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## The Advantages of a Small European Monetary Union

*The question whether European Monetary Union should include all the EC countries from the start or should initially be limited to a few core countries is again being discussed more intensely. What advantages would a small EMU have from an economic point of view? Which countries should be its founder members?*

The governments of all the EC states – with the possible exception of the United Kingdom – are united on the objective of European monetary union, as are central banks, political parties and academic circles. There is disagreement, however, about the shape European monetary union should take and how it should be achieved. Debates on this issue are generally concerned with questions of timing and sequencing, whereas the more fundamental question as to whether all EC states should really join a European monetary union at the very outset has been raised again recently, mainly by the Deutsche Bundesbank.<sup>1</sup>

Hence there is the notion of a small European monetary union, or a core monetary union, as an alternative to the traditional full-scale arrangement. As a rule, it is an idea that is associated with the concept of a two-speed Europe, whereby a small monetary union could eventually evolve into a larger grouping. The question as to which countries should be founder members of a monetary union is one of great urgency, for logically the countries directly involved should negotiate on the ensuing problems of timing and sequencing.

### Cost-Benefit Considerations

The economic answer to this problem aims to establish and apply a criterion for identifying the most suitable participants in a European monetary union. The result of the analysis clearly suggests a small monetary union

rather than the monetary union of 10 to 12 EC member states that has so far been dominating the discussion.<sup>2</sup>

The starting-point for the analysis is the relatively new approach offered by the theory of optimum currency areas, in which a country's rational decision whether to participate in a supranational currency area is based on a comparison of costs and benefits.<sup>3</sup> The greatest disadvantage of belonging to a large currency area lies in the loss of national autonomy with regard to economic policy, which will obviously occur with the disappearance of exchange rate policy. By contrast, the primary advantage of the spread of a currency area lies in the avoidance of information and transaction costs that would otherwise be incurred in cross-border trade. Let us examine these benefits and costs in greater detail.

On the costs side, the loss of national autonomy is very far-reaching as regards monetary policy and gradual in respect to fiscal policy, while in the field of incomes policy the nominal parameters are set exogenously. In essence, the curtailment of sovereignty affects only the scope for directing exchange rates and inflation rates. Since the exchange rates between EC currencies are again being determined by purchasing power developments<sup>4</sup> – in

<sup>1</sup> See, for example, Währungsunion soll im kleinen Kreis starten, in: Frankfurter Rundschau, 26. 10. 1990.

<sup>2</sup> In view of the substantial economic disparities between the 12 EC countries a special status is sometimes suggested for Portugal and Greece.

<sup>3</sup> See Giancarlo Gandolfo: International Economics, Vol. II, Berlin, Heidelberg, New York 1987, especially pp. 372 ff.

<sup>4</sup> Cf. Wolfgang Filc, Sonning Bredemeier: EWS und US-Dollar: Analyse und Prognose der Wechselkursentwicklung, Stuttgart 1989, p. 92.

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contrast to many other exchange rates – it is primarily the freedom to decide on the independent national level of inflation that is lost.

Although the qualitative costs of a loss of autonomy are immediately apparent, it is almost impossible to quantify them, for this would necessitate forecasts of possible changes in behaviour within the framework of a macro-economic model. The economic costs in terms of slower growth depend on the willingness of various social groups to adjust to the changed situation. Since in the case under consideration the low inflation countries are not willing to adjust, it is only the adjustment costs resulting from a reduction in the level of inflation that are of interest.

### National Preferences

As far as the European countries are concerned, it appears that in general the situation is specific to each country. In particular, the inflation rate (consumer prices) has no clear influence on the macro-economic growth rate; in 1989, for example, the rise in consumer prices ranged from 1.1% in the Netherlands to 15.3% in Greece. From this it can be deduced that the inflation rates that are typical for each country, even over long periods of time, are the result of national preferences rather than mistaken economic policies. Consequently, all speculation about future changes in behaviour must be regarded as highly uncertain, in other words the costs of a possible surrender of autonomy are to be considered to be very high and not just a once-and-for-all occurrence.

On the benefits side, a distinction has to be made between the avoidance of direct and indirect costs. Charges for the conversion of one currency into another, the cost of cover for exchange risks and general information costs are directly attributable and quantifiable. Such costs do not arise in all cross-border transactions, however, for it can be assumed that there will be a high degree of internal offsetting in the trade conducted by large enterprises. Moreover, the cost margins that can be quoted for international payments do not apply universally, since they depend strongly on the respective volume of transactions.

According to a study by Ernst & Young, medium-sized enterprises estimate such costs at between 1 and 2% of turnover.<sup>5</sup> For multinational corporations, on the other hand, the banks' exchange rate spreads and hence the

companies' conversion costs – which are the largest component of the total cost – are less than 0.5% of the proceeds and often far less. If it is assumed that the bulk of trade is transacted by large enterprises, the average direct costs of a multiple-currency system for all the enterprises affected should be between 0.5 and 1% of their trade turnover.<sup>6</sup>

Foreign exchange commissions for individuals are far higher than for firms, since individuals transfer only relatively small amounts and often require banknotes, for which the exchange rate is often significantly worse than the cheque rate. Since minimum fees (for the issue of foreign cheques, for example) also play a role in this market segment, the conversion costs are probably between 2 and 3%.

An estimate of the possible direct cost savings shows that the effects are large in absolute terms but not particularly high in relation to GDP. Assuming for the sake of simplicity that 50% of trade is invoiced in foreign currency, then the volume of intra-Community trade under consideration was around DM 550 billion in 1988.<sup>7</sup> Calculating information and transaction costs at between 0.5 and 1%, this would give, *ceteris paribus*, a Community-wide potential saving of between DM 3 and 5 billion. The amounts involved on account of travel and long-term capital flows are far smaller<sup>8</sup> and therefore have no significant effect on the overall figure.<sup>9</sup>

Indirect benefits also have to be taken into account. Chief among these is the elimination of exchange rate uncertainty as a result of joining a monetary union. Although this effect stands out clearly by comparison with sharply fluctuating exchange rates, the additional benefit is questionable in relation to the status quo in the EMS. Without doubt, the much quoted trade-creation effects and hence the increase in prosperity that 1992 is expected to bring will come about in any case under the existing EMS arrangements.

A comparison of the costs and benefits of European monetary integration set out so far already allows the following conclusions to be drawn:

<sup>5</sup> Cf. Winfried Münster: An Währungsvielfalt verdienen vor allem Banken, in: Süddeutsche Zeitung, 17. 9. 1990.

<sup>6</sup> Pure payment transfer costs are not to be counted as part of the costs of a multiple-currency system, however.

<sup>7</sup> See EuroStat for bilateral trade flows.

<sup>8</sup> In the case of Germany, for example, exports to and imports from EC countries totalled DM 536 billion in 1988, whereas expenditure on travel came to only DM 30 billion and the sum of German long-term net investment abroad and foreign long-term net investment in Germany (as an approximation for autonomous capital movements) to DM 86 billion, with the margins on capital transfers normally being very low. See the statistical supplements to the monthly reports of the Deutsche Bundesbank.

<sup>9</sup> A study by the EC commission puts the annual savings as a result of the disappearance of foreign exchange transaction costs at between DM 27 and 39 billion; cf. Impulse durch die WWU, in: Neue Zürcher Zeitung, 21. 10. 1990.

□ Any attempt to quantify costs and benefits is subject to extremely wide margins of error owing to the necessarily speculative assumptions that have to be made. Estimates of costs, in particular, are almost impossible to make, for here according to our understanding preferences are being violated and there is no known social welfare function whereby the costs could be made comparable.

□ Even rough calculations of the gain in benefits suggest that the benefits of a monetary union encompassing all the EC countries would not necessarily outweigh the costs. At the same time, in some cases monetary policies have probably been aligned so closely that the costs of monetary union would probably be small by comparison with the benefits. Hence there is something to be said for an optimum solution somewhere between the extremes of "no monetary union" and "monetary union of 12".

□ It is therefore a question of finding an assessment criterion that on the one hand solves the problem of quantifying monetary costs and benefits and on the other permits of gradualism. For practical reasons, it makes sense to reduce the possible integration costs and benefits to a few key points.

### Simplified Model Approach

Since optimum currency areas define the size of the region to which the use of a currency is to be extended, from the point of view of Germany the question arises as to the number of countries, either within or outside the EC, in which the D-Mark is to be legal tender. If it is assumed that both the costs and the benefits of integration in a larger currency area are a function of the number of acceding countries (with marginal benefits declining in relation to the number but marginal costs increasing), neo-classical marginal analysis offers a simple but theoretically decisive criterion: the optimum number of participating countries in a relatively large currency area is that number at which marginal integration costs just balance the marginal integration benefits. If one wishes to apply this optimisation concept, it is necessary to define measures of the above costs and benefits of monetary integration, or at least appropriate proxies.

From the point of view of the D-Mark as the core or anchor currency of the currency area, the (squared) deviation of annual inflation rates from the German level can be used as a yardstick for integration costs. The potential member countries can then be arranged in ascending order according to the resulting coefficients of

variation. Finally, if the coefficients of variation are added together for the inclusion of each additional country, one obtains a measure of the integration costs.

As explained above, the benefits of integration are determined to a high degree by the extent to which the potential member countries trade among themselves. A meaningful empirical indicator would be their foreign trade with one another as a proportion of their combined GDP. Data for a representative year is usually sufficient, as trade shares tend to be highly stable or "sticky". The trade integration coefficients should also be added together for the inclusion of each additional country in the same order as for the integration costs so that they reflect the benefits of integration.

### Empirical Estimate

The empirical filling-out of the model described above was limited to 11 EC states (Belgium and Luxembourg already have a common currency) and Austria, which has applied to join the EC and is relevant in any case from the German viewpoint because of the schilling's close ties to the D-Mark. On this basis, econometric estimates of the integration costs function for the years 1985-89<sup>10</sup> and of the integration benefits function for 1988 combined with the use of the optimum calculation described above<sup>11</sup> show that from the point of view of the D-Mark the optimum currency area consists of five countries (the mathematical value is actually 5.01); these are Germany, Austria, the Netherlands, Belgium-Luxembourg and France.

The results are not significantly affected by changes in the base period; the optimum number of countries for various alternatives within the overall time-span 1979-89 remains five. Although the first four countries are the same in each case, in one instance the fifth country is Denmark instead of France and for the most recent years (1987-89) Ireland.

Once again, a number of interim conclusions can be drawn on the basis of the empirical estimate of the model:

□ The curve of integration costs and benefits shows that in the case under examination an optimum solution can be found, which could by no means be taken for granted.

□ In view of the steadily rising benefits curve it can be concluded that the countries in question form an interdependent area and hence that with a reduction in costs the maximum variant of a monetary union

<sup>10</sup> This 5-year period was chosen to eliminate random movements in particular years and to take account of the 1983 economic policy change in France.

<sup>11</sup> For a description of the precise function types and a more detailed justification of the yardsticks used, see Lukas Menkhoff, Friedrich L. Sell: Überlegungen zu einem optimalen DM-Währungsraum, University of Giessen, Discussion Papers in Development Economics No. 10, Giessen, December 1990.

comprising 12 countries may also become rational on economic grounds.

□ Whether Austria is included or excluded makes only a small difference to the optimum number of countries forming the currency area but has no significant effect on the choice of the other states. The Benelux countries belong in any case, while France, Denmark, Ireland and in certain circumstances the United Kingdom are borderline cases. The Southern European countries, on the other hand, are at present hardly suitable candidates for membership of a common European monetary area.

### Discussion of the Solution

The most dangerous misinterpretation of the above proposal for a small European monetary union of five countries would undoubtedly be to take the view that it was underpinned by some kind of economic "proof". This would be impossible in principle for an economic policy proposal based on a weighing-up of competing objectives. On the other hand, a clarification of the "price" of membership may delimit the range of possibilities that could rationally be implemented.

The procedure we adopted offers a clear indication in this respect; the trend of the integration costs and benefits curve suggests that the optimum number of countries lies in the middle of the range. Which countries this should be depends on their inflation preferences: the more their behaviour patterns are attuned to the high rates of price increase seen in the past, the smaller will be the optimum number of participants. Ultimately, a political decision must be taken, based on the costs and benefits.

It is unimportant whether the monetary union so defined has several currencies with fixed reciprocal exchange rates or only a single currency, and it is equally unimportant what that currency is called. Logic would probably incline towards the creation of a new common currency.

The greatest obstacle to the implementation of the proposal outlined here lies not in economic considerations but in political resistance, which has to be respected. It is understandable that a division of the EC countries into those participating in a small monetary union and those remaining on the outside will cause problems. It would be important to ensure that the small monetary union remained open to qualified applicants and to convey that message credibly but at the same time to point out that it is in no-one's interest to subject countries with wide

economic disparities to the same treatment or to remove buffer mechanisms prematurely.

There is one final argument in favour of a small monetary union. In the conflict between the objective of rapid progress with a small number of members and that of slower advance with wider participation there appears to be no gradual substitution relationship but a critical point with regard to the number and size of participants. A study of successful and failed monetary unions found that those that had failed all had one point in common: "The four failed unions were each composed of between three and five countries of similar economic size."<sup>12</sup> The small European monetary union would avoid this problem.

### Conclusion

At the present stage of European economic development, there are therefore several arguments in favour of the concept of a small European monetary union:

□ *Cost-benefit considerations* show that a decision on the size of an optimum European monetary union, as opposed to the choice between all and nothing that seems to dominate public discussion of the issue, has to be reached gradually. Judging purely on the basis of the scale of the amounts involved, it is questionable whether the direct annual savings of perhaps DM 5 billion or a little more plus unquantifiable indirect benefits justify the likely lasting adjustment costs.

□ The *model* used to determine the optimum number of participants shows, from the German point of view, that a European monetary union should almost certainly comprise Germany, the Benelux countries and Austria and that France, Denmark, Ireland and possibly the United Kingdom<sup>13</sup> are marginal candidates. On the other hand, according to these calculations the Southern European countries of Italy, Spain, Portugal and Greece are not ready to participate in a large European monetary union in the near future.

□ *Historical evidence* suggests that a monetary union with three or more equally strong members has poor chances of success, whereas in the past smaller solutions have tended to achieve their objective.

A small European monetary union comprising initially five or six countries would therefore be preferable to the current proposal for an arrangement encompassing all the EC countries. It would be economically sound, could be negotiated relatively quickly and would serve as the nucleus of an eventual larger European monetary union that could then also include eastern European countries.

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<sup>12</sup> Robert F. Graboyes: The EMU: Forerunners and Durability, in: Federal Reserve Bank of Richmond, Economic Review, July-August 1990, pp. 8-17, here p. 15.

<sup>13</sup> This probably does not apply to the United Kingdom in the present situation.