if it is offered by a debtor in payment of his debt. Mann (1982, p. 6) places emphasis on the fact that the choice lies more with the creditor by saying "In the absence of the creditor's consent, express or implied, debts cannot be discharged otherwise than by the payment what the law considers as money, namely legal tender."²⁶

In the case of the Federal Republic of Germany, unlimited legal tender are the notes of the Deutsche Bundesbank. The legal tender status of federal coins is limited; coins denominated in DM (Deutsche Mark) cannot be refused to settle a debt up to an amount of DM 20,-- and coins denominated in Pfennige must be accepted up to an amount of DM 5,--.²⁷ As a consequence of these laws even a creditor of claims of thousands of marks must accept notes rather than a cheque or a transfer to his bank account but may also insist to be paid in legal tender.

For the UK the legislation determines that gold coins are legal tender for any amount, while coins of denominations of more than 10 pence are legal tender only for payments of amounts up to £

²⁶ For a similar definition see Walker (1980).

²⁷ Währungsgesetz of the Federal Republic § 1, art. 2; Bundesbankgesetz § 14; Münzgesetz § 5.

10. Coins of smaller denominations must be accepted for payments of amounts not exceeding £ 5 and bronze coins for amounts up to 20 pence.²⁸

Penalties for the repudiation of legal tender have not existed in central Europe during the last two hundred years [Nussbaum (1950, pp. 45 ff.)]. Creditors who do not accept legal tender from a debtor to settle a debt usually need only to face damage due to private law legislation.²⁹

Still, history knows of interesting cases of severe penalties for the non-acceptance of legal tender. In the American colonies repudiators of continental bills issued by Congress in the 1780s were punished by forfeiture and sometimes imprisonment³⁰ while early English law punished non-acceptance of legal tender as *lèse-majesté*. The hardest punishment known was imposed on rejecting state paper money during the French Revolution and on rejection of imperial money in 13th century China; in both cases the death penalty was imposed.³¹

However, it would be illusionary to expect that the existence of a legal tender alone has much influence on the persistent

²⁸ Currency and Bank Notes Act, 1954; Coinage Act, 1971.

²⁹ In the Federal Republic the non-acceptance of legal tender by a creditor would be considered as a creditor's default of acceptance (*Gläubigerverzug*)(Bürgerliches Gesetzbuch §§ 293 ff.).

³⁰ See Dewey (1986, pp. 38-39).

³¹ These examples among others can be found in Nussbaum (1950, p. 53).

dominance of the state money against competing media of exchange. The impact of legal tender legislation is limited to cases where agents do not agree upon how a claim is to be settled. The historical experiences show that the sole existence of a legal tender did not prevent that 90 % of the media of exchange in use were not legal tender. Alternative media are very likely to be accepted if their exchange rates to the legal tender corresponds to their relative market value and if no penalties are imposed.

Other restrictions such as the denomination of debts in ambiguous cases, the denomination of tax payments and other compulsory levies, and the denomination of financial statements seem to have a much stronger impact on the preferences for a particular currency.

5.2 Forced Tender

By fixing a particular currency for payment of taxes and for all contracts with state authorities a government has a strong influence on the choice in currency by economic agents. Even Hayek (1978, p. 36) to a certain degree admits that the state should be allowed to fix such a currency, which is forced tender. Nonetheless Hayek claims that other units of accounting should be allowed for assessment of taxes. This is not the case in western States, where government expenditure quotas reach almost 50 %. There the currency used by the government has an unchallenged comparative

advantage to all other media of exchange. As Lerner (1947, p. 313) expressed it:

"The modern state can make anything it chooses generally acceptable as money ...If the state is willing to accept the proposed money in payment of taxes and other obligations to itself the trick is done. Everyone who has obligations, and all other people will be willing to accept the pieces of paper with which he can settle the obligations, and all other people will be willing to accept these pieces of paper because they know that the tax payers etc. will accept them in turn."

Legal restrictions upon the use of non-government money makes government money more liquid. Hence, the demand for portfolio-dominated assets (£, DM, etc.) arises not only because these assets have higher liquidity *per se* but also because legal barriers restrict the use of other assets for many transactions and settlement purposes. According to the *legal restrictions theory of money* these restrictions are sufficient to explain the *coexistence paradoxon*, that is the coexistence of interest bearing assets with non-interest bearing forms of money.

However, the view of Wallace (1983), who argues that without legal restrictions "it is hard to see why anyone would hold non-interest-bearing currency instead of interest-bearing securities" cannot be accepted.³² If the non-interest bearing (government) currency is the most liquid medium of exchange even without legal restrictions it still would be demanded. In other words, legal restrictions widen the *wedge* between the returns on generally

³² Although Wallace is stressing more the role of restrictions in the process of intermediation, his ideas can be applied to the *legal tender* restrictions.

accepted media of exchange and other less liquid assets but they do not create it.

Even if legal restrictions were be the only important explanation for the coexistence of money and assets, the conclusion that their removal would lead to a disappearance of government money would also not be valid. Rather one should expect that because government money has become generally accepted and widespread it will persist for these reasons (at least for a considerable period of time).

In addition to the determination of the currency in which tax and similar payments have to be made, in some countries there are also restrictions concerning the use of alternative units of account in private contracts. In the Federal Republic of Germany, for example, two residents cannot contract in a foreign currency unless special permission is granted by the Central Bank.³³ This regulation seems to be irreconcilable with legislation on legal tender, but it is not. "The only method of invalidation stipulations providing for payment in a foreign currency is express legislation" [Mann (1982, p. 197)].

Just to mention a second example of restrictions in the Federal Republic: index clauses on the DM are usually not allowed and

³³ Währungsgesetz § 3. This rule was originally also applied to contracts between residents and non-residents till in 1961 the Außenwirtschaftsgesetz exempted these.

need also special permission by the Deutsche Bundesbank.³⁴ This permission was in fact necessary before the ECU obtained the status of a foreign currency in Germany. Before the permission was given by the Bundesbank, residents in Germany were not allowed to have ECU deposits in Germany.

The economic constraints of the restrictions mentioned so far are rather obvious: the national currency is more in demand than it would be in a *laisser-faire* environment.

5.3 Capital Controls

In addition to state enforcement of the use of certain media of exchange and other restrictions concerning the use of alternative units of account, there can be substantial restrictions on the use of non-domestic monies as a store of value.

In our case the most important restrictions are those on the transfer of funds across borders and the right to keep accounts at home in foreign currency. These restrictions reduce the asset substitutability and prevent exchange rates from reflecting the intrinsic values of the currencies [Gebauer (1986)]. Although the most significant ones of these restrictions were removed in most member states this year, they had substantial impact on the demand for alternative assets in the past.

³⁴ Währungsgesetz § 3. This rule is usually seen as necessary to avoid potential danger through speculation on the stability of the DM.

History shows that whenever regulations were set up against the interest of economic agents, tendencies to by-pass them could be observed. Successful examples are the emergence of *black markets*, the development of financial innovations and the emergence of completely new markets like the *Euro-markets*.³⁵

Hence, the very existence of exchange restrictions can be seen as an important reason for the ECU's success in France and in Italy.³⁶ The best indications of this are the differentials between the Euroaira and Eurofranc and domestic interest rates especially prior to intra-EMS exchange rate realignments. The reduction of the differences in volatility between the Euro rates and the domestic rates of the Franc and the Lira after some restrictions were removed also support our argument.³⁷

On the other hand, according to Gros (1989a, p. 56) "... the limited use of the ECU in West Germany and Switzerland suggests that the existence of the ECU does not have important implications in capital markets that are already liberalized." The conclusion of

³⁵ The first "Euro-dollars" were deposited in banks outside of the U.S. mainly because of *Regulation Q* which laid down that banks were not allowed to pay interest on deposits of maturities of less than 30 days. In the meantime this regulation was eliminated [Board of Governors (1985)].

³⁶ See e.g. McDonald and Zis (1989, pp. 193 f.). This view is also shared by Bordo and Schwartz (1989, p. 5).

³⁷ See "The EMS without a safety net" in THE ECONOMIST 27.01.1990.

De Grauwe and Peeters (1989)³⁸, that the ECU's success in the international bond market has been moderate compared with other currencies, is therefore not surprising.³⁹

6. IMPLICATIONS FOR A NEW LEGAL FRAMEWORK

As we have seen, there are some convincing reasons to believe that stable, and therefore more predictable, currencies are more preferred than others. Assuming no other measures will be implemented, the removal of capital controls during the period of transition (mid 1990-end 1992) will enforce competition between the national currencies. This competition is quite likely to put some pressure on monetary policy and inflation rates in Europe. But for the same reason it is also likely, that in the absence of controls the role of the ECU as a investment currency will not improve.

Our analysis has shown that in an unregulated system it is not likely that the market forces will lead to a single currency. However, since currency competition is very sensitive relative to the institutional environment it takes place existing regulations have to

³⁸ Their view contrasts with that of Lomax (1989), who compares the growth of the ECU bond market with *Euro-markets* only to conclude that the ECU has been successful.

³⁹ Gebauer (1986, p. 115), however, remarks, that in future the removal of capital controls might increase the demand for ECU. Monetary policies will have to be more restrictive, hence the ECU will become more stable. If the tendency to diversify currency portfolios continues, the ECU will be a good candidate.

be taken into account. In order to be successful, the market-led approaches therefore need correcting "legal support".

6.1 The Parallel Currency Approach

In the case of the *Parallel Currency Approach*, the ECU would have to be strengthened in order to create a comparative advantage relative to the national currencies. From a pure investment currency the ECU should be developed to become a medium of exchange. Barriers to the use of the ECU for these function need to be removed. Whereas extensions of options to use the ECU as an accounting unit outside of the EC institutions in the Community countries seem not to difficult to implement, the granting of legal tender status and the abolishment of the forced tender privileges of national currencies will be so.

The ECU could be given a *preferential legal tender status*⁴⁰ and equal rights to be used as *forced tender* side by side with national currencies, i.e. contracts denominated in any national currency could be settled in ECU but not vice versa in order to improve the demand for the ECU. This would, like in the case of a *non-preferential legal tender status* of the ECU, require well-defined *legal* exchange rates between each national money and the ECU.

⁴⁰ See Gros (1989a, p. 226).

These legal exchange rates could be adjusted daily and be valid for a day. However, even if the adjustments from day to day are only very small in such a system with quasi-fixed exchange rates spreads between *legal* and *market* exchange rates could not be prevented. Depending on expectations about the next daily adjustment arbitrage would be undertaken. Thus, Gresham's Law would be at work - the "bad" money would be used as a transaction medium and the "good" one would be sold at the market exchange rate.

If the quasi-fixed exchange rate system is going to be changed, one might prefer to have a flexible *legal* exchange rate to prevent Gresham's Law from working. From a practical point of view this seems difficult to manage since substantial informational problems would arise. If these problems cannot be solved, the ECU will not have a chance to become a successful parallel currency.

6.2 The Evolutionary Approach

For the *Evolutionary Approach* the some objectives would be attained without the extension of legislation on legal tender and forced tender. Still, competitive pressure among the Community currencies would be much more effective if they are extended to the area of transactions media. In any case restrictions on the use of different units of accounts and debt standards need to be abolished.

To implement the *Evolutionary Approach* to a full extent, legal tender and, more important, forced tender status would have to be awarded to all Community currencies in all member countries. The respective national currency should no longer be the exclusive forced tender for government contracts and tax payments. Otherwise competition would not take place to a full extent.

This may create substantial problems. On the one hand, mutual recognition of currencies is politically rather unlikely [e.g. Gros (1989a, p. 226)]. Factually, the political commitment necessary for this can be seen already as half way toward an agreement upon a *big-leap* towards a single currency. On the other hand, if there would be no mutual recognition, because of reasons mentioned in sections three and five competition among (stable) transaction media in a certain territory will not have much effect on the market shares of established local currencies since only local currencies could be used universally. Nevertheless, the displacement of national currencies is not necessary to achieve monetary union as defined by the UK government.

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