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Peter Bofinger and Christina Gerberding\*

## EMS: a Model for a World Monetary Order?

*In the debate about the world monetary order there is agreement that greater stability in international currency relationships would be desirable. Could a system of fixed exchange rates between the currencies of the major industrial countries put an end to the present instability? What would be the advantages and weaknesses of such a system modelled on the EMS?*

Calls for increased international co-operation and co-ordination of national economic policies are at the centre of the debate on reform of the world monetary system. There are three main proposals that have been under discussion for several years: Robert McKinnon's idea of stabilising exchange rates by means of co-ordinated management of the world money supply,<sup>1</sup> the target zones model advocated and refined primarily by John Williamson<sup>2</sup> and the proposal to co-ordinate economic policy on the basis of so-called objective indicators.<sup>3</sup>

Much less attention has been paid to the proposal to establish a system of fixed exchange rates among the major industrial countries along the lines of the European Monetary System (EMS). This solution has recently been considered politically as a possible option,<sup>4</sup> but it has not yet been subjected to more systematic economic analysis. Although the success of the EMS is now generally acknowledged, the idea of a worldwide system of fixed exchange rates is usually dismissed out of hand.<sup>5</sup>

The bad memories of the time of the Bretton Woods system are undoubtedly the primary reason for the widespread rejection of an international system of fixed exchange rates, which is generally regarded as a "return to Bretton Woods". However, the following analysis shows that a world monetary system modelled on the EMS would differ markedly from the Bretton Woods system both institutionally and in the manner of its operation. Some of the usual objections to a fixed rate system on a world scale would therefore no longer

apply, while other problems would increase in importance.

To illustrate how an international system of fixed exchange rates along the lines of the EMS would operate, the following article will assume a trilateral currency system (TCS) comprising the US dollar, the Japanese yen and the Deutsche Mark, the three most important trading, financial and reserve currencies. Restricting a new monetary system to the United States, Japan and Germany in the sense of a "key currency" system also appears to be a particularly efficient solution from the administrative point of view.<sup>6</sup>

Since the financial markets in the United States, Germany and more recently in Japan too have been completely liberalised, a TCS would be a system of fixed exchange rates with complete freedom of movement of money and capital from the very outset; to that extent it would differ markedly from the EMS, not only as it was in its initial phase but also as it is now.

<sup>1</sup> Ronald I. McKinnon: An International Standard for Monetary Stabilization, Washington D.C. 1984; Ronald I. McKinnon: Monetary and Exchange Rate Policies for International Financial Stability: A Proposal, in: The Journal of Economic Perspectives, Vol. 2, No. 1, pp. 83-103.

<sup>2</sup> John Williamson: The Exchange Rate System, revised edition, Washington D.C. 1985; John Williamson, Marcus M. Miller: Targets and Indicators: A Blueprint for the International Coordination of Economic Policy, Washington D.C. 1987.

<sup>3</sup> See Andrew Crockett, Morris Goldstein: Strengthening the International Monetary System: Exchange Rates, Surveillance and Objective Indicators, Occasional Paper No. 50, IMF, Washington D.C. 1987.

<sup>4</sup> Edouard Balladur: Ordnung muß sein, in: Wirtschaftswoche, No. 11 (11th March 1988), pp. 90-97; Karl Otto Pöhl: A European central bank and a European currency could be the crowning achievement of the long and difficult process to monetary union in Europe, in: World Link, Geneva, April 1988, reprinted in: Deutsche Bundesbank, Auszüge aus Presseartikeln, No. 23 (7th April 1988), pp. 1-3.

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In an EMS-style monetary system the three countries would base their intervention obligations on a *grid of bilateral central rates* among their currencies. The structure of such a parity grid standard is fundamentally different from that of the Bretton Woods system, in which the par values of all currencies were fixed only against the dollar, without there being any central rate for the dollar vis-à-vis any other currency (key currency standard). All three participating central banks would be obliged to keep the bilateral exchange rates of their currencies within set bands of fluctuation. Whereas in the EMS the band widths are 2.25 % on either side of the central rates, consideration would have to be given to setting wider fluctuation bands in a fixed rate system involving the world's three major investment currencies, at least in the initial phase. This would be an important prerequisite for avoiding currency crises as far as possible (see below). In Table 1 band widths of  $\pm 5\%$  around the hypothetical central rate have therefore been assumed.

A fundamental question that arises when establishing a fixed rate system concerns the level at which central rates should be set. Opponents of fixed exchange rates unfailingly point out that there are serious problems with all known methods of determining equilibrium exchange rates. It is true that there is no satisfactory way of calculating the "correct" exchange rate; at best, it might be possible to take a "consensus forecast", consisting of the average of the results obtained from different estimation procedures.<sup>7</sup> A look back at the initial phase of the EMS indicates a possible solution. At that time the parity grid was not based on equilibrium exchange rates obtained from model estimations; instead, the prevailing bilateral central rates for the currencies of the "snake" (Deutsche Mark, Belgian franc, Danish krone and Dutch guilder) were adopted for the new system and the

market rates of 12th March 1979 for the floating currencies (French franc, Italian lira and Irish pound) were taken as new central rates. As the intention of the major industrial countries to stabilise exchange rates at around the current level has been repeatedly re-affirmed since the Louvre Accord, it should not prove an insuperable problem to determine the initial exchange rates in a TCS.<sup>8</sup>

As in the EMS, the agreement should make provision for changes in central rates so that this adjustment option is available in the event of substantial macro-economic divergences. Given the design of the parity grid, realignments would require the prior agreement of all the parties involved; unilateral parity changes as in the Bretton Woods system would not be possible.

### Intervention and Settlement Rules

The central banks would be obliged to make unlimited interventions at the upper and lower intervention points of the parity grid (so-called *compulsory* interventions). In the example shown in Table 1, the minimum dollar exchange rate at which the Deutsche Bundesbank would have to buy dollars for DM would be DM 1.615 to the dollar. This would correspond to a maximum DM rate of \$ 0.62 to the DM, at which the Federal Reserve System would have to sell DM for dollars. In other words, both central banks would be required to buy dollars against DM when the minimum dollar rate (maximum DM rate) was reached. To this extent a parity grid standard establishes a *formal symmetry* of intervention obligations, whereas with a key currency standard like the Bretton Woods system only the non-key-currency countries are obliged to intervene in relation to the key currency (the US dollar).<sup>9</sup>

As in the EMS, steps would have to be taken to ensure that in the new TCS the central banks of weak currency countries had sufficient funds in the strong currency to

<sup>5</sup> The following reasoning of the Group of Ten is typical of many pronouncements: "While useful lessons can be drawn from the experience of the EMS as regards the promotion of policy convergence and exchange rate stability, the Deputies recognize that the system cannot be dissociated from the particular political and economic environment in which it operates and therefore cannot be readily extended to a broader and more heterogeneous context characterized by the presence of a number of reserve currencies. Such a system would run a much greater risk of being exposed to pressures similar to those which arose in the final phase of the par value system." Group of Ten: The Functioning of the International Monetary System, in: IMF Survey, Supplement on the Fund, Vol. 14 (July 1985), paragraph 24.

<sup>6</sup> See also Jacob A. Frenkel, Morris Goldstein: A Guide to Target Zones, IMF Staff Papers, Vol. 33 (1986), No. 4, pp. 633-673, here pp. 659 f.

<sup>7</sup> See J. A. Frenkel, M. Goldstein, op. cit., p. 659.

<sup>8</sup> See also Wolfgang Filz: Target Zones for the US Dollar?, in: INTERECONOMICS, Vol. 21 (1986), No. 4, pp. 163-169.

<sup>9</sup> The international agreements since the autumn of 1985 have also led predominantly to one-sided interventions by non-dollar countries vis-à-vis the US dollar.

**Table 1**  
**Parity Grid for a Trilateral Currency System**

National currency	Currency units (CUs)	US\$ 1 = ... CUs	Y 100 = ... CUs	DM 1 = ... CUs
US dollar	upper limit		0.84	0.62
	central rate	—	0.8	0.59
	lower limit		0.76	0.56
Yen	upper limit	131.25		77.21
	central rate	125	—	73.53
	lower limit	118.75		69.85
DM	upper limit	1.785	1.43	
	central rate	1.70	1.36	—
	lower limit	1.615	1.20	

carry out compulsory interventions at the selling point. A credit facility in SDRs, which would be treated in accordance with the same principles as "very short-term financing" in the EMS, could be created with the IMF. If the Fed, for example, needed Marks for interventions it could borrow them from the Bundesbank via the facility. Both loans and foreign currency acquired by strong-currency central banks in the course of interventions would then be written to accounts under the facility, with intervention balances appearing as claims of the central bank of the strong-currency country and liabilities of the central bank with the weak currency.

Balances would have to be settled by drawing on the foreign exchange reserves of the debtor central bank, be it holdings of the currency of the creditor country, SDRs or other reserve assets, but not the debtor's own currency. Using a procedure similar to that employed in the EMS, countries participating in the TCS could deposit part of their gold reserves with the settlement facility against transfer of a corresponding amount in SDR balances. This would ensure that the USA also had sufficient holdings of foreign exchange reserves during the start-up phase.

### How the System Would Work

In a fixed exchange rate system, monetary policy coordination is achieved via the adjustment mechanisms activated by the intervention and settlement rules. The form these regulatory mechanisms take thus has a crucial influence on the way in which the system operates. The intervention and settlement obligations of a fixed exchange rate system generally create two kinds of adjustment stimulus:

□ changes in national *monetary base* as a result of compulsory interventions (short-term adjustment stimulus);

□ changes in *foreign exchange reserves* as a result of settlement obligations (medium-term adjustment stimulus).

The way in which the adjustment process would work in a world monetary system modelled on the EMS can best be illustrated by an example. Let us assume an exogenous shock in the form of an inflationary monetary policy in the United States that causes the dollar to depreciate against the DM. If the dollar reached its lower intervention point against the Mark, both the Fed and the Bundesbank would be obliged to buy dollars in exchange for DM.

So that the *Fed* could fulfil its intervention obligations, it would be provided with unlimited DM central bank funds via the credit facility, and it would have to sell them in the foreign exchange market for dollars. This would lead to a reduction in monetary base in the USA and an expansion in Germany. At the same time the *Bundesbank* would have to purchase dollars in exchange for DM. The impact of these interventions on monetary base in the two countries would depend primarily on the Bundesbank's investment policy. If it transferred the dollar sight balances acquired as a result of intervention to the Fed via the settlement facility in accordance with practice within the EMS, the Bundesbank's intervention would also cause the monetary base in Germany to rise and that in the United States to contract. The monetary base effects of compulsory interventions would therefore trigger *symmetrical* adjustment processes in the two countries. For the Bundesbank to behave in this way, however, would require a significant change in its policy regarding the investment of foreign exchange. Until now the dollars the Bundesbank has acquired through interventions have always been invested in US Treasury bonds, thus sterilising the impact on the American

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monetary base. If the Bundesbank continued to pursue this policy in a TCS, the monetary base effects of exchange market intervention would differ, depending whether it was the Fed or the Bundesbank that was intervening.

The effects of interventions on the *foreign exchange reserves* of the two countries would also depend on the Bundesbank's investment policy. If the Fed borrowed from the credit facility and/or if the Bundesbank transferred its dollar claims directly to the Fed via the facility, the accounts of the settlement facility would show a claim for the Bundesbank and a liability for the Fed, which the latter would have to settle within a given period. This would lead to a decrease in the net foreign exchange reserves of the Fed and an increase in those of the Bundesbank. Whereas this would exert no pressure on the Bundesbank to take expansionary measures, the Fed would have to take adjustment measures sooner or later to staunch the outflow of reserves. The symmetrical liquidity effects of interventions would therefore contrast with *asymmetrical* reserve effects deriving from the settlement obligations.

If the Bundesbank decided instead to absorb the dollar balances into its foreign exchange reserves in the form of Treasury paper, the adjustment pressure stemming from the settlement obligations would not materialise. In that case the TCS would no longer be directly comparable to the EMS. Whereas in the EMS the Bundesbank has had no interest in absorbing French francs into its reserves, with a TCS situations could constantly be expected to arise in which the Bundesbank might be interested in increasing its dollar reserves. Hence if the United States were the weak-currency country within the system, the adjustment pressure on it would not necessarily be as strong as it has been for France within the EMS. On the other hand, a TCS would differ from the Bretton Woods system<sup>10</sup> in that the Bundesbank would always have the option of transferring its dollar assets to the settlement facility, thereby triggering the system's inherent adjustment mechanism for the weak-currency country.

## Importance of the Adjustment Mechanisms

If one assumes that in a TCS the Bundesbank's policy on the investment of foreign exchange would be similar to that pursued in the EMS, the question arises which of the two adjustment mechanisms would predominate – the symmetrical monetary base effect or the asymmetrical reserve effect. In the EMS, the adjustment pressures triggered via the reserve mechanism have

proved the dominant factor up to now. This can be explained mainly in terms of differences in the behaviour of central banks with weak and strong currencies as regards the sterilisation of the effects of interventions. As long as the central bank of the country with a strong currency can sterilise the impact of interventions on the domestic monetary base, its liquidity situation is not affected by any adjustment pressure on the weak-currency countries. On the other hand, a country with a weak currency must expect that sterilising the restrictive liquidity effects will lead to a further weakening of its currency and hence to the need for further intervention and continued reserve losses. That being the case, the asymmetry in the reserve mechanism is probably at the root of the observable asymmetry in the behaviour of the EMS central banks as regards sterilisation.<sup>11</sup>

Here again, the circumstances prevailing within the EMS cannot be applied directly to a TCS. It was usually relatively easy for Germany, as one of the major EMS countries, to sterilise the liquidity effects stemming from interventions. Controls on capital movements also probably curbed speculative inflows from France and Italy. In a TCS with complete freedom of capital movements and with the USA and Japan as potential opponents, the Bundesbank would probably be dealing with much larger intervention volumes. At a time of DM strength, the limits to the amount it could sterilise are likely to be reached much more quickly than in the EMS. Hence the dominance of the asymmetrical reserve mechanism over the symmetrical monetary base effects of interventions that has been the norm in the EMS could not be taken for granted in a TCS. Given the large size and long duration of intervention credits under an arrangement similar to the EMS, German money supply expansion could get out of hand relatively quickly before the reserve losses forced the US authorities to take countermeasures.

In summary, it can be said that an inflationary shock in one of the three participating countries would lead to directly symmetrical liquidity effects and asymmetrical reserve effects. If the reserve mechanism induced asymmetrical sterilisation behaviour on the part of member countries, as has been the case in the EMS, the

<sup>10</sup> Until 1967 the Bundesbank had the right to request the conversion of dollar holdings into gold via the Federal Reserve System. However, in agreement with the Federal German Government, the Bundesbank waived this option from April 1967 onwards. The relevant letters are reproduced in: Deutsche Bundesbank, *Auszüge aus Presseartikeln*, No. 34, 12th May 1967.

<sup>11</sup> See in this connection Cristina Mastropasqua et al.: *Interventions, Sterilization and Monetary Policy in EMS Countries, 1979-87*, Perugia 1987, unpublished manuscript.

asymmetrical adjustment pressures could be expected to predominate. The effect of this adjustment asymmetry would be that weak-currency countries would have to adapt their policy to that of the country with the strongest currency. The country with an inflationary policy would therefore have to fall back into line with a stance oriented towards stability.

This does not mean, however, that Germany could bank on having as much scope for pursuing an independent monetary policy at it has had within the EMS. In view of its substantial gold reserves,<sup>12</sup> the United States could probably tolerate a larger loss of foreign exchange reserves than individual weak-currency countries in the EMS, so that in the event of dollar weakness the limits to the Bundesbank's sterilisation capacity might be reached more quickly. However, even if this meant that Germany temporarily received an expansionary liquidity impulse, the United States would still be forced to adjust its policy, as the loss of reserves could not be tolerated indefinitely. Ultimately, problems would arise only if the expansionary liquidity impulse worked through much more quickly than the adjustment pressure of the reserve mechanism. This would be an argument in favour of making the maturity of intervention credits shorter than in the EMS in order to ensure that the asymmetrical adjustment pressures for countries with a weak currency always continued to predominate.

### Key Currency Determined by the Market

If the asymmetrical regulators predominate, the role of key currency country in a fixed exchange rate system modelled on the EMS is played by the *country with the strongest currency at the time* and the countries with weaker currencies must adjust their policies accordingly. Hence in a trilateral currency system the function of key currency would be performed by whichever of the three currencies (dollar, yen or Mark) was the strongest. Here is one of the crucial differences between this and a fixed rate system of the Bretton Woods type; the key currency would not be laid down in the system's statutes but would be determined by the valuation of the currencies in the foreign exchange market. In the TCS the country with the strongest currency would have the monetary policy freedom enjoyed by the United States in the Bretton Woods system. The "n-1" problem that arises in any fixed exchange rate system would therefore be resolved

indirectly via market mechanisms in an EMS-type system. The monetary policy of the country with the strongest currency would be the "nominal anchor" exerting the decisive influence on the common price level in member countries.

If the key currency country is determined in this way, the arguments against a new fixed exchange rate system on the grounds that the USA is neither willing nor able to resume this role lose some of their force.<sup>13</sup> Opponents of such a system maintain that the USA would be the natural key currency country on account of the size of its economy and the international role of the dollar, but given its lack of credibility as regards stabilisation policy it could not be for a worldwide EMS what Germany has been for the EMS.<sup>14</sup> In an EMS-type system of fixed exchange rates objections of this kind miss the heart of the problem, however. The question of which country should take on the key currency role would not arise in a TCS. Rather, the problem would be whether each of the three participants was prepared to accept a market-determined key currency role for itself and for each of the other two countries.

The decisive factor would be whether the USA was prepared to play the role of weak currency country at times of dollar weakness and to accept the associated settlement obligations. This raises the fundamental question whether all participating countries would be prepared to respect the rules of the system at all times and hence also to accept the necessary adjustment processes. If that were not the case, a period of dollar weakness could be expected to lead either to the departure of the USA from the system if the US foreign exchange reserves were nearly exhausted or to a decision by the strong currency country or countries to suspend interventions in support of the dollar.

### Limits to Real Anchorage of the System

Although the indirect anchorage of the EMS on the basis of the Bundesbank's stability-orientated policy has proved its worth, this solution of the "n-1" problem is open to a number of criticisms. First, this co-ordination mechanism stands and falls with the monetary policy stance in the country with the strongest currency. This country can pursue a deflationary (or inflationary) policy without running the risk of losing its key currency role,

<sup>12</sup> The gold reserves of the United States currently total 262 million ounces and those of France 82 million ounces. The remaining foreign exchange reserves of the USA amount to SDR 23.3 billion, slightly less than France's (SDR 25.4 billion).

<sup>13</sup> See for example Olaf Sievert: Is There an Alternative to Floating Exchange Rates?, in: INTERECONOMICS, Vol. 21 (1986), No. 5, pp. 215 ff.

<sup>14</sup> Cf. Michele Fratianni: Europe's Non-Model for Stable Money, in: The Wall Street Journal, European edition, Brussels, 5th April 1988, reprinted in: Deutsche Bundesbank, Auszüge aus Presseartikeln, No. 23 (7th April 1988), pp. 4 f.

provided inflation rates remain higher in the other countries. If the key currency country decided to deflate, the other countries would be forced to fall in line, even if their policy already met stability requirements. If the key currency country embarked upon an inflationary course, the anchorage of the system would no longer safeguard price stability but only adjustment to the lowest inflation rate.

Secondly, having the market select the key currency presupposes that the currencies are evaluated on the basis of their relative domestic stability in accordance with the purchasing power parity theory. If that is the case, a country whose monetary policy is consistent with stability can in principle efficiently safeguard the common price level. However, serious difficulties would arise if the currency of a country with a stable price level depreciated against that of a country with a higher inflation rate. Any market valuation of currencies that did not accord with the purchasing power parity theory would trigger adjustments which were undesirable with regard to the anchorage of the system. Since over both the short and medium term the exchange rates between the US dollar, the DM and the yen have diverged considerably from the rates that appeared justified by macro-economic fundamentals in recent years, the risk of inadequate adjustment cannot be ignored. Such disturbances would pose a serious threat to the system.

The literature points out that there is a fundamental difference between the EMS currencies and the US dollar in this respect.<sup>15</sup> Whereas revaluations and devaluations within the EMS have primarily reflected an inflation differential or a difference in current account performance, the appreciation of the dollar against the DM and the yen between 1981 and 1985 ran counter to the behaviour of inflation differentials and was totally at variance with the current account trend from 1983 to 1985.

Two quite different conclusions can be drawn from this contrasting behaviour of exchange rates within the EMS and between the three main reserve currencies. It could be deduced that the dollar was so strongly affected by short-term money and capital flows that it would also

impair the working of the entire system if it were part of a TCS. Conversely, it could be argued that a fixed rate system could counteract such market inefficiency by stabilising the expectations of exchange market operators. If market operators assume that the central banks will defend the parities, fixed exchange rates can encourage stabilising speculation and hence channel capital movements.

The statutes of an EMS-style trilateral currency system could provide for special measures, such as a temporary suspension of settlement obligations, to cope with any exchange rate pressure that was not apparently justified by a deviation from a monetary or fiscal course orientated towards stability. However, a governing body would then have to be empowered to decide on the applicability of such exceptions case by case. It would also be conceivable that the central bank with a strong currency would itself forgo the transfer of foreign exchange via the settlement facility for a time. However, this would at least partly nullify a substantial advantage of an EMS-type fixed rate system, that is to say the replacement of difficult processes of policy co-ordination and decision-making by a co-ordination mechanism based on the market valuation of currencies.

## Avoidance of "One-way" Speculation

The massive waves of speculation that beset the Bretton Woods system in its latter years are often cited as proof that an international system of fixed exchange rates is prone to crises.<sup>16</sup> Although the fundamental problem of speculative capital movements cannot be eliminated in any system of fixed but adjustable exchange rates, it can be kept within bounds if appropriate institutional arrangements are established.

The Bretton Woods system was inherently vulnerable to exchange rate crises on account of its narrow bands of fluctuation of  $\pm 0.75\%$  of either side of a currency's dollar parity and the infrequency of realignments. When the weakness of a currency and the need for a parity adjustment became obvious, speculators could bank on the new spot rate after the realignment being substantially lower than the old one. This made speculation a "one-way bet". By contrast, it has been possible to carry out most of the realignments within the EMS in such a way that the old and new fluctuation bands have overlapped. In this event the spot rate after the realignment may be virtually the same as before, so that an appreciation profit is no longer assured.

This can be illustrated by taking the example of an appreciation of the DM against the US dollar in both the

<sup>15</sup> Cf. Otmar Emminger: D-Mark, Dollar, Währungskrisen, Erinnerungen eines ehemaligen Bundesbankpräsidenten, Stuttgart 1986, pp. 368 ff.

<sup>16</sup> See Richard Cooper: Economic Independence and Coordination of Economic Policies, in: R.W. Jones, P.B. Kenen (eds.): Handbook of International Economics II, Amsterdam, p. 30: "In truth, the free movement of capital is incompatible with a system of exchange rates that are occasionally changed by consequential amounts and in a predictable direction." And: "With widespread information and low transaction costs an adjustable peg system of exchange rates ... is not likely to be tenable ..."

Bretton Woods system and in the TCS (see diagram). In October 1969 there was a long-delayed revaluation of the DM by 9.3% within the Bretton Woods system; the new parity was DM 3.66, compared with DM 4.00 previously. The pre-realignment lower fluctuation limit of DM 3.97 was DM 0.28 above the new upper limit of DM 3.69, so that speculation against the dollar proved worthwhile. By contrast, a 9.3% revaluation of the DM in a TCS with fluctuation bands of  $\pm 5\%$  would mean that the lower limit of DM 1.615 before the adjustment was still above the new upper limit of DM 1.62. Speculators would therefore run the risk of swapping high-yielding dollar funds for lower-yielding DM assets at DM 1.615 to the dollar and having to buy them back at DM 1.62 after the realignment. If the risk of one-way speculation is to be minimised, parity changes should not lead to changes in spot rates that can be forecast with a fair degree of certainty. At the very least, this requires that the old and new fluctuation bands overlap, which is possible using wide bands, and that necessary parity changes are carried out promptly.

### Convergence

One of the main arguments against applying the EMS model to the world monetary system is that its success depends on regional circumstances that do not obtain worldwide.<sup>17</sup> It is pointed out that the EMS member countries are a fairly homogeneous group with very similar economic structures and economic policy objectives. To assess the validity of this argument it seems appropriate to compare the principal macro-economic indicators for the EMS countries and their divergence in 1978, the year in which the EMS was set up, with the current values of these indicators for the

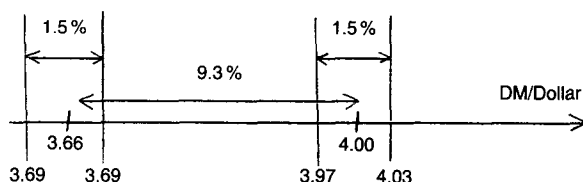
**Table 2**  
**Macro-economic Indicators in EMS and TCS Countries**

	Percentage rise in consumer prices	Rate of growth of M3 money supply	Current account balances (as % of GNP)	Central government budget positions (as % of GNP)
	1978 1987	1978 1987	1978 1987	1978 1987
<b>EMS countries</b>				
Germany	2.7	10.3	1.4	- 2.1
France	9.1	12.2	1.4	- 1.4
Italy	12.1	23.0	2.1	-15.4
Netherlands	4.2	11.4	-0.9	- 3.1
Belgium	4.5	7.5	-0.9	- 6.0
Denmark	10.1	6.4	-2.5	- 0.3
Ireland	7.5	23.5	-6.8	-12.8
<b>TCS countries</b>				
USA	3.7	6.5	-3.6	-3.4
Japan	0.1	10.4	3.6	-3.8
Germany	0.3	7.1	3.9	-1.4

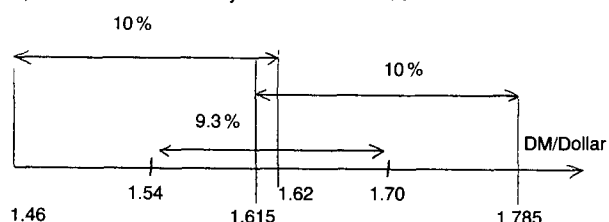
Sources: International Monetary Fund: International Financial Statistics, various issues; World Economic Outlook, various issues.

### Diagram

a) Revaluation of the DM by 9.3% within the Bretton Woods system (Oct. 1969)



b) Revaluation of the DM by 9.3% within the TCS



United States, Japan and Germany. Table 2 shows that before the inception of the EMS there were substantial differences in economic performance among the subsequent EMS countries, especially as regards inflation and money supply growth. Indeed, in 1978 there was great scepticism whether the enormous inflation differential between Italy (12%), France (9%) and Germany (2.7%) could be reconciled with a common system of fixed exchange rates.<sup>18</sup> The differences in fiscal policy among the EMS countries were also very serious, and still are today.

The initial position for a fixed exchange rate system between the USA, Japan and Germany would have been far more favourable in 1987 than it was for the EMS in 1978 as concerns money supply growth, inflation and budget deficits, at least as measured in relation to GNP. However, the external imbalances among the TCS countries are much more pronounced than they were between the larger EMS countries in 1978. For the foreseeable future these could repeatedly exert strong pressure on exchange rates.<sup>19</sup> If one assumes that trade and current account deficits primarily reflect domestic disequilibria between saving and investment, monetary

<sup>17</sup> See for example Horst Ungerer: Das Europäische Währungssystem und das internationale Wechselkurssystem, in: Hans Seidel (ed.): Geldwertstabilität und Wirtschaftswachstum, Göttingen 1984, p. 112.

<sup>18</sup> Cf. for example Otmar Emminger, op. cit., p. 366.

<sup>19</sup> Leonhard Gleske: Das Weltwährungssystem heute – zwischen Anspruch und Wirklichkeit, in: Deutsche Bundesbank, Auszüge aus Presseartikeln, No. 27 (19th April 1988), pp. 1-6, here p. 5.



policy co-ordination via the fixed exchange rate system would have to be complemented by fiscal policy convergence among the USA, Japan and Germany in order to reduce the imbalances while at the same time ensuring exchange rate stability.

### Relationship between TCS and EMS

The establishment of a monetary system linking together the three most important industrial countries would raise the question whether Germany's obligations under a trilateral exchange rate agreement could be reconciled with simultaneous membership of the EMS. Some commentators have taken the view that Germany's new intervention obligations in either a McKinnon system or a target zone system could prove incompatible with membership of the EMS.<sup>20</sup> In the words of Scharrer, "If the dollar were appreciating, the Bundesbank, for example, would be obliged to sell dollars and curb money supply growth accordingly. Since the other EMS countries would not be obliged to pursue the same dollar policy, this would cause the D-Mark to appreciate within the EMS. Under the existing rules, partner central banks would have to buy their own currencies once the Mark reached its intervention points within the EMS; in other words they would have to sell Marks, thereby vitiating the Bundesbank's restrictive monetary policy vis-à-vis the dollar."

Whether this problem actually occurs depends on the Bundesbank's sterilisation policy within the EMS. The Bundesbank could sterilise the monetary base effects of EMS interventions and the EMS countries with weaker currencies would have to fall in line with German monetary policy. Hence if the dollar was tending to appreciate Germany and the other EMS countries could be expected to adapt to US monetary policy. Conversely, if the DM appreciated against the dollar, exchange rates within the EMS would not be affected provided the Bundesbank was able to sterilise the liquidity effects, but the regulatory mechanisms of the TCS would tend to induce the United States to adjust its monetary policy to the stance of the Bundesbank.

This cursory description does not indicate that the establishment of a trilateral currency system would be inherently incompatible with the arrangements of the existing EMS. However, it does raise the political problem, mentioned explicitly by Scharrer, that the other EMS countries are unlikely to be prepared to accept an

indirect link between their currencies and the US dollar without being able to influence the agreements governing it. To that extent, independent participation by Germany in the establishment of an international system would be difficult to reconcile with the forms of monetary co-operation practised hitherto in Europe.

### Prospects of Success

Analysis of a trilateral fixed exchange rate system modelled on the EMS shows that it could avoid many of the drawbacks of the Bretton Woods system. The system would be more symmetrical, since each country would have essentially the same rights and obligations. It would require no explicit agreement as to the key currency country and wide fluctuation bands would reduce the risk of exchange crises. On the other hand, such a system would probably find life much more difficult than the EMS. If the Bundesbank continued to pursue a stability-orientated policy of more than average severity in the context of a trilateral agreement, it would have to expect an appreciation of the DM to cause a much larger expansion in liquidity, since the United States could afford larger reserve losses than France or Italy, for example. It is also unclear to what extent erratic capital movements could lead to currency valuations within the fluctuation bands that did not accord with inflation differentials and hence loosened the system's anchorage in the real economy (if the currency of an inflationary country came under upward pressure) or made it too rigid (if the weak currencies began to depreciate too soon after a realignment).

A further important difference between the EMS and a trilateral fixed exchange rate system lies in the common interest of EMS countries in integration. Given their close trade links and far-reaching objective of European economic and monetary union, the EMS countries have been prepared to accept adjustment pressures that were temporarily inconvenient. The interest of other major industrial countries in exchange rate co-operation has also increased considerably of late, as illustrated by the international agreements reached in recent years. However, there are doubts about how far this co-operation goes and how durable it will be. Only if the increase in the United States' willingness to co-operate proved to be permanent and not just a phase in the political cycle as in the past<sup>21</sup> could a fixed exchange rate system modelled on the EMS be successful as a co-ordination mechanism on a world scale.

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<sup>20</sup> See Hans-Eckart Scharrer: *Internationalisierung der Geldpolitik. Eine Beurteilung des McKinnon-Ansatzes aus der Sicht der Bundesrepublik Deutschland*, in: Wolfgang Filc, Klaus Köhler (eds.): *Stabilisierung des Währungssystems*, Berlin 1985, p. 248; and Wolfgang Filc, *op. cit.*, p. 168.

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<sup>21</sup> See in this connection C. Fred Bergsten: *America's Unilateralism*, in: C. Fred Bergsten et al.: *Conditions for Partnership in International Economic Management*, New York 1986.