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Friedrich L. Sell*

A Two-Speed Europe: How (Un)Stable Would Such a Solution Be?

Assuming the convergency criteria are not watered down, European Monetary Union will begin on 1.1.1999 with just a few core countries. With the help of the theory of clubs, Professor F. L. Sell analyses the incentive effects of the "monetary club" on founding members and "outsiders".

Since the EU finance ministers met in June 1995 it has become clear that a European Monetary Union - in whatever form it may take - can begin in 1999 at the earliest. As long as the so-called Maastricht criteria are not abandoned before then, it seems likely as far as anyone can judge that only a minority of EU countries will qualify as founder members of the monetary union.¹ From today's point of view, Germany and Luxemburg, the other Benelux countries (?) and possibly Ireland, Austria and France presumably have the best chances of meeting the Maastricht stipulations.² What, though, will happen to the other EU member countries afterwards?

If we assume that most of the "outsiders" will continue to strive for membership of the European Monetary Union at a later date, then there are, in principle, two conceivable ways of getting there: the shorter way would be to water down the Maastricht criteria in order to enable the "latecomers" to join within a period of a few years; the longer way would rigorously demand that qualification at a later date comply with the original Maastricht criteria. In either case, however, the phenomenon of a "two-speed" Europe would arise, a situation which has thus far been defended by the majority of relevant economists - and indeed, until quite recently, by the author of this article, too.³

The arguments put forward are plausible: if the exchange rates - between relatively heterogeneous partners judging by the Maastricht criteria - were fixed irrevocably, a considerable fall in employment would soon result in regions of Europe with productivity deficits unless wages policy were

prepared (practically for the first time since World War II) to assume the entire adjustment burden.⁴ Since a solution of this kind would probably be politically unacceptable, a massive excess demand for transfer payments from central EU cohesion funds, regional funds and/or structural funds would ensue. As an unavoidable result, the fiscal situation within the monetary union would become strained and the European Central Bank would presumably be unable to evade pressure to take on "responsibility for Europe's economy". The foundations of European Monetary Union stability would be in jeopardy! Particularly stability-oriented countries would possibly even consider the alternative of leaving the monetary union.

A Discussion Based on the Theory of Clubs

It is quite possible to compare the "benefit" of a common currency area with the benefit of membership in a club: the "club good" - the use of which can on principle be denied to non-members - is represented as it were by the common price level stability (measured by the inflation rate) of the

¹ This, incidentally, is also assumed by the European Commission in its Green Paper; cf. Europäische Kommission: Eine Währung für Europa. Grünbuch über die praktischen Verfahren zur Einführung der Einheitswährung, Brussels 1995, p. 4.

² Whichever countries may be considered favourites to fulfil the Maastricht criteria - e.g. by examining individual figures - is, however, completely inconsequential for the following analysis.

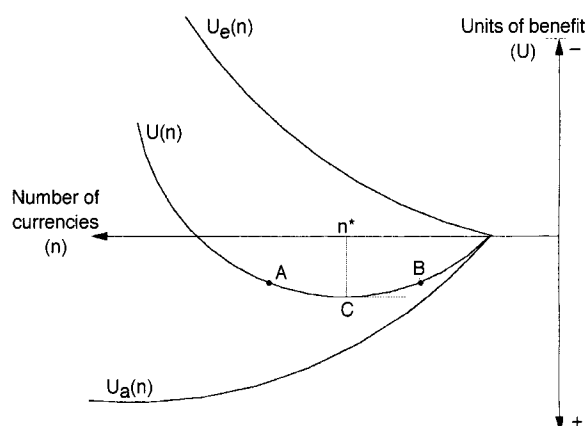
³ Cf. L. Menkhoff, F. L. Sell: The Advantages of a Small European Monetary Union, in: INTERECONOMICS, Vol. 26 (1991), No. 2, pp. 64-67; L. Menkhoff, F. L. Sell: Überlegungen zu einem optimalen DM-Währungsraum, in: Zeitschrift für Wirtschafts- und Sozialwissenschaften, Vol. 112 (1992), No. 3, pp. 379-400.

⁴ As there are already considerable obstacles to intranational mobility within the European states, it is unrealistic to assume that adjustments could take place by means of manpower migration.

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common currency and the "secondary virtues" which result (share of the seigniorage of the common central bank, reputation of the common central bank as a "player" within the framework of international policy coordination, avoidance of information and transaction costs, etc.) The "costs" of participation result

Figure 1
Determining an Optimal Number of Currencies
in the Global Economy



n = number of different currencies in the world (with flexible exchange rates)
 $U_a(n)$ = benefit thanks to the ease of stability and adjustment policies
 $U_e(n)$ = benefit thanks to the ease of exchange
 $U(n) = U_a(n) + U_e(n)$ = total benefit
 n^* = optimal number of currencies in the world

whereby

$$\begin{aligned} U'_a > 0, U''_a > 0 \text{ for } n < n^*, \\ U'_a > 0, U''_a < 0 \text{ for } n > n^*, \\ U'_e < 0, U''_e < 0 \text{ for all } n. \end{aligned}$$

Source: F. Rühl: Optimale Abgrenzung von Währungsgebieten: Ein Literaturüberblick, in: Kredit und Kapital, Vol. 8 (1975), No. 1, pp. 123-150; author's own design.

above all from the renunciation of autonomy in economic policy (stability and adjustment policies) and from the loss of an important and versatile economic-policy instrument, the exchange rate.

Following F. Rühl,⁵ the effects of the stability and adjustment argument on the one hand, and the exchange argument on the other on the number of currencies or "currency clubs" in the world can be shown graphically as in Figure 1.

The EMU which Europe is aiming for presents quite a similar problem: the introduction of the euro as a currency leads, ceteris paribus, to a reduction of the number of different currencies in Europe. However, it is not possible to determine ex ante whether there will be a movement from A towards C (see Figure 1) and the optimum, or whether the movement is towards B, i.e. beyond the optimum.

Another way of looking at the same problem is to examine the incentive structure when clubs are formed: the theory of clubs has shown that a range of problems arise whenever a new club, in other words a new currency, is created, even if a virtually homogeneous "population" is assumed.⁶ This can be demonstrated using Table 1:

The total net benefit – defined as the difference between benefit and cost – for the currency area (in relation to the number of participants) and the average net benefit for individual participating countries are given for a population (any population) of twelve countries. Empirical cost-benefit analyses for currency areas in Europe have revealed that the assumption of a maximum in the total benefit function in relation to the number of participants is justified.⁷ The following alternative scenarios can be distinguished:

□ Case a: The total net benefit increases gradually until the maximum is reached and falls away relatively steeply thereafter.

□ Case b: The total net benefit increases and falls

Table 1
Size of the Common Currency Area and Net Benefit of Membership

Size(n)		1	2	3	4	5	6	7	8	9	10	11	12
Total net benefit for the currency area	(a)	0.4	1.5	9	16	17.5	18	14	8	0	0	0	0
	(b)	0.4	1.5	9	16	17.5	18	17.5	16	9	1.5	0.4	0
	(c)	0.4	8	14	18	17.5	16	9	1.5	0	0	0	0
Average net benefit for an individual country	(a)	0.4	0.75	3	4	3.5	3	2	1	0	0	0	0
	(b)	0.4	0.75	3	4	3.5	3	2.7	2	1	1.5	0.036	0
	(c)	0.4	4	3.6	4.5	3.5	2.6	1.28	0.13	0	0	0	0

Source: T. Sandler, J. T. Tschirhart: The Economic Theory of Clubs: An Evaluative Survey, in: Journal of Economic Literature, Vol. XVIII (1980), p. 1481 ff.; author's own compilation.

gradually and symmetrically on each side of the maximum.

□ Case c: The total net benefit increases relatively steeply until the maximum is reached and falls away even more steeply thereafter.

Let us assume – and this is not very far removed from reality – that the Maastricht criteria are constructed in such a way that on founding the European Monetary Union the total benefit of the currency area is as large as possible (although the maximum will probably not yet be reached): for example, initial EMU membership of $n = 3$ results in 9 units of net benefit (UNBs) in cases a and b, and 14 UNBs in case c. If three further candidates “qualify” a few years later (one further candidate in case c), the currency area could achieve the greatest total net benefit of 18 UNBs (cases a, b). But is this realistic, or to be more precise, rational, from the point of view of those involved?

Hardly. Let us first of all consider the founder members of the European Monetary Union. As far as

they are concerned, the admission of further participants over and above $n = 4$ is not particularly desirable (not even for the EMU as a whole in case c), since the average net benefits for $n \geq 5$ become smaller. This is because the core countries are characterised by similar preferences for stability as well as by a significant volume of trade exchange with each other. While the admission of further members to their club leads to further (modest) savings for them, too, as far as transaction costs are concerned, these savings will presumably be more than offset by the

⁵ F. Rühl: Optimale Abgrenzung von Währungsgebieten: Ein Literaturüberblick, in: Kredit und Kapital, Vol. 8 (1975); No. 1, pp. 123-150.

⁶ In reality, of course, the EU countries represent a very heterogeneous population. R. Cornes and T. Sandler have demonstrated, i.a., that the problems which arise when founding a club then tend to increase: “If, on the other hand, we have a heterogeneous population, sub-groups must first be formed. Each homogeneous group will then be broken down into clubs, in which the average net benefit will be maximised and discrimination excluded.” R. Cornes, T. Sandler: The Theory of Externalities, Public Goods, and Club Goods, Cambridge 1986, p. 291 ff.

⁷ Given a convex cost function and a concave benefit function; cf. L. Menkhoff, F. L. Sell: Überlegungen zu einem optimalen DM-Währungsraum, op. cit., pp. 390-395.

Erhard Kantzenbach/Otto G. Mayer (eds)

Von der internationalen Handels- und Wettbewerbsordnung

The Uruguay Round was concluded in 1994 after more than seven years of eventful negotiations. The aim of the negotiations was to stem neoprotectionism and reform GATT. An additional aim was to adapt the world trade order to increased interdependence in the world economy. For this purpose, the areas of services and intellectual property rights were to be extended, while exceptional areas such as textiles and agricultural trade were to be reintegrated.

The contributions made and papers read at a HWWA Institut conference on this topic deal not only with the question of what was actually achieved with the Uruguay round, how its results should be assessed and what the impact is likely to be. They also investigate the extent of the new priorities in trade policy. The topics dealt with in this volume also include questions which constitute the future trade policy agenda of the newly created World Trade Organization (WTO), e.g. protection of the environment, social standards and an international competition order. The volume also contains a German translation of the Draft International Antitrust Code (DIAC) with the aid of which, along with other approaches, multilateral rules governing international competition are to be established.

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■ remainder as in German text



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dilution of their stability-oriented community. Yet this means that there is an incentive either to refuse membership to new candidates⁸ or alternatively, if necessary, to drop out themselves and create a new club together with other countries. The theory of clubs predicts that (in our example) the population of twelve will continue forming new clubs until no member has any positive reason to leave the existing clubs.⁹ This is precisely the case in our example (for a, b and c) when three clubs emerge with four members each, whereby each member "receives" four UNBs (4.5 in case c).¹⁰ Only then, expressed in terms of allocation theory, do we have a so-called "core".¹¹

From the point of view of the "EMU seconds" it is therefore not rational to "wait" for collective admission (of up to nine countries) after considerable efforts on their own part to achieve qualification. At best, only a meagre 0.036 UNBs could be attained by eight additional members. These countries though, as explained above, would do significantly better to form two new clubs.¹²

Conclusions for the EMU

The question of incentives discussed in the theory of clubs has clearly shown that on introduction of the EMU the selection of countries should correspond as it were to the $n = 4$ situation in Table 1 (preferably in scenario c), although it most probably will not. The "slower countries" are recommended to club together with "like-minded" EU members as similar as possible to themselves and so to avoid premature accession to the EMU and the possible discrimination by "day one" club members that this might entail.¹³ Discrimination of the "slower countries" could involve non-proportional participation in decision-making bodies and/or in the seigniorage of the European Central Bank.

As signatories of the Maastricht Treaty, the countries which do not participate in the EMU from the start are obliged to pursue a "convergence and stability-oriented course",¹⁴ yet this does not mean

that they no longer enjoy any degree of freedom¹⁵ in matters of currency policy: for example, the southern EC countries (Spain, Portugal, Greece, Italy) could form their own, second "club", the northern EC countries (Great Britain, Denmark, Sweden, Finland) their own, third "club". This would not necessarily imply their own monetary unions, but the (quasi-) club could take the form of a currency snake – such as once existed in another form before the EMS – and could entail a link to a common basket of currencies or to another currency or finally the "continuation" of the EMS under new circumstances and with different participants. A flexible exchange rate with the euro is also a conceivable solution. However, it was one of the very aims of this paper to question the wisdom of this particular proposal which is voiced most frequently at present. While the joining together of more or less soft currencies does not in itself lead to a hardening of their parities, the disciplining and credibility effects would be greater than if everyone just carried on "muddling through" by themselves.

The question of extending the EMU only becomes relevant again when – possibly as a result of economic and economic-policy adjustment processes – the number and distribution of UNBs in relation to the number of members over time changes noticeably in favour of a much larger EMU.¹⁶ This would also reduce the incentive for the "fast" countries to discriminate against latecomers. In order to achieve a situation of this kind, it may be necessary, but by itself will probably not be sufficient, for the "slow" countries to satisfy the Maastricht criteria. Until then, however, a large number of EU members should not regard themselves as "seconds", but should rather found one or more of their own currency clubs!

⁸ "The discrimination of club members will only be possible if no other unions exist or can be founded."; cf. R. Cornes, T. Sandler, *op. cit.*

⁹ "...an individual's net benefit from club membership must be at least as great as the net benefit of dropping out of the club."; *ibid.*

¹⁰ "As Pauly has shown, the union-formation process will only come to an end when in each union all members receive the same number of units of benefit and there is no disparity in the respective union sizes"; cf. R. Cornes, T. Sandler, *op. cit.*, p. 201.

¹¹ "In club theory, the existence of a core implies that no subset of club members can improve their cost-benefit allocation by dropping out and forming a smaller club"; cf. J. R. Sorensen, J. T. Tschirhart, A. B. Whinston: Private Good Clubs and the Core, in: *Journal of Public Economics*, Vol. 10 (1978), p. 81.

¹² "If $n=12$, it is Pareto-optimal to found 3 clubs, each with 4 members. Here the total net benefit is maximised ($3 \times 16 = 48 > 36 = 2 \times 18$) and is significantly larger than it would be with 2 clubs, each with six members. Total net benefits are maximised when each club is maximising average net benefits and everyone is in a club"; T. Sandler, J. T. Tschirhart: The Economic Theory of Clubs: An Evaluative Survey, in: *Journal of Economic Literature*, Vol. XVIII (1980), p. 1504.

¹³ "But if two members were discriminated against in a like manner, so that $U(4) = (0.4; 0.4; 7.6; 7.6)$ members one and two could either abandon the club and form a new club of two or they could be joined by either member three or four in a new club of three"; *ibid.*, p. 1500. The discriminatory distribution of benefits used here by Sandler and Tschirhart is conceivable in cases a and b, while in case c the discriminatory solution could be $U = (0.4; 0.4; 8.6; 8.6)$.

¹⁴ Europäische Kommission, *op. cit.*, p. 45.

¹⁵ Quite apart from the "opting out" clauses for Denmark and Great Britain.

¹⁶ And thus the incentive for the "fast countries" to discriminate against latecomers grows smaller or disappears altogether!