

**COMMITTEE FOR THE STUDY OF
ECONOMIC AND MONETARY UNION**

15th December 1988

Please find attached a paper on "Alternative Paradigms for Monetary Union", which has been prepared upon the request of the Rapporteurs by Daniel Gros, who is a consultant to the Commission. You may find it interesting to have a look at this paper, which is intended only to serve as background information and not meant to be a subject of discussion in the Committee.

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Alternative Paradigms for Monetary Union

I. Introduction

A Monetary Union (MU) is commonly defined as an area that behaves as if there was only one common currency because national currencies, if they continue to exist, have become perfect substitutes. This concept of a MU could be viewed as the final stage of a gradual process of monetary integration. This paper argues that in the process of monetary integration leading to an area that behaves as if there was only one common currency one can distinguish intermediate stages that would not constitute a MU according to the definition given above although they might fulfill the standard criterium of a fixed exchange rate system with capital mobility. Some of the factors that determine what intermediate stage of monetary integration a given system of fixed exchange rates can attain are the bid-ask spreads and other foreign exchange commissions practiced by commercial banks, the legal tender status of national currencies and the use of different national currencies as a unit of account.

A closer inspection of the potential importance of these factors shows that the term "Monetary Union" contains potentially more than the by now classic definition given by the Werner Plan: A system of irrevocably fixed exchange rates (without margins of fluctuation) with free capital mobility. Indeed, Monetary Union (MU) might be viewed as a dynamic process in which two driving forces interact. These forces are official action and market development. Official action sets the broad framework by fixing exchange rates, by removing barriers to financial market integration and by declaring certain instruments legal tender; market developments then determine the economic content of this framework. This view of "Monetary Union" suggests the following four, interrelated, issues for discussion:

1. Economic theory and experience imply that all regions of a MU à la Werner Plan would have an average similar inflation and interest rates, however, if differences between national financial markets and payment systems continue to exist national monies would not be perfect substitutes and therefore such a MU would not constitute an area which operates as if there was only money.
2. An incomplete integration of national financial markets and payment systems and differences in the instruments of monetary control would also imply that some scope for autonomous national monetary policy remains within the limits set by interest rate arbitrage in international capital markets. In this sense a MU à la Werner Plan might not operate exactly as an area in which there is only one way to implement the monetary policy.
3. If national monies do not become close substitutes in a MU à la Werner Plan, because of incomplete interaction of financial markets and payment systems, such a MU could function without a central monetary authority if the monetary policy of one country serves as the anchor for the entire system. However, this would not be possible in a full MU since the price level of the union could not be controlled via the monetary policy of the centre country alone if different monies become perfect substitutes.
4. A MU à la Werner Plan would imply that the participating countries would lose the exchange rate as an adjustment mechanism within the union, which is regarded as the most important cost of a MU. However, if the integration of financial markets and payment systems remains incomplete and national monies remain imperfect substitutes such a MU might not yield the benefits in terms of reduced transaction costs and increased transparency of prices associated with a full MU (which operates as if there existed only one money).

The main theme of this paper, namely the "small print" that distinguishes a full MU from a system of fixed exchange rates, is analysed in some detail in Section II. In Section III the results from this analysis are used to discuss what types of MU yield certain costs and benefits commonly associated with a full MU. Section IV contains some concluding remarks.

II. Degrees of Monetary Integration

The term "Monetary Union" (MU) is often only considered from a macroeconomic point of view. In this optic it is often asserted that MU is equivalent to fixed exchange rates plus full capital mobility because they imply that interest rates are equalized. However, closer inspection of actual examples of countries that maintain fixed exchange rates and free capital markets reveals that some differences in interest rates remain even in this environment.

These differences in interest rates may be the result of differences in the organization of national payments systems and securities markets and other legal and customary rules that affect the return on securities¹. From a macroeconomic point of view these interest rate differentials are usually considered irrelevant because only differences between the theoretical construct of "the" interest rate are taken as important. For example, during the 1970ies, when the Irish pound was linked to Sterling and Ireland's financial markets developed Irish interest rates were always very close to British interest rates for all highly standardized assets, such as short-term loan in the interbank bank market or government papers. However, other interest rates, such as the prime rate applied by commercial banks differed by as much as 2 percentage points from the corresponding British rate and the Irish prime rate was on average 1 percentage point lower.

(1) Implicit in this argument is that the securities issued in each national system are denominated in the national currency.

Another illustration of the potential for interest rate differentials that remains even in an environment of fixed exchange rates and free capital mobility can be obtained from Dutch Guilder and German Mark markets. Over the last five years (10/83 to 9/88) the Dutch Guilder has depreciated only by 0.5% against the D. Mark and the Guilder D. Mark exchange rate has never moved outside a corridor that is less than 1% wide. The Dutch Guilder has therefore behaved as if the allowed band of fluctuation had been less than $\pm 0.5\%$, this might be considered as a good approximation of a MU between these two countries. However, despite the absence of capital controls, short term (3 months) Euro Dutch Guilder interest rates have been on average almost 1% higher than the corresponding D. Mark rates. Moreover, the interest rate differential has not been constant, it has grown from 0.25 % in early 1984 to 1.51 % in the second quarter of 1987 and one year later it was down to 0.5 %. Fixed exchange rates and capital mobility therefore leave some room for interest rate differentials. Without further information it is not possible to say whether these interest rate differentials are due to doubts in the market about the exchange rate commitment of the Dutch authorities or differences between the national financial systems that are not eliminated by arbitrage in the Euro-markets.¹⁾

The creation of a MU requires not only that exchange rates do not change ex post, but also that they are credibly fixed ex-ante. The G-NL case might not provide a good approximation of a MU to the extent that the DM/HFL exchange rate just turned out to be ex-post more stable than markets had anticipated ex-ante. This raises the question of what institutional or other features of the MU would lead private markets to expect that the union will be stable. This question is not treated here because it would lead to institutional issues that are outside the scope of this paper.

(1) The first explanation seems difficult to reconcile with the fact that over the same period the difference between long term interest rates (on government bonds) was on average about one half of the difference in short term interest rates. If doubts about the long run commitment of the Dutch authorities had been the root for the short term interest differential the long term differential should have been larger.

The term "Monetary Union" is also sometimes taken to mean that national monies become perfect substitutes so that the economy of the union would behave as if there existed only one money. From this more microeconomic point of view it is clear that a "full" MU involves more than fixing exchange rates because t(e freedom to transfer funds at a fixed exchange rate from one national financial system (that is based on a national currency) to another, different, financial system (that is based on another national currency) is not sufficient to render two moneys perfect substitutes.

From the microeconomic point of view a MU implies that one money fulfills the three classic functions of money (unit of account, store of value, means of payment) for all economic agents in the Union a MU would imply much more than fixed exchange rates and free capital movements. From this point of view a MU would exist if different national monies (assuming that they continue to exist) become as substitutable as bills of different denominations of one national money. While this second definition of MU might appear extreme, it indicates that there exist different "degrees" of MU that might have different implications for the way a MU should be organized.

Some of the elements of the "small print" that distinguishes a full monetary union from the broad definition of irrevocably fixed exchange rates plus full capital mobility are :

- 1) The remaining margins of fluctuation in exchange rates; what bands of fluctuation are compatible with the notion of "fixed" exchange rates, $\pm 2.25\%$ as normally in the EMS, $\pm 1\%$ as under Bretton Woods or zero? Is zero operationally possible?
- 2) The bid-ask spreads and other foreign exchange commissions practiced by commercial banks (1). Even after the complete elimination of margins of fluctuation in the official parities commercial banks might still have to use bid-ask spreads and/or foreign exchange commissions to cover the costs they incur by holding bank notes in different currencies and by having to set up

(1) The margins of fluctuation in the official parities can be considered as the bid-ask spread of the central bank.

several accounting systems (1). At present, the magnitude of the bid-ask spreads varies with the size of the transaction, they go from 2 - 5 % on exchange rates for bank notes to 0.05 - 0.1 % on the inter-bank market. The large costs of exchanging cash would seem to deter individuals from using more than one currency contemporaneously for everyday retail transaction. The Dutch case is again a useful example in this case since even with the very low exchange rate variability and the large degree of commercial and financial integration between the Netherlands and Germany there is no indication that a significant process of currency substitution has taken place in the Netherlands so far. For large corporation transaction costs are much lower (bid-ask spreads are almost one hundred times lower on interbank transactions than on cash) so that large corporations might be more inclined to hold balances in several currencies and might also be ready to make large shifts in their currency holdings in response to small interest rate differentials or shifts in their trading and payment patterns.

- 3) The legal tender status of different national currencies. At present only the national currency is legal tender in the EC countries, with the exception of Luxembourg where the Belgian Franc is also legal tender (2). In the absence of a common currency would it be possible to give different national currencies legal tender status in the entire Union? In practice this could be organized in different ways: a) All national currencies might become legal tender in the entire Union in a generalized and symmetric process of "mutual recognition" of national monies; or b) only some national currencies might become legal tender in the entire Union in an asymmetric arrangement like the BLEU. Other possible variants include a "preferential" legal tender status under which obligations denominated in any currency could be discharged in the currency that is preferential legal tender, but not viceversa. Or there might be a "limited" legal tender status under which

(1) In the asymmetrical, bilateral MUs of IRL-GB (until 1979), the BLEU and the CFA this is not the case. However, these cases might not be relevant for the Community since they fix exchange rates at some round number (like one or fifty), the currency of the dominant member circulates in the smaller one and they involve only two currencies, not potentially twelve as in the case of the Community.

(2) The Luxembourg Franc is not legal tender in Belgium.

governments could accept payments in foreign currencies, but private sector agents could continue to demand payment in the national currency. It appears that it would be difficult to organize a legal tender status for foreign currencies as long as exchange rates are not completely fixed and bid-ask spreads have not been completely eliminated. If exchange rates are fixed for legal tender purposes but market rates are not Gresham's law would operate and therefore "bad" money would drive out "good" money.

- 4) The use of national currencies in price quotes. Consumers used to think and compare prices in one national currency might find it inconvenient to translate prices quoted in one currency into another one at any exchange rate that is different from one. An indication of the importance of this seemingly trivial point is that travellers usually use some round number instead of the exact market exchange rate to translate prices quoted in a foreign currency into their domestic currency and adjust this approximation only if there are large shifts in the market exchange rate. It does not seem feasible to go to "round" exchange rates among European currencies since that would require large shifts in some national price levels.

It is apparent that these elements of the small print affect different sectors differently. The MU might therefore encompass only some sectors of the economy of the Union as 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 alongside the national currencies so that with fixed exchange rates the MU would be complete for this sector. However, the retail sector, which has higher transaction costs, might use only the various domestic currencies so that for the retail sector fixed exchange rates would not be sufficient to create an area that behaves as if there was only one money.

It is apparent that the existence of a parallel or common currency would affect the degree of monetary integration and that most of these "small print" items would also affect the success of any parallel currency. However, these issues might better be treated in a separate context to allow this paper to focus on the notion of MU.

At this point it does not seem possible to predict to what extent the 1992 programme will lead to the elimination of the "small print" that would limit the degree of currency substitution. The main thrust of the removal of barriers to the integration of European financial markets seems to be to allow for a more efficient allocation of savings across national frontiers. This aspect would have little impact on the transaction costs analyzed here. The 1992 programme for financial markets might thus reduce the scope for interest rate differentials in a fixed exchange rate system but it might have little impact on the substitutability of different national monies. Moreover, since the monetary policy control instruments have so far been exempted from the home country control principle some differences, due to different methods of monetary control, among national financial markets might remain even after 1992.

Although the process of monetary integration might be continuous it is still useful to distinguish between intermediate stages and the final stage of complete monetary integration.

- A first intermediate stage could be called "De facto stable exchange rates", it would consist of a system of fixed exchange rates with "escape clauses" in which, however ex-post, exchange rates are never adjusted and where national monies are not good substitutes. This might correspond to the maximum degree of monetary integration that could be achieved by the EMS in its present institutional framework.
- A second intermediate stage could be called a "macro MU" it would consist of a system of irrevocably fixed exchange rates (Werner Plan definition) where national monies are still imperfect substitutes because of the various transaction costs listed above¹.

(1) Since it is difficult to decide to what degree the markets believe in the irreversibility of the Dutch exchange rate commitment it is difficult to decide whether the Dutch case represents a macro MU à la Werner Plan or only a system of de facto stable exchange rates.

- The final stage could be called a full "micro MU" it would consist of an area which behaves as if there was only one money because national monies, if they continue to exist, are perfect substitutes.

III. Costs and Benefits of Different Degrees of MU

The previous section has suggested that there are different degrees of MU, this raises the question to what extent the costs and benefits that are usually expected from the creation of a full MU in the usual definition of the term can be obtained from these different degrees of MU. The purpose of this section is not to discuss what would be the exact costs and benefits from the creation of a MU. It therefore contains only a list of the costs and benefits that are most widely believed to exist and briefly indicates whether or not each individual cost or benefit can be obtained from different degrees of MU. The costs and benefits of a MU that are most often discussed are briefly sketched out below⁽¹⁾.

- 1) (Cost) A MU would eliminate an instrument or mechanism of adjustment that might be needed to offset the effects of shocks to demand and supply of the products of regions of the MU. Such shocks would require some adjustment in real exchange rates or relative wages inside the Union. To the extent that nominal wages are not flexible and labour is not mobile the nominal exchange rate might be an important instrument of adjustment.
- 2) (Benefit) A MU would also eliminate the possibility for the monetary authorities of the regions of the MU to use (unanticipated) monetary policy to affect employment or the real interest rate paid on public debt. In this sense the authorities of a member country could achieve a low-inflation credibility if the overall inflation rate of the MU is low.

¹⁾ This representation is not intended to imply any comment on the relative merit and importance of each argument, rather it tries to summarize each argument as succinctly as possible.

- 3) (Benefit) The elimination of exchange rate variability should lead to an increase in trade since it reduces a source of uncertainty.
- 4) (Benefit) A common currency (or an equivalent degree of monetary integration) would increase the transparency of prices and in general eliminate transaction costs on inter-regional trade.
- 5) (Benefit) The creation of a MU would give Europe a "monetary identity" and would increase the weight of Europe in the rest of the world.
- 6) (Benefit) The creation of a MU would be a necessary condition for the stability of the internal market to be achieved by 1992. According to this argument the inconsistency of a) fixed exchange rates, b) integrated capital markets, c) autonomy for national monetary policy and d) a high degree of trade integration risks to destroy the EMS once capital movements have been liberalized. This would then put the entire 1992 programme in jeopardy. The creation of a MU, or more precisely abandoning the desire to preserve autonomy for national monetary policy, would therefore be necessary to preserve the EMS and the entire 1992 programme.
- 7) (Benefit) The creation of a MU would diminish the exposure of the member economies to shocks coming from the outside.

Table 1 provides an overview of these potential costs and benefits of MU and indicates schematically the extent to which they will be realised under different degrees of monetary integration. The individual entries do not need detailed comments, the nature of the different costs and benefits together with the discussion in the previous section about the different degrees of monetary integration suggests in most cases the answer.

Table 1

Costs and Benefits of Different Degrees of MU

Type of Costs and Benefits :	Type of MU :1)	De facto fixed exchange rates	Macro MU	Micro MU
<u>Costs :</u>				
1) Loss of degree of freedom for adjustment		Yes	Yes	Yes
<u>Benefits :</u>				
2) Elimination of temptation to use surprise inflation		Not fully, if not perceived by market.	Yes	Yes
3) Increase in trade due to reduction in exchange rate variability		Not fully, if not perceived by market	Yes	Yes
4) Gain in transparency, elimination of residual transaction costs		No, partially yes if market uses a common currency?	No, partially yes if market uses a common currency?	Yes
5) Necessary condition for 1992		?	?	Yes
6) Creation of European Monetary Identity		Yes, if supranational common currency?	Yes, if supranational common currency?	Yes
7) Less exposure to outside disturbances			Yes?	Yes

1) De facto fixed exchange rates refer to a system of fixed, but potentially adjustable, exchange rates that are in fact never adjusted. A macro MU is a system of irrevocably fixed exchange rates (Werner Plan definition). A micro MU is an area that behaves as if there was only one money.

The conceptually clearest case is that of a micro MU since it is apparent that a full micro MU would imply all the costs and benefits listed above.

A macro MU (credibly fixed exchange rate with capital mobility but with separate national financial markets and payments systems) would not yield (4) - the gain in transparency of prices - and it is not clear whether such a MU would contribute to (5) - the success of the 1992 programme. Such a monetary union would also not in itself create a European monetary identity, item (6), except to the extent that it is accompanied by the emergence of a supranational parallel currency.

A system of fixed but potentially adjustable exchange rates that are in fact not adjusted would fully imply only the cost of losing the degree of freedom for adjustment. To the extent that the exchange rate commitment is not fully believed by the markets the gain in terms of credibility might not be fully realised. The gains from the elimination of exchange rate variability might also not be fully realized since traders would still feel inter-regional trade could be subject to exchange rate variations.

A full micro MU might only be reached after a gradual process of monetary integration that starts from a de facto fixed exchange rate regime, which is then transformed into a macro MU which in turn could develop into a full micro MU as national financial markets and payments systems become more and more integrated. This analysis then implies that the costs would arise from the beginning of the process, whereas the benefits would arise only later.

IV. Conclusions

The emphasis of this paper has been on the "small print" of the term "Monetary Union". A full MU in which national monies are perfect substitutes might therefore be viewed as the final stage of a process of monetary integration in which this small print is gradually eliminated. This suggests that an area with irrevocably fixed exchange rates and free capital markets would not automatically behave as if there was only one money. To obtain the full benefits from a MU requires more than fixed exchange rates, it requires that private operators can treat national monies as perfect substitutes because they can exchange them without incurring any costs.

The analysis of this paper also suggests that the benefits of a MU come from the market process that determines the economic content of the broad framework set by official action. This implies that, short of introducing a simple common currency, it might not be possible to obtain all the benefits of a full Micro MU by simply fixing exchange rates if the transaction costs that are the core of the small print, and that are determined by the market, continue to make national monies less than perfect substitutes.