Concrete steps towards monetary union*

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Introduction

The topic of this session is European Monetary integration, which is an ongoing process. A logical way to structure a discussion about this process is to ask three questions:

1. Where? That is, where should it lead us?
2. Why? That is, what are the economic reasons for advancing on the road of monetary integration?
3. How? That is, what "concrete steps" should be taken to take us where we want to go?

The following three sections try to sketch out a necessarily incomplete answer to these three questions.

I. Where: the meaning of monetary union

It is generally agreed that the endpoint of monetary integration should be a monetary union. But the meaning of this notion is not always clear. For the Delors Report the principal features of a monetary union is a the combination of two elements:

i) the complete liberalisation of capital transactions and full integration of banking and other financial markets; and

ii) the elimination of margins of currency fluctuation and the irrevocable locking of exchange rate parities.

The Werner plan stated explicitly that this would make national monies perfect substitutes and therefore be equivalent to the creation of a common currency. A similar view seems to underlie the Delors Report, but is not made explicit.

The purpose of this section is to argue that a system of irrevocably-fixed exchange rates would not be equivalent to a full monetary union with a common

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currency because as long as national currencies continue to exist there are different units of account and there are transactions costs in going from one currency to another.

These transactions costs are the most important barrier to making national currencies perfect substitutes, even with irrevocably-fixed exchange rates. For a person doing his shopping in Germany the Italian lira will not be a perfect substitute for marks if he has to exchange them for marks prior to every transaction. Exchanging currency involves a cost in the form of the bid-ask spread, which would continue to exist since financial institutions would still have to use them (or foreign exchange commissions) to cover the costs they incur by holding bank notes in different currencies and having to set up several accounting systems. This cost is not negligible; it varies with the size of the transaction. For cash it might be as high as 2-3%[1]. This is true even for very stable exchange rates, such as the mark-guilder. Market size seems to be a more important determinant of the spread, since in most European countries the spread on the US dollar is lower than on other European currencies. This implies that fixing exchange rates is unlikely to reduce these costs from their present high level.

For these reasons it is unlikely that the fixing (even if it is supposed to be irrevocable) of exchange rates in Europe will make national monies perfect substitutes. Does this matter? We think it does, mainly because most of the benefits from a monetary union cannot be obtained, or at least only partially obtained in a system of irrevocably-fixed exchange-rates. In contrast, the main cost associated with a monetary union, namely the loss of the exchange-rate as a policy instrument, would arise even in a fixed exchange-rate system. This point is discussed in more detail in the following section.

The fixing of exchange rates in a monetary union determines only relativities, i.e. the relationship between national monetary policies and price levels, per se this has no implications for aggregate variables, i.e. the overall stance of monetary policy and the inflation rate for the entire area. There is wide agreement, however, that the European monetary union should be an area with stable prices. Although most of the discussion of the following section is about the benefits of fixing or even eliminating the relativities (i.e. exchange rates) it is apparent that the benefits could easily be lost if overall inflation is not under control. We therefore assume implicitly that the institutional steps discussed in section IV below do not manage only the fixing of exchange rate, but also leads to an overall policy that assures price stability.

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[1] For inter-bank transactions the bid-ask spread is usually much lower, between most major currencies it is about 0.05-0.1%. For the corporate sector different national currencies (and the ecu) might therefore more easily become very good substitutes. However, most transactions balances are held by households.

II. Why: costs and benefits from monetary union

II.1. Irrevocably-fixed exchange-rates: costs and benefits

Since the present EMS, realignments of central rates are already infrequent what are the costs and benefits of formally renouncing future use of realignments between participating currencies?[2] In our view the answer comes from the general issues raised by the traditional literature of the optimum currency area and the credibility issue raised by the more recent literature on incentives for policy-makers to behave in a time-consistent manner.

Traditional macroeconomic theory suggests a general answer to the question of why realignments represent a useful policy option: governments may find realignment desirable, if the economies for which they are held to be responsible to their electorates experience differentiated shocks[3]. The shocks may be external or domestic in origin; a major energy price-hike or a domestic cost-explosion are examples that come readily to mind. Having experienced such a shock, a government would come to regret an earlier commitment to a fixed exchange rate, since accommodation of the shock through realignment may entail lower costs of adjustment than the alternative of much more gradual adjustment of relative national price-levels.

The emerging acceptance of EMU as an objective is, above all, an implicit recognition by most EC governments that the likelihood of large and nationally-differentiated shocks is fading and that realignments are less useful as an adjustment instrument. Both of these elements are important:

i) Nationally differentiated shocks constitute the only economic justification for a realignment. However, there is some recent research that indicates that for most member states of the European Community (Stockman [1985]) the most important shocks are industry specific. Although there are large differences in the industrial structure across member states these shocks tend to cancel out since most economies are based on a member of different sectors. Nationally differentiated shocks, that are not induced by (national) economic policy measures are therefore less important than is generally thought.

ii) Realignment, that is changes in the *nominal* exchange rate, constitute the appropriate reaction to a shock only if there is some rigidity in nominal variables, such as prices and wages. Otherwise agents adjust prices and wages proportionally so that all relative prices and real variables are not affected by the realignment. The experience in the EMS suggests that this is indeed what happens. No country has been able to obtain a permanent

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[2] *Gros* and *Thygesen* (1990) discusses also a number of more specific issues often raised in more policy-orientated discussions in Europe.

[3] See, for example, the survey by *Cohen* (1989).

competitive advantage by relying exclusively on realignments. In the absence of accompanying measures devaluations have tendend to cause mainly inflation.

Even if this recognition is widely shared, governments are correct in perceiving that their ability to conduct active stabilisation policies is constrained by irrevocable fixing exchange rates. Moreover, modern macroeconomic theory points out that since monetary expansion and devaluation are at their most effective when least expected, the short-term rewards of breaking the fixed exchange-rate commitment could well be seen as rising for a time after the declaration of an intention to keep the rate irrevocably fixed.

This suggests that governments may have incentives to opt out, in order to pursue macroeconomic objectives. For one major category of shocks to a participating economy—changes in domestic economic policy that make the fixed exchange rate unsustainable—there is clearly no independence of the exchange-rate régime. In EMU policy shocks would be limited to those that do not threaten to upset fixity. Governments that see a priori the remaining scope of action as too narrow will perceive a likely cost in joining EMU. Could that cost be offset by benefits?

A government which explicitly wants to retain freedom to realign its exchange rate—or a government whose commitment to fix the rate remains subject to some doubt—pays a price. Agents in the national markets for goods, labour and financial assets will assume that freedom of manoeuvre will occasionally be used. They will tend, in an economy whose currency could become subject to devaluation, to set a more rapid rate of increase of prices and costs and to add a risk premium to the required yield on assets denominated in the national currency. Higher inflationary expectations would raise actual inflation and nominal interest rates. If the exchange rate in fact remains fixed, there will be temporarily higher inflation and lower output than in the situation where the commitment to fixity had been seen as truly irrevocable. If the currency is in fact devalued, the critical perceptions of private economic agents will have been borne out and a non-inflationary reputation will be that much harder build up in the future.

In general macroeconomic terms the basic cost-benefit assessment of irrevocably fixing exchange rates has therefore to include (1) the cost of giving up the possibility of accommodating differentiated, major and non-transitory national shocks, against (2) the benefit of more definitively strengthening confidence in the long-run predictability and stability of the price level. The verdict on how the balance between (1) and (2) comes out for any particular participant must necessarily be subjective, since its depends on the likelihood of future shocks and the degree of credibility of political agreements. All that can be said in confidence is that the balance between costs and benefits must have shifted significantly in favour of the latter as the likelihood of differentiated

shocks within the EC is reduced while benefits of full convergence of interest rates and of inflationary expectations at a low level have become more clearly perceived.

Moreover, the potential costs of irrevocably locking exchange-rates have already to some extent been incurred by participants in the present EMS since countries like France and the Benelux have already declared their intentions not to use realignments anymore and movements of exchange rates inside the band are too limited to have any real impact. The macroeconomic benefits, in the form of greater predictability and stability of the future price level and firmer protection against nationally-engineered policy shocks are still—despite the sparing use of realignments in the EMS since 1983—some way from being realised. Nor is it obvious that they could be realised fully without the additional step of introducing a common currency to underline the definitive nature of EMU. To us the benefits of irrevocably fixing exchange rates are in themselves already sufficiently substantial to offset the costs outlined above. But the move to a common currency would in our view more decisively shift the balance of costs and benefits in favour of the latter. Hence we deal with these benefits in the following section.

Fixing exchange rates also yields the microeconomic benefit of eliminating the uncertainty introduced into international trade by exchange rate variability. Exporters and importers can, however, hedge against this source of uncertainty at a low cost if they have access to a sophisticated financial market. With the increasing opening and sophistication of financial markets in the Community, exchange rate variability should therefore be less of an obstacle to international trade. This is borne out in the empirical literature on the effect of exchange rate variability on trade which has not been able to find a strong negative relationship. Moreover, the present EMS has already reduced exchange rate variability inside the ERM to about one fourth of the level experienced in the 1970s, the elimination of this residual degree of exchange rate variability can therefore not be expected to yield substantial benefits in terms of increased intra-European trade.

II.2. Additional benefits from a common currency

The main reason to expect additional benefits from a common currency are that only a common currency eliminates transactions costs and allows for a complete integration of markets. The elimination of transactions costs has been estimated to yield a savings in resources of about one-forth to one-half of 1% of the GDP of the Community. This is small, but not insignificant since it amounts still to about 10 to 20 bill. Ecu per annum in absolute terms[4].

[4] See *Gros* and *Thygesen* (1990) for more details.

In our view the complete integration of markets through the elimination of information costs and of incentives for price discriminations is more important than the savings in transactions costs. These indirect effects, are, however, impossible to measure with any precision; all that can be said is that they could easily be in the neighbourhood of the gains from the 1992, internal market, programme that is estimated to yield gains of about 4.5 to 6.5% of the GDP of the Community.

III. How: concrete steps

What needs to be done to achieve the goal of monetary union? In this section we discuss what concrete steps need to be taken. We start with a brief discussion of what measures need to be taken in those countries that still experience large imbalances to enable them to participate in a monetary union that aims at price stability. This is followed by a discussion of the merits of the institutional versus the market-led approach and finally by the steps that may be taken within the approach of the Delors plan.

III.1. Concrete steps at the national level: disinflation and convergence

A number of member countries are not even able to participate in the ERM, among those that do there are some that would have considerable difficulties in participating in a monetary union that pursues price stability. In these countries inflation and inflationary expectations are still high; both cannot be expected to be immediately brought down to zero or even close to zero since it takes some time for agents to adjust to a new environment with stable prices. Moreover, agents would be justified in adjusting their expectations and behaviour slowly as long as the underlying imbalances that cause inflation have not changed. Since large public deficits and debts constitute to the main reason for governments to pursue inflationary monetary policies the disinflation effort would benefit from convergence in fiscal policy. The precise need for disinflation and convergence varies, of course, from country to country. We have therefore indicated in Gros and Thygesen (1990) what would need to be done in each country. We consider these measures "concrete steps" that are as important as the institutional steps along the lines of the Delors Report that are discussed below.

III.2. Institutional versus market-led approaches to monetary union

This paper has argued so far that a monetary union with a common currency would bring sizeable net economic benefits. For some observers a natural corollary has been that no further official action to create new institutions is needed because if the gains from currency unification are real they will lead markets to move spontaneously towards the adoption of a single currency. The

only official action required would be to eliminate all legal restrictions that impose the use of national currency. It would not be necessary to fix exchange rates and coordinate national policies.

The economic logic behind the general idea is quite straightforward: in general competition is the best market structure; it should therefore also be applied to the choice of money. The public would then choose the best one, presumably the one that is the most convenient because it offers the most stable purchasing power.

However, as argued in more detail in Gros and Thygesen (1990), this approach exaggerates the influence of currency competition in an environment of moderate inflation rates an is also not really in conflict with the institutional approach along the Delors report. This market-led approach should rather be thought of as substituting only for stage II of the Delors Report since if it were successful in establishing a common currency through the market there would still be a need for a common monetary institution to formulate and execute the monetary policy for this common currency.

Moreover, the argument that only competition between national monetary policies ensures price stability exaggerates the influence of currency competition and overlooks the difficulties in determining a stable anchor for prices and expectations that would arise in a stage I environment. Private markets do not always adopt the currency with the most stable purchasing power. The US dollar, for example, has not lost its position as the dominant international currency although it has on average over the last twenty years lost more of its purchasing power than the DM (and more recently the yen). The reason for this is that there are economies of scale in the use of money. Stability of purchasing power is only one of the determinants of the "success" of a currency.

III.3. The institutional approach: the stages of the Delors Report

The Delors Committee was asked by the European Council to "Study and propose concrete stages leading towards this union" (i.e. EMU)[5]. We assume the reader is familiar with the three stages of the Delors Report and discuss them in turn.

i) Stage I: tighter voluntary coordination

Stage I is supposed to start on July first 1990, while no date has yet been agreed for its completion. The main feature of this stage is capital market liberalization, new procedures for coordination in the Committee of Central Bank Governors (and the ECOFIN Council) and participation of all currencies

[5] Conclusions of the Hanover European Council, 27-28 June 1988 as reprinted in Delors Report, Annex 1, p. 43.

in the EMS. The main task of stage I would be to develop and ex ante approach to, rather than an ex post analysis of monetary coordination. This would be a significant change, but it remains to be seen to what extent the Governors would actually wish to speak up in their new reports to the European Council and the European Parliament, or in collective opinions on policies in individual countries. Discussions in the Delors Committee in fact suggested that the scope for moving voluntarily, i.e. without institutional change, towards genuine ex ante coordination is likely to be severely circumscribed.

The Delors Committee conducted a small questionnaire study among EC central banks to clarify the scope for moving ahead without Treaty changes. Crudely summarised, the smaller participants did not see major problems in going further in the direction of submitting the policy formulations and decisions to ex ante coordination within the Committee of Governors; the smaller countries have few illusions of monetary autonomy left. But several of the larger countries did not see any possibility of moving significantly further without important changes in national monetary legislation and in the Treaty. The reason is either that national monetary authority is today divided between the central bank and the political authorities, with the latter unwilling to delegate to an unspecified process of central bank coordination, or that the central bank itself has an elaborate decision-making structure which makes it very difficult to conceive that it could delegate, through its President or other participants in the coordination procedures, even non-binding competence to a European body. The former of these two situations corresponds roughly to the set-up in France, and—presumably a fortiori—in the United Kingdom, when sterling joins, and the latter of that in the Federal Republic of Germany. From the perspective of either of these situations there is a need for something more well-defined than voluntary cooperation to put at the centre before genuine change can be expected.

Once the intergovernmental conference is convened, and detailed proposals are made on further stages towards EMU, to be embodied in a revised Treaty, there may, however, be a feedback upon the first stage. Those countries least ready to envisage early Treaty revision may become the most anxious to demonstrate that voluntary coordination replicating the mandatory procedures proposed for subsequent stages can do as well as a reformed system[6]. A constructive feed-back process may start which has been absent in the present EMS as long as there was no prospect (or threat) of institutional change. Such a projection into the practices of stage I of ideas for later full and mandatory coordination would obviously be unobjectionable. If successful, the process would contradict the prediction made above that the first two features of stage I—growing de facto symmetry and a risk of increasing instability upon

[6] Some statements by officials of the Bundesbank and the Netherlands Bank comment on the first stage in this spirit, see e.g. *Pöhl* (1989) pp. 146ff., and *Szasz* (1989).

enlargement—make it unlikely that the system could qualitatively improve or even retain its stability without institutional change.

Our basic assumption is therefore that preparations should be made for the eventuality that stage I might not be stable. Stage I should accordingly be as short as possible, i.e. as long as it takes to negotiate and ratify a revised Treaty. But whether there will actually be a move beyond stage I depends on the specific proposals for stage II.

ii) Stage II: "soft" union and an emerging central bank

Why is an intermediate stage between the tighter, still voluntary, cooperation of stage I and the irrevocable locking of exchange rates, followed by the introduction of a common currency, desirable or even necessary? Would it not be possible simply to extend stage I until this final step were seen by all participants as feasible?

It seems to us unlikely that three elements necessary for the transition to irrevocably-fixed exchange rates and a collectively-managed monetary policy through a European System of Central Banks, could emerge without such an intermediate stage. They are (i) a consensus on the specific formulation of the ultimate objective(s), (ii) a common analytical framework for intermediate objectives and for the design of monetary policy; and (iii) a sufficient degree of experience with common operations. These three elements are part of a learning process in the absence of which we would doubt whether the final step could be taken. We accordingly subscribe to the view of the Delors Report that an intermediate, but not necessarily long, stage is required. In particular, experience in genuine joint decision-making is desirable, before monetary authority is fully centralised in the final stage.

It would be easier in some respects, if such an intermediate stage could be skipped, because the division of responsibility between the national central banks and an emerging ESCB is complex. A clear attribution of responsibilities assuming the cohesiveness of the system is therefore essential.

The Delors Report refrained from presenting a detailed blueprint of the intermediate stage, "as this (transition) would depend on the effectiveness off the policy coordination achieved during the first stage, on the provisions of the Treaty, and on the decisions to be taken by the new institutions" (para. 57). With preparations for the intergovernmental conference accelerating, there is an urgent need to examine how the intermediate stage can provide a framework for the learning process[7]. To the extent that exchange rates become de facto stabilised, and recognised to be unlikely to change, national monetary policies

[7] The following draws heavily on *Thygesen* (1989 b), which is an elaboration of one of the author's contributions to the Collected Papers for the Delors Report, *Thygesen* (1989 a).

will, de facto, become ever more severely constrained. Increasing exchange-rate stabilitiy therefore requires a framework for cooperation and coordination of national monetary policies. The more explicit the degree of exchange-rate fixity, and the higher the degree of capital mobility, the closer must be the coordination and the extent to which the overall policy stance of the participants has to be decided in common.

To implement a common policy, however, requires some consensus about the objectives—ultimate and intermediate, the design of monetary policy and the use of instruments which cannot be said to exist today, at least in any explicit form. The following pages address only the last of these three issues in a highly preliminary way, mindful that all three require very substantial efforts of macroeconomic analysis, study of empirical regularities and assessment of practical feasibility in order to be meaningfully discussed.

For the individual central bank the main operational objective in stage II would be to maintain in a credible way stable exchange rates vis-à-vis other participating currencies. Ex ante coordination of domestic credit expansion (DCE) objectives should make that task easier on average; in practice, the DCE objective may, in particular situations, have to be overridden to maintain shorter-term exchange-rate stability.

Collective formulation of ultimate and intermediate monetary objectives would in itself constitute a major step towards ex ante coordination. The participating central banks would deepen their exchange of information on their respective formulations of monetary policy by giving the reports prepared for them a more explicitly common analytical framework and by formulating joint intervention strategies and guidelines for DCE rather than simply reviewing the past record. Closer coordination could begin even while the guidelines emerging from it are not mandatory, to replicate the effects of a more advanced stage; in principle, this process begins already during stage I.

Yet it is unlikely that anythink resembling closely a common monetary policy could be conducted merely through discussions, but without vesting in the ESCB genuine decision-making powers with respect to at least some significant instruments of monetary policy. But there are difficulties in determining how monetary authority might be shared between a centre—the ESCB Council and Board—and the participating national central banks. The efficiency of operations requires that there should never be any doubt in the financial markets, among national policy makers or elsewhere as to which body has the responsibility for taking particular decisions.

Three types of policy decisions could be considered as being at the core of any design of a workable pooling of instruments or responsibilities within an ESCB in stage II:

(1) adjustment of short-term interest differentials;
(2) intervention policy vis-à-vis third currencies;
(3) changes in reserve requirements.

(1) Short-term interest differentials

Adjustments of relative short-term interest rates constitute the central instrument in managing the present EMS and the main candidate for gradual pooling of authority. A high degree of coordination and occasionally de facto joint, or at least bilateral, decisions has already been observed.

But the gradual and partial upgrading of decision-making on relative interest-rate adjustment from the purely national level to a Community body, in the first stage the Committee of Governors, from the second stage the ESCB Council, will not in itself assure that the average level of interest rates in the participating countries is appropriate, though it should tend to make such an outcome more likely than the present system with its occasional inefficiencies of interest-rate escalations and tensions. To get a firmer grip on the average level of rates, the attribution to the ESCB of an instrument which permits a collective influence on domestic sources of money creation would be necessary. Such an instrument is described briefly below in the form of the ability for the ESCB to impose compulsory reserve requirements on domestic money creation and to develop gradually a market for a European reserve base with its own lending rate.

(2) Intervention policy vis-à-vis third currencies

A second instrument for which some degree of joint management could be envisaged is foreign exchange interventions in third currencies.

While in principle a common intervention policy can be achieved through joint guidelines for essentially decentralised interventions by the participating national central banks, a visible capacity to intervene jointly in third currencies, and to do so in ways that further the cohesion of the EMS, is potentially important. Without a presence in the major exchange markets the ESCB would lack the capacity to check the impact of external financial disturbances on EMS stability at source. Hence "a certain amount of reserve pooling" (Report, para. 57) as well as ample working balances in EMS-currencies would be desirable in stage II.

In a previous publication (Gros and Thygesen [1988]) we suggested how, in the absence of an adequate operational structure, a common intervention policy could be executed through one of the component national central banks. As long as the ESCB does not yet have an operative arm, one national central bank could implement the policy of the ESCB in the market. This central bank would not be only an executing agent, as the New York Federal Reserve Bank, but would be given some discretion in interpreting the policy guidelines formulated by the

board of the ESCB. Until the UK joins the ERM the obvious candidate to fill this position would be the Bundesbank because it already now accounts for the bulk of interventions against third currencies.

The Bundesbank could be relied upon to interpret the policy of the ESCB in a way that is consistent with price stability. This alone would contribute another guarantee that the ESCB will pursue a strict anti-inflationary policy. As exchange rates get closer to becoming irrevocably fixed and the residual national competence in monetary policy disappear this freedom of manoeuvre would diminish until (in stage III?) either the ESCB acquires its own operational arms to deal in foreign exchange markets or the relevant department of the Bundesbank is incorporated into the ESCB.

(3) Reserve requirements

A third instrument, specifically assigned to the ESCB, would be the ability to impose variable reserve requirements on domestic money creation.

The improved substitutability between participating currencies coming from the integration of European financial markets inexorably pushes the thinking of all monetary authorities in the direction of aggregate money creation in the area and to the formulation of intermediate objectives for domestic money creation consistent with an aggregate target and to designing procedures whereby the latter can be kept roughly on their agreed course; Ciampi (1989) provides an analysis of the options available[8].

The essential feature is that the ESCB should be empowered to impose uniform or differentiated reserve requirements on either the increase in the monetary liabilities of each national central bank or on the credit extended by the member banks to their respective domestic sectors. This requirement would be met only by holding reserves with the ESCB; and the supply of reserves would be entirely controlled by the latter through allocations of a reserve asset (official ECUs) to each central bank corresponding to the demand for reserves which would arise, if agreed targets for money creation or DCE were observed. Both cost and availability considerations would provide central banks with an incentive to stay close to declared objectives. The ESCB would have to be given some discretion in extending or withdrawing reserves to provide marginal accommodation. The new system could largely replace the present method of creating official ECUs through temporary swaps of one fifth of gold and dollar reserves as well as the credits extended through the Very Short-Term Facility of the European Fund for Monetary Cooperation.

The system would create a monetary control mechanism analogous to that through which national central banks, who use reserve requirements, influence

[8] The following two paragraphs merely restate the main principles of the scheme, while the rest of the present subsection enlarges on it.

money and credit creation through their banking systems. It would introduce a certain hierarchy into the relationship between the ESCB and its constituent national central banks, while leaving some freedom for each national central bank in designing its domestic instruments.

The reserve requirements might alternatively be applied directly to DCE in the total national banking system, i.e. on the domestic sources of broad money creation. The advantage of this method would be to assign the collective monetary instrument more directly to a natural intermediate objective—DCE—underpinning fixed exchange rates, but it might introduce more slack into the control mechanism, as it would no longer apply to items that appear on the balance sheet of the central banks for which the latter could be regarded as more directly responsible.

A different approach that would allow the ESCB to have a direct impact on conditions in the financial markets could be pursued by imposing a uniform Europrean reserve requirement on commercial bank deposits or on increases thereof.[9] Under this variant all community commercial banks would have to hold a certain small fraction of their deposits as compulsory reserves with the central monetary institution. The only asset that could be used to satisfy this reserve requirement would be "federal funds" which could be denominated in ecu.

The aggregate supply of these federal funds would be strictly under the control of the ESCB, since that would be the only institution that could issue them. The distribution of the total across countries and banks would be left to a federal funds market where commercial banks could trade among themselves the deposits with the central monetary institution which they need to satisfy the European reserve requirement. This scheme would therefore work like national reserve requirements, but on a European scale. The European reserve requirement could therefore be in addition to and independent of national reserve requirements.

This approach would imply that the ESCB would intervene directly in a market that reflects system-wide liquidity conditions. This might be preferable if the task of the ESCB is to be concerned with overall conditions as opposed to the specific conditions in national markets. In order to ensure a gradual transfer of authority from the national to the Community level it might be useful to impose initial limits on the total amount of open market transactions the central monetary institution would be allowed to undertake within a given period. These limits could be gradually relaxed in the course of stage II.

This approach could be implemented in by giving the ESCB the power to impose a compulsory reserve requirement on all deposits of Community

[9] See *Gros* (1990) for more details.

residents with Community commercial banks. To give banks access to deposits with the ESCB the latter could initially buy the appropriate amount of securities in the market. These securities could be denominated either in ecu, or in national currencies, provided the proportion of the different national currencies correspond to the ecu weights. Once the initial amount of federal funds has been created the ESCB could regulate the total amount of federal funds in the system simply by additional open market purchases or sales.

Through its open market conditions the ESCB would be able to directly influence overall liquidity conditions in the system. If it makes an open market sale, reducing the total amount available, commercial banks everywhere in the Community would tend to restrict their deposits because the interest rate on the federal funds market would rise. By limiting the total amount of federal funds that the ESCB makes available to the system it would always be in a position to limit total liquidity creation.

This approach would be compatible with different operating procedures for the ESCB. For example, it could choose an interest rate target and restrict the supply of federal funds whenever the actual ecu or federal funds interest rate fell below the target and vice versa if interest rates go above the target. But it could also target the quantity of federal funds by not intervening in the federal funds market and letting the interest rate adjust to bring supply and demand into equilibrium.

Different operating procedures would presumably be appropriate for stages II and III, but the mechanism in itself would not have to be modified for the passage to stage III. The subsequent evolution of the system would then be gradual and could lead to a smooth passage to the final stage without additional substantial institutional changes.

It remains to consider how the one decision in the EMS which is today subject to de facto joint decision-making, viz. realignments of central rates, could be handled in stage II. Would there be a case for vesting authority over this instrument with the ESCB as part of monetary management rather than leaving it as in the present EMS with the ECOFIN Council?

There are arguments for and against such a transfer but they suggest to us, on balance that the decisive considerations in assigning the authority to undertake realignments are how close participants have come to meeting the prerequisites for full union. It would be dangerous, if feasible, to shift the responsibility for deciding on realignments to the ESCB in stage II, if any major divergence of economic performance has persisted into that stage. But it would be desirable to shift that responsibility, if the need for realignments were generally accepted as residual only, and if adequate monetary instruments for underpinning fixed rates had been assigned to the ESCB along the lines proposed above. A tentative conclusion is that the authority to decide on realignments could become part of the mandate of the ESCB in stage II, but that this is less of a priority than the

attribution of the other, day-to-day, instruments of an increasingly collective monetary policy.

iii) Stage III: "hard" union, collective authority over economic policy

The present subsection can be brief, since we have already in our evaluation of costs and benefits of EMU in Part One looked at the main features of the final stage. Relative to the intermediate stage the main changes are the irrevocable fixing of exchange rates, in our view soon to be followed by the introduction of a common currency, full centralization of monetary authority in a European System of Central Banks, and the transition to binding procedures in the budgetary field.

The central element of stage III is, of course, the constitution of the ESCB that has to guarantee its independence and provide incentives for its policy-making bodies to pursue the aims of price stability.

In an earlier CEPS publication we discussed the directions of evolution towards EMU[10]. Some of that discussion has since been superseded by the Delors Report there is, therefore, no need to elaborate further on the details of the constitution of the ESCB. We still subscribe to the new that the main elements that would bring some assurance of a policy orientated towards price stability are:

1. A mandate to aim at price stability;
2. Independence of instructions from other instances and personal independence for members of the board through long terms contract;
3. No allowance to extent credit towards the public sector, whether at the European or national level.

There is by now a large degree of consensus on the points, it only remains to be seen how they will be translated into the treaty revision to be agreed by the intergovernmental conference.

IV. Summary and conclusions

In the introduction we referred to three questions that arise in discussions about monetary integration. In this concluding section we will try to summarise briefly our discussion of each issue.

i) Where: What is the meaning of "monetary union"?

We suggest that due to various transaction and information costs the conventional definition of a system of irrevocably-fixed exchange rates (plus full

[10] *Gros* und *Thygesen* (1988), Part III, notably pp. 59ff.

capital mobility) does not lead to complete monetary integration. The introduction of a common currency would be required to achieve this.

ii) Why: Would the creation of a monetary union be beneficial on purely economic grounds?

Our analysis suggests that "irrevocably" fixing exchange rates involves costs as well as benefits. The main cost is the loss of the exchange rate as an adjustment instrument, the main benefit is an increase in the credibility of monetary policy and the elimination of purely financial shocks as a source of exchange rate tensions. It is difficult to establish a precise balance of costs and benefits, but it is clear that the costs should diminish and the benefits increase with the increasing integration of the economies of the Community.

The introduction of a common currency would yield substantial additional benefits, but no costs, and would therefore increase the net benefit one could expect from a monetary union.

iii) What concrete steps would be needed to establish a monetary union?

We argue that institutional steps beyond stage I would be needed to create a monetary union. Currency competition, although appealing from a theoretical point of view, is unlikely to lead to substantial progress in a stage I environment, where inflation rates can anyway be expected to converge at a lower level. There is no need to push currency competition as a mechanism for anti-inflationary discipline, as long as the proposed joint monetary policy is based on a clear mandate to aim for price stability and the institution common monetary is politically dependent. Progress beyond stage I might also be needed because the leadership role of the Bundesbank would be weakened as other currencies become stronger because realignments are increasingly perceived as unlikely.

What institutional steps should therefore be taken beyond stage I? Following the Delors report we recommend that the European System of Central Banks (ESCB) should be created by a revision of the Treaty. The ESCB should be an emergent European central bank. We briefly discuss the various ways in which the ESCB could use reserve requirements to mimic the structure of national central banks at a European level because this instrument might be the decisive one in allowing the ESCB to increasingly determine overall liquidity conditions in a way that allows for a smooth passage to the final stage of EMU with a common currency and a European central bank.

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