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8 Policy cooperation and the EMS experience

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I Introduction

To many academic observers the European Monetary System is a somewhat mysterious animal. It cannot be classified as a fixed rate regime since it has allowed much more flexibility than the Bretton Woods system. It is even less a floating rate regime since it is based on the commitment of member countries to defend agreed parities. The effects and consequences of the EMS are also difficult to define precisely. If skepticism was the prevailing attitude five years ago, surprise at what is often recognized as the 'success' of the System is the attitude today.

The purpose of this paper is to assess the significance and performance of the EMS by drawing on the author's involvement with economic policy-making rather than economic analysis. While the two professions of economic policy making and economic analysis have much in common, since they deal essentially with the same problems, important differences in perspectives, objectives and tools make the dialogue between them difficult at times. Factors which are central to policy making seem difficult to incorporate into rigorous analysis, to the point that academic economists sometimes prefer to ignore them altogether. Policy makers, on the other hand, are hard pressed to catch the relevant messages generated by increasingly sophisticated techniques of formal analysis.

Most of the academic literature on exchange rate relationships in the last ten years or so has, perhaps not surprisingly, usually concluded that better results can be obtained if the exchange rate is allowed to move, or at least if a fixed rate constraint can be switched on and off at will. The policy maker, however, emerges with the disturbing feeling that this fails to capture the essence of a system like the EMS. To him the basic reason for adopting such a system is the structural change it brings in the interplay between the exchange rate and other areas of policy. After the adoption of a system like the EMS, the policy-making structure of a group of inter-

dependent countries is not simply the previous one *plus* an exchange rate constraint – it is a new structure, in which policy behaviour, the ranking of objectives, and the procedures for coordination between sovereign countries are profoundly affected by the new regime, although they have not been formally reformed.

The policy maker is well aware of the limits of his analysis and will want to check his conclusions with those obtained by professional economists. However, he is only likely to accept the results of this check if it incorporates the elements he deems essential or if it convincingly argues that they are of negligible importance.

This paper presents three aspects of the European Monetary System. It first discusses (Section II) systemic issues which in the view of the author are at the heart of the policy process of multicountry economies, that is economies that embrace several sovereign countries. It is argued that the crucial question in the process of policy cooperation is to combine the necessary degree of discretion with the need to take action at the multicountry rather than at the individual country level. The members of a multicountry economy are unlikely to opt for a cooperative game unless an appropriate institutional framework is established. The collapse of the Bretton Woods fixed exchange rate system can be explained in the light of the double alternative 'rules versus discretion' and 'ad hoc versus institutionalized cooperation'. The European Monetary System can be seen as an example of a more successful solution of this double alternative. Section III presents quantitative evidence concerning the ability of the System to achieve some of the objectives that were set for it at the beginning. This evidence covers four topics; variability of nominal exchange rates; dollar policy; coordination of monetary policy; and 'real' convergence. Statistical evidence, however, is only one of the tools that need to be used for a thorough assessment of the EMS. Section IV presents some of the 'non-quantitative' elements that throw light of the working of the System. This shows how the System has combined the necessary degree of discretion with the implementation of institutionalized cooperation.

II Systemic issues

Rules versus discretion

In the last fifteen years the conduct of macroeconomic policy has moved in opposite directions in the international and domestic spheres. Domestically, there has been a movement towards greater reliance on rules, as can be seen in the adoption of quantitative targeting and the abandonment of fine tuning in monetary policy, and in the proposals in several countries for constitutional amendments requiring a balanced budget.

By contrast, there has been a major shift from rules to discretion in the international sphere, and in the conduct of exchange rate policy in particular. In the early seventies the increasing rigidity of the Bretton Woods system combined with the influence of academic thinking induced policy makers to adopt floating exchange rates in an attempt to free domestic policy from the external constraint. Major countries failed to agree on an alternative set of rules or guidelines for the management of international monetary relationships. In particular, no rules were established for intervening in the foreign exchange markets and the only check to purely discretionary action by individual governments was the judgemental surveillance of the IMF.

There are several factors at work in these contrasting developments. At the national level stronger rules have been seen as a way of shielding policy authorities from the pressures of political constituencies. In addition, in the early 1970s the domestic sphere was marked by greater discretion than the international one. Finally, the complexity of economic interactions combined with the degree of integration that had developed among countries, contributed to the abandonment of the fixed exchange rate rule.

In general, discretion should be exerted whenever there are conflicting objectives, while fixed rules are preferable when conflicts between objectives are only apparent, or when the costs – in terms of uncertainty – associated with greater discretion exceed the benefits deriving from improved achievement of final objectives. This general principle underlies the various reasons for the movement towards greater discretion in the management of the world economy.

The nature of the present exchange rate system is the first of these reasons. A return to a fixed parity system is at present inconceivable, but the rule of pure floating has also been severely criticized. What lies between these extremes, however, is the discretionary management of a floating system by policy-oriented institutions that interact with private profit-oriented agents.

A second reason is the increased complexity of coordinating the macroeconomic policies of a group of sovereign countries. This, in turn, is due to the emergence of several centers of economic power, all of which are on a par and tied together by highly integrated financial markets under a system of floating exchange rates that appears to reinforce rather than attenuate the transmission of disturbances. In these circumstances, cooperation requires coordinated action involving a wide range of instruments and policies, something that can only be achieved through judgemental decisions.

A third reason is the increasing frequency of exogenous shocks and disturbances, such as oil embargos, economic sanctions and sudden

financial crises, that require many countries to respond consistently and effectively.

Finally, discretion may be necessary to avoid the 'moral hazard' created by knowledge of government behavioural rules. A case in point is the function of lender of last resort, which should operate without a predetermined set of rules in order to discourage excessive risk-taking by private agents; another, with an adjustable peg system, is the need to avoid setting rules for currency realignment in order to avoid speculation.

In conclusion, an increasingly complex and integrated world requires that discretionary decisions should play a greater role in the solution of multicountry cooperation problems. This does not imply a loosening of the government function at either the global or the national level. Firstly, in some cases discretion should actually replace rules, but more generally it should be complementary to existing rules. Moreover, discretion should be implemented in order to increase the area of government's responsibilities and increase its effectiveness and adaptability in the face of unexpected events.

Institutions and cooperation

Discretion needs to be increased, but it should be exercised *jointly* by the agents operating in the international sphere so that action is taken at the system level. This raises the question of the role institutions should play in the management of multicountry economies.

A crucial distinction must be drawn between 'institutionalized' and 'ad-hoc' cooperation.

Ad hoc cooperation is based on discussions among the interested parties, but joint action is taken only if agreement is reached. In the last ten years this type of cooperation has prevailed and in many cases – probably the majority – no common action was taken as a result of failure to reach agreement. There was therefore a usually uncoordinated response at the level of individual countries.

Institutionalized cooperation, by contrast, ensures that decisions and actions are taken at the multicountry level even when the parties fail to agree; therefore institutional responsiveness is more permanent and more certain in character. Within an institution the need for action to achieve public goals is established 'a priori', whereas with the cooperative approach this need has to be established each time. For institutionalized cooperation to work effectively, some national powers must be transferred to the supra-national sphere. However, this does not necessarily imply a reduction in national governments' control nor an increase in overall public intervention in the economic sphere; on the contrary, it makes it possible to regain control over phenomena that would otherwise escape

any form of management and possibly to avoid the distortive actions often taken at the national level in an attempt to reconcile conflicting domestic objectives.

The difference in the nature of the two approaches indicates several reasons why improving multicountry coordination requires a strengthening of institutions.

First of all, even when cooperative methods work at their best, they are generally too slow, a feature that conflicts with the increasing need for discretionary decisions in the management of a multicountry economy. Failure to produce timely responses may even exacerbate existing problems by inducing action at the lower, national, level and thus causing welfare losses and unnecessary friction.

A second reason is that cooperative methods rarely work at their best since they are subject to greater constraints associated with the pressure exerted by local constituencies and public opinion on the officials and politicians who run the cooperative process. Especially in periods of recession it is not unusual for the electorate to be more prone to selfish and inward looking measures than either Ministers or officials. Thus ad hoc cooperation is less ready to compromise or to give general goals priority over particular interests.

A third reason is that political instability in the 1970s considerably increased the turnover of governments and officials in many countries. Consequently negotiators did not have time to complete the learning process or develop the personal relationships and good-will that are indispensable to the success of ad hoc cooperation.

Fourth, the growth in the number of negotiating parties makes the cooperative process exceedingly difficult. Consensus becomes harder to obtain, and even if decisions were taken by a select group, it might be difficult to implement them or have them accepted by those excluded from the negotiations.

Fifth, the growing complexity of the information base leads to a dilemma that is well known to those who have been involved in international cooperation. Officials with a broader perspective and the authority to make decisions often fail to master the many intricacies of the problems: they 'see the forest but fail to see the trees'. By contrast, those who master the details, often do not appropriately perceive the relevant priorities or the correct perspective of the issues and tend to consider relatively small points of controversy as sufficient reason for delaying or even preventing agreements.

Finally, an increasing number of problems are at the intersections of different domains: exchange rates and trade, trade and financial markets, exchange rates and EC common agricultural policy etc. The interdisci-

plinary approach required to tackle such problems effectively is at odds with the highly specialized nature of the existing fora. This information base dilemma makes 'package deals' very difficult to achieve.

The basic proposition

To improve the management of multicountry economies will require coordinated steps to increase the role of discretionary decisions and strengthen the institutional framework. The basic proposition then reads: the scope for discretionary decisions in the government of multicountry economies will have to be greater than in the 1950s and 1960s but international institutions will have to be strengthened if such decisions are to be taken at the appropriate level.

The experience of the last 15 years in the field of international monetary relationships, among large currencies and at the European level respectively, clarify the importance of this basic proposition. A brief reference is made in this section to the international monetary system while the two that follow focus on the EMS.

In the pre-1971 monetary world the emphasis was on rules: exchange rates were fixed and parity change, a discretionary decision almost by definition, was considered an exception to be avoided whenever possible. Moreover, discretion tended to be exercised at the national rather than at the international level, since parity changes were essentially unilateral decisions. It can be argued that the Bretton Woods system would have functioned more efficiently, and perhaps lasted longer, if the right to make parity changes had been exercised in a more timely and multilateral fashion. The combination of a weak institutional framework for the discretionary part of the system, and the bias in favour of exchange rate rigidity contributed to the final collapse.

Under the floating exchange rate regime introduced in 1973 monetary and trade relationships have again suffered from persistent misalignments of real exchange rates, thus reproducing the negative features of the previous regime. The rule of fixed parities has been replaced by the rule of exchange rate variability, but the object of discretion, the 'disciplinary element', has again been confined to unilateral decisions. Viewed in the light of the two issues of 'rules versus discretion' and 'institutional versus ad hoc cooperation' the two systems are very much alike: 'in both cases what was missing was the exercise of the required discretion, and this was due, in both cases, to a fundamental weakness of the institution which should have practiced this discretionality' (Padoa Schioppa 1983).

We turn now to the case of monetary cooperation in Europe.

III The EMS: quantitative evidence

Compared to the developments at the international level, the EMS can be regarded, five years after its creation, as a successful example of institutionalized cooperation. The objectives of the System – as defined in the Bremen Annex to the conclusions of the European Council of July 1978 and in the Brussels Resolution of the European Council of December 1978 – can be summed up in two points. First, to create a 'zone of monetary stability in Europe', to be understood as 'internal and external stability'. This meant a reduction in the overall inflation level and in the differentials between member countries, coupled with more stable and less volatile exchange rates. Second, 'to coordinate members' policies vis-à-vis third countries', i.e. to increase the cohesiveness of European currencies in the face of dollar instability and to offer a 'European' instrument to the growing reserve currency status of the mark.

The best way to assess the EMS performance would be to compare it with the estimated development of monetary conditions in member countries in its absence. Such an analysis, however, is impossible. Not only do we lack a sufficiently complete model to simulate a non-EMS path of the European economies in the 1979–84 period; but our knowledge of the behaviour of policy makers is too anecdotal to construct a realistic hypothesis of the interactions between economic events and policy decisions in a non-EMS environment over the last five years. Thus we have chosen to identify four key elements on the basis of the above objectives and to compare their behaviour *before and after* the inception of the EMS in *participating and non-participating* countries in an attempt to identify the effects of the System. The four elements are: (i) nominal exchange rates; (ii) dollar policy; (iii) monetary policy; (iv) 'real' convergence. It is clear, however, that the methodology we propose would be equivalent to the appropriate method, only if the EMS was the unique innovation between the two periods; although this assumption is unwarranted in principle, in practice the EMS was such a major change that our exercise is a good approximation of the one comparing an EMS versus a non-EMS world.

Nominal exchange rates

We shall start by evaluating the impact of the System in terms of exchange rate stability.

Empirical studies on the effect of the EMS on exchange rates have been carried out at the Commission of the EC and the IMF. The analysis of the Commission[1] utilizes general standard indicators of variability. This contribution is useful for the large number of currencies considered and for the emphasis given to the variability of the mark with respect to EMS

and non-EMS currencies. The overall conclusion is that 'the System has made a positive contribution to exchange rate stability'.

The IMF official position can be found in the 1983 Annual Report which states that '...the EMS has not yet achieved its intended goal of fostering the emergence of a zone of greater monetary stability in Europe. In fact, the cumulative changes in nominal exchange rates that have taken place over the past four years have been larger than those during the previous four years'. However an IMF analysis of the EMS performance[2] concludes with regard to variability that '...it appears that the exchange rate variability of the EMS currencies has diminished since the introduction of the System...'

Compared with these studies, the original contribution of this section lies in the express consideration given to separate measures of total variability and variability around trend, and in the use of daily observations for the entire period of floating and for all the effective exchange rates considered. As will be shown, this provides *strong evidence that in the first five EMS years member currencies behaved in a way that was substantially different both from that of the same currencies in previous years, and from that of non-EMS currencies throughout the* 1973–84 *period.*

Recent academic literature on exchange rate variability has not analysed the EMS, but rather the dollar and other reserve currencies. To do this, it has used several measures, such as averages of absolute changes, standard deviations and deviations from long-term trends.[3] As Kenen (1979) has demonstrated, most measures show the same basic patterns over time and across countries. Three such standard indicators have been used here: MAP, which measures total movements of the exchange rate along trend as well as around trend;[4] VEER, which measures movements around trend;[5] EV, defined as the weighted average of standard deviations of bilateral exchange rate percentage changes.[6]

Considering *nominal exchange rate behaviour* these three measures have been applied to monthly and daily data of two sets of three respectively non-EMS and EMS currencies. The non-EMS currencies considered were the dollar, the yen and the pound sterling, which does not participate in the European exchange rate agreement; the EMS ones were the Deutsche mark, the French franc and the lira. These are the three 'major' EMS currencies and those which had been unable to stay together for long in the previous 'snake' arrangements. The DM represents the lower inflation currencies in the System as well as the group of 'minor' currencies that belonged to the 'snake'; the lira and the French franc, the higher inflation ones.

Comparison of the chosen indicators *before* and *after* the inception of the System (Table 8.1) shows that total (MAP) and around trend (EV,

Table 8.1. *Nominal exchange rate variability*

	Mean absolute percentage change (MAP)				Effective exchange rates (VEER)[1]				Effective variation (EV)[2]			
	before EMS[3]		after EMS[4]		before EMS[3]		after EMS[4]		before EMS[3]		after EMS[4]	
	daily	monthly	daily	monthly	daily	monthly	daily	monthly	daily	monthly	daily	monthly
Non-EMS currencies												
Against major currencies[5]												
US Dollar	0.21	1.01	0.36	1.51	0.32	1.33	0.51	1.86	0.47	1.99	0.64	2.30
Yen	0.29	1.52	0.41	1.88	0.47	1.97	0.58	2.52	0.53	2.43	0.69	2.90
Pound sterling	0.27	1.56	0.35	1.53	0.43	1.68	0.52	2.04	0.55	2.17	0.63	2.46
EMS currencies												
Against major currencies[5]												
D. Mark	0.19	1.00	0.14	0.80	0.29	1.41	0.22	0.88	0.45	1.87	0.38	1.41
Lira	0.23	1.38	0.10	0.58	0.46	2.00	0.20	0.65	0.56	2.37	0.36	1.32
F. Franc	0.21	1.00	0.14	0.70	0.34	1.40	0.28	0.98	0.47	1.97	0.40	1.44
Against EMS currencies												
D. Mark	0.20	1.04	0.11	0.57	0.30	1.42	0.22	0.75	0.41	1.76	0.31	1.09
Lira	0.26	1.52	0.11	0.55	0.48	2.13	0.21	0.69	0.55	2.36	0.31	1.08
F. Franc	0.21	1.03	0.12	0.57	0.34	1.44	0.26	0.89	0.44	1.88	0.34	1.16

[1] Standard deviation of percentage changes of the trade weighted effective exchange rate.
[2] Measured by weighted average of standard deviations of percentage changes of bilateral exchange rates, with wieghts equal to foreign trade shares.
[3] March '73–March '79.
[4] March '79–March '84.
[5] Major 14 currencies.

VEER) variability of the three EMS currencies fell substantially both on a monthly and on a daily basis. The variability of the DM, the lira and the French franc against the aggregate of the EMS currencies also decreased. By contrast, the variability of the non-EMS currencies increased in every case except for a (negligible) fall in the monthly MAP measure for the pound sterling.

When the currencies *inside* and *outside* the System are compared, all three measures of daily and monthly variability indicate that the three currencies belonging to the European exchange agreement were more stable than the freely floating currencies during the EMS period. Moreover, some of these currencies had shown greater variability than the dollar and the pound sterling in the pre-EMS period of floating, thus confirming that participation increased their exchange rate stability.

In summary, the variability of the EMS currencies in the EMS years was significantly less than in previous years and approximately half that recorded by non-EMS currencies.

Dollar policy

The need for, and lack of, a 'common dollar policy' has been and still is one of the main sources of controversy and complaint about the EMS. Undeniably, the aim of the System 'to coordinate members' policies vis-à-vis third countries' is difficult to formulate both conceptually and operationally.

It might be argued that a bloc of currencies tied together by fixed parities and floating vis-à-vis the outside should not require any such coordination. In the EMS, however, one of these currencies has a special position in two respects: first, it is the only one that plays the role of an international reserve currency and, second, having a superior price performance, it normally tends to appreciate within the System. The impact on the DM of dollar movements is thus generally greater than the DM's share of the ECU, so that the German currency tends to rise or fall vis-à-vis EMS currencies when it rises or falls vis-à-vis the dollar.

In this situation, and given that the floating of the EMS bloc vis-à-vis the outside is managed, coordination may range from an attempt to avoid inconsistent actions and objectives to a search for an 'optimum' ECU/dollar exchange rate. This would presumably correspond to an agreed-upon combination of the objective of minimizing intra-EMS tensions with other objectives, such as price stability and employment.

In reality what has emerged as a 'common dollar policy', is more a coordination of other member countries' monetary policy with that of Germany, which, in turn, has increasingly become the monetary 'center of gravity' of the EMS (Micossi and Padoa Schioppa (1984)). Hence, the

Table 8.2. *Correlation coefficient of D.mark exchange rate changes*[1]

	Before EMS[2]	After EMS[3]
$/DM, EMS/DM[4]	0.61 (0.57)	0.36 (0.47)
,, HFL/DM	0.32 (0.32)	0.26 (0.13)
,, LIT/DM	0.59 (0.50)	0.50 (0.57)
,, FF/DM	0.44 (0.42)	0.16 (0.42)
,, BF/DM	0.36 (0.41)	0.20 (0.13)
,, DK/DM	0.43 (0.46)	0.31 (0.26)
,, IRP/DM	0.68 (0.63)	0.22 (0.44)

[1] Based on weekly average observations. Numbers in parenthesis are correlation coefficients of exchange rate changes during periods of dollar depreciation.
[2] March '73–March '79.
[3] March '79–March '84.
[4] Effective exchange rate of the DM vis-à-vis the EMS currencies excluding pound sterling.

fact that the exchange rate, especially vis-à-vis the DM, has become a key indicator of national monetary conditions and of their consistency within the System, in conjunction with the increased attractiveness of the DM in international portfolios as a substitute for the dollar, implies that Germany's monetary policy has also come to play a significant role in determining the external value of the EMS currencies.

In conclusion, to the extent that the EMS has added to the attractiveness of the DM by making it the reference standard of a large and increasingly 'harmonized' area and that the exchange rate agreement has forced countries to adopt domestic policies consistent with Germany's monetary developments it can be argued that the System has been able to implement a common policy vis-à-vis third currencies.

In practice, movements in the dollar/mark exchange rate have still been matched by movements in the DM against the EMS currencies, but at least the frequency of such simultaneous movements has been reduced. In Table 8.2 we report the correlation coefficients of the dollar/mark exchange rate against the mark's exchange rate in terms of all the EMS currencies. *In the EMS period the correlation with the dollar has decreased, which constitutes indirect evidence of the ability of the System to shield the DM rates of other EMS currencies from dollar movements.* The same correlation coefficients calculated for the periods in which the dollar was depreciating and in which strains within the EMS tended to be greater, have also been lower since March 1979 (figures in parenthesis in Table 8.2).

Table 8.3. *Money growth rates in the EMS countries**

(Quarterly data, annual change in per cent)

	nominal		real[3]	
	before EMS[1]	after EMS[2]	before EMS[1]	after EMS[2]
	M1		M1	
Average	12.4	9.0	1.4	−1.5
Standard Deviation	6.6	6.2	7.0	5.8
	M2		M2	
Average	15.2	12.6	5.8	1.7
Standard Deviation	8.9	6.8	8.7	5.8

[1] From 73.II to 79.I.
[2] From 79.II to 83.III.
[3] Deflated by consumer price changes.
Source: IMF, *International Financial Statistics*
* Aggregates refer to the 9 EMS countries.

Monetary policy

At the inception of the System it was feared that the constraint imposed by a fixed rate regime would undermine countries' ability to pursue domestic monetary targets in their anti-inflationary strategies. The evidence, however, suggests that the EMS has not prevented a general slowdown in the growth of monetary aggregates. Today nobody, in any EMS country, seriously claims that the System has encouraged inflationary policies.

Analysis of member countries' monetary aggregates before and after the creation of the EMS shows a significant drop in growth rates compared with the years of floating rates. The growth rates of M1 and M2 have fallen from 12.4 and 15.2 per cent to 9.0 and 12.6 per cent respectively, with an even greater slowdown in 'real' M1 and M2 growth. Furthermore, dispersion around average, as measured by standard deviation, has also been reduced (Table 8.3).

Indirect evidence on the degree of monetary policy *coordination* is provided by the correlation coefficients of monetary indicators (Table 8.4).

Table 8.4. *Correlation between monetary aggregates in the EMS countries*

Countries	Nominal growth rate						Real growth rate[1]					
	FRG		IT		UK		FRG		IT		UK	
	before EMS[2]	after EMS[3]	before EMS[2]	after EMS[3]	before EMS[2]	after EMS[3]	before EMS[2]	after EMS[3]	before EMS[2]	after EMS[3]	before EMS[2]	after EMS[3]
	M1						M1					
FR	0.24	−0.70	0.17	−0.40	0.07	0.36	0.19	0.45	0.57	0.32	0.34	0.79
FRG	—	—	−0.36	0.46	0.69	0.58	—	—	−0.06	0.60	0.47	0.69
IT	—	—	—	—	0.08	0.24	—	—	—	—	0.68	0.25
	M2						M2					
FR	0.27	−0.05	−0.25	−0.30	0.12	−0.17	0.05	0.12	0.18	0.09	0.50	−0.84
FRG	—	—	−0.44	0.06	0.11	−0.20	—	—	−0.30	0.66	0.10	−0.21
IT	—	—	—	—	0.05	−0.79	—	—	—	—	−0.37	−0.30

[1] Real growth rates are calculated on the basis of consumer price changes.
[2] Correlation before the EMS: 1973 II–1979 I.
[3] Correlation after the EMS: 1979 II–1983 III.

Table 8.5. *Correlation between interest rates in the EMS countries*

Countries	Nominal interest rate						Real interest rate[1]					
	FRG		IT		UK		FRG		IT		UK	
	before EMS[2]	after EMS[3]	before EMS[2]	after EMS[3]	before EMS[2]	after EMS[3]	before EMS[2]	after EMS[3]	before EMS[2]	after EMS[3]	before EMS[2]	after EMS[3]
	short term						short term					
FR	0.56	0.62	0.37	0.79	0.29	0.11	0.69	0.08	0.19	0.65	0.54	0.67
FRG	—	—	−0.33	0.38	0.24	0.57	—	—	−0.11	−0.03	0.65	−0.27
IT	—	—	—	—	0.23	−0.15	—	—	—	—	0.42	0.75
	long term						long term					
FR	0.32	0.73	0.14	0.94	0.59	0.31	−0.33	0.55	0.60	0.66	0.30	0.82
FRG	—	—	−0.79	0.68	0.28	0.69	—	—	−0.05	0.58	0.37	0.70
IT	—	—	—	—	0.25	0.24	—	—	—	—	0.31	0.80

[1] Nominal interest rates deflated by changes in the consumer price index.
[2] Correlation before the EMS: March 1973–March 1979.
[3] Correlation after the EMS: April 1979–February 1984.

Nominal as well as real *interest rates* have shown a marked increase in correlation among the EMS countries (Table 8.5). In part this can be attributed to the response to interest rate developments in the United States (IMF (1983)) but it also reflects the need to equalize interest rate developments among member countries in order to maintain exchange rate stability. It should be noted that correlation has increased more among long-term than short-term rates, especially for real rates. This development reflects the need, with a system of limited floating exchange rates, to manage short-term interest rates with the aim of influencing capital flows and correcting for fundamental disequilibria in exchange rates. This applies particularly to Italy's and France's real short-term rate movements vis-à-vis Germany's and is consistent with the changes in their relative prices and exchange rates. Indirect evidence of the leading role played by Germany's monetary policy can be deteced in the fact that the correlation of its interest rates with all the countries considered has increased during the EMS period in almost all cases.

Nominal money growth rates provide only scanty evidence of increased correlation after March 1979. But if one looks at real money aggregates often considered a more reliable indicator of the 'tightness' of monetary policy, a stronger correlation can be detected, especially for M1.

Finally, it can be noted that since the start of the EMS the number of cases in which the correlation has increased for UK monetary aggregates is smaller than for other countries; the fact that sterling does not participate in the exchange rate agreement may partly explain such difference.

'Real convergence'

The most radical criticisms heard in 1978 and 1979 against the EMS can be summarized as follows: 'The System cannot by itself enforce convergence of costs and prices. The artificial exchange rate stabilization of widely diverging currencies will generate increasing misalignments of real exchange rates, trade distortions and protectionist pressures. Worse, it may force stable members to inflate. If, on the other hand, high inflation countries were to adopt a more stability oriented policy, the fruits of it could be reaped even without the EMS'.

Preliminary quantitative evidence on some of the relevant variables suggests that the System has indeed been less than successful in taming inflation, but that the too pessimistic expectations have not been borne out.

As regards *real exchange rates* (Table 8.6a), monthly observations show all the EMS currencies, as well as the pound sterling, as having reduced their total (MAP) variability since March 1979, while the dollar and the yen recorded increases. This development seems to indicate that, in spite of

Table 8.6a. *Real exchange rate variability*[1]

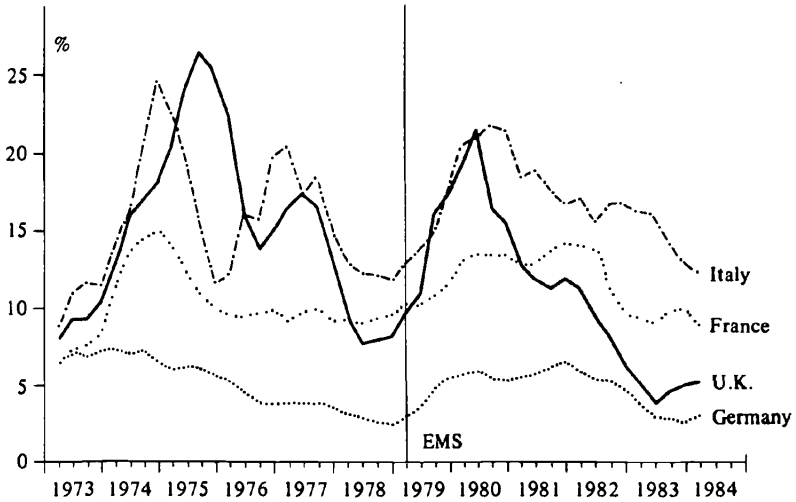
	Monthly observations			
	MAP[2]		VEER[3]	
	Before EMS[4]	After EMS[5]	Before EMS[4]	After EMS[5]
Non-EMS currencies				
Against major currencies[6]				
US Dollar	1.00	1.60	1.32	1.98
Yen	1.58	2.01	2.07	2.67
Pound sterling	1.78	1.61	1.69	2.12
EMS currencies				
Against major currencies[6]				
D. Mark	1.01	0.69	1.45	0.86
Lira	1.23	0.62	1.90	0.83
F. Franc	0.97	0.83	1.30	1.09
Against EMS currencies				
D. Mark	1.02	0.54	1.42	0.75
Lira	1.38	0.60	2.04	0.82
F. Franc	1.04	0.80	1.38	1.08

[1] Real exchange rates are calculated on the basis of wholesale prices.
[2] Mean of absolute percentage changes.
[3] Standard deviations of percentage changes.
[4] March 73–March 79.
[5] March 79–December 83.
[6] Major 14 currencies.

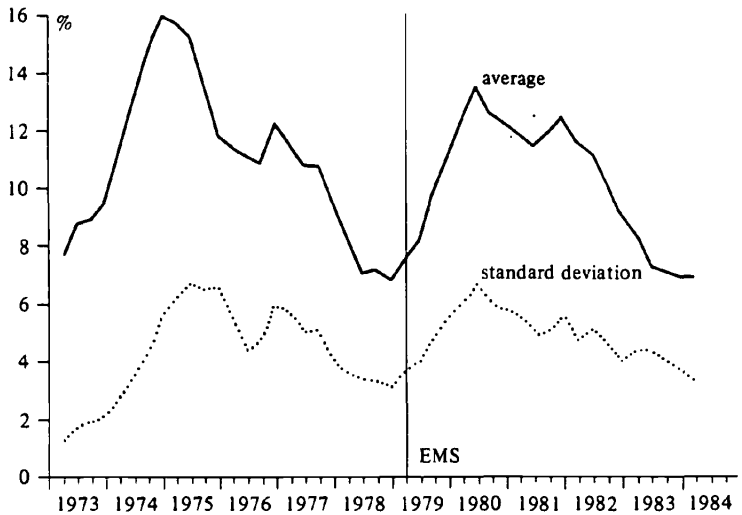
fixed parities and inflation differentials, exchange rates have been allowed to move enough to avoid excessive changes in relative competitiveness. Moreover, the changes have tended to foster internal adjustment, in the sense that weak currencies have shown an appreciating real exchange rate and thus a loss of competitiveness. Variability around trend (VEER) has been reduced during the EMS period for the mark, the lira and the French franc.

In terms of *price stability* the EMS can only claim some modest results. This is presumably due to the fact that the inception of the System was followed by the second oil shock and the rapid rise of the dollar, two external factors which caused inflation rates to accelerate and diverge in Europe.

Consumer price inflation during the five EMS years did not come down in some member countries compared with the pre-EMS period, although



8.1 Consumer price inflation in selected EMS countries



8.2 Consumer price inflation rates in the EMS countries

the average inflation rate of the member countries was reduced (Figure 8.1 and Table 8.6b). In the first two years of the EMS inflation rates rose and the differentials between member countries widened. This was partly due to the above mentioned external factors but also to the fact that France, Ireland and Italy had joined the System with depreciated real exchange

Table 8.6b. *Consumer price changes in the EMS*

(Quarterly data, annual changes in per cent)

	Before EMS[1]	After EMS[2]	
		[3]	[4]
FRG	4.9	5.0	4.8
U.K.	15.1	16.6	8.1
FR	10.3	12.4	11.4
IT	15.7	18.7	16.0
Average EMS[5]	11.0	11.5	9.8
Standard Deviation	5.1	5.6	4.8

[1] From 73.II to 79.I.
[2] From 79.II to 84.I.
[3] From 79.II to 80.IV.
[4] From 81.I to 84.I.
[5] All EMS countries.

Table 8.6c. *Correlation between inflation rates and between industrial activity in the EMS countries*

	FRG		IT		UK	
Countries	before EMS[1]	after EMS[2]	before EMS[1]	after EMS[2]	before EMS[1]	after EMS[2]
			inflation rates[3]			
FR	0.35	0.85	0.73	0.71	0.47	0.71
FRG	—	—	0.15	0.65	0.34	0.61
IT	—	—	—	—	0.46	0.73
			industrial activity[4]			
FR	0.91	0.85	0.94	0.61	0.64	0.60
FRG	—	—	0.82	0.66	0.71	0.52
IT	—	—	—	—	0.54	0.05

[1] Correlation before the EMS: March 1973–March 1979.
[2] Correlation after the EMS: April 1979–March 1984 (inflation rates), Dec. 1983 (industrial activity).
[3] Consumer price inflation rates.
[4] Growth rates of industrial production.

rates that allowed inflation rates to diverge before the exchange rate constraint made itself felt.

Starting in 1980 the disciplinary effects began to exert pressure, the average inflation rate fell and the divergence of inflation rates was slowly reduced. Although the two oil shocks had a very similar effect on industrial countries, it seems that the inflationary impact was parried better by the EMS countries in the second case. After the first oil price increase, inflation rose on average from 9 per cent in the third quarter of 1973 to a maximum of almost 16 per cent at the end of 1974, while in 1980 it peaked at about 13.5 per cent. On the contrary, in most of the remaining industrial countries including Canada and the US, inflation after the second oil shock peaked at a higher level than after the first. Finally, an improvement can be claimed by the System in terms of a uniform pattern of inflation rates as revealed by bilateral correlation coefficients (Table 8.6c). These increased significantly in every case, except one.

As for the EMS effects on economic activity, results are mixed. The aggregate growth rate of industrial production in the EMS fell considerably in the EMS period; the cross-border standard deviation of these growth rates also decreased pointing to greater convergence of economic activity. By contrast, coordination seems to have decreased as indicated by the fall in the bilateral correlation coefficients among the major EMS countries (Table 8.6c).

IV The system at work

Early criticisms

In early 1978 the decision to set up the EMS was viewed with skepticism by many market operators, economists and experts, and even by some officials.

It was considered another invention of politicians, rather than a serious remedy for the shortcomings of the existing situation. At best the potential benefits were minimized and seen as limited to fostering intra-EEC trade, while intervention in the foreign exchange market was considered useless or even harmful.

Several arguments were used to support this attitude of skepticism. It was said that a fixed exchange rate regime would undermine national monetary targets; defense of the parity would cause strong currency countries' domestic targets to be overshot and produce an unacceptable inflationary bias. It was argued that real exchange rate movements would be amplified by nominal exchange rate rigidity and stubborn defense of agreed parities, thus increasing protectionist pressures. It was claimed that the asymmetry of the burden of adjustment would soon force weak

currencies to abandon the exchange rate arrangements. It was also thought that the enlarged credit facilities – a key element of the System – would create a 'moral hazard' and allow diverging countries to postpone adjustment. Finally, it was suggested that the need to sustain exchange rate parities in the face of massive speculation would prove a serious threat to the stock of official reserves.

Even after five years of experience with the System the validity of these criticisms cannot be definitely upheld or refuted by quantitative analysis alone. An element of judgement, based on a priori arguments and a subjective reading of events, is still necessary. As we said earlier, we believe that the System has had a significant influence on the formulation of policy objectives, particularly in certain countries and at certain critical junctures, and that it has modified the nature of the 'cooperative game' between member countries in areas that go well beyond exchange rates.

To support this view, a careful examination of the actual working of the System at both the Community and the national levels would be necessary. Policy decisions, their choronology and their determinants would have to be assessed to detect the role played by the EMS. Since such an analysis would go beyond the scope of this paper, we shall only present some anectodal evidence of the way the System has actually worked, drawn largely from direct personal experience.

Institutional aspects

To understand the way the System has actually functioned, it is not enough to read the written provisions. It is also necessary to consider the practices and interpretations that have gradually been established in five years of sometimes turbulent operation. This has generated new, unwritten rules, that are now just as important as the original written ones. Some of them regard the fundamental, constitutional aspects of the System; others its management. Taken together they have made the European Monetary System differ from the Bretton Woods regime much more than most observers, and perhaps also the founders, originally expected.

In the first place, central rates have been realigned in a much more timely and pragmatic way than ever occurred under the Bretton Woods arrangements. The contradiction inherent in the expression 'adjustable peg' has been resolved in a fairly balanced way. Over-protracted defense of parities has not been a feature of the System. On some occasions realignments were delayed, thus giving ground to speculation, but the delay was never too long, and generally allowed conditions favourable to the adoption of adjustment measures to mature. The experience of the 'snake' has been very important in this respect, since it showed that an adjustable

peg system could be managed with a fair amount of flexibility and still retain credibility.

The second and, we believe, the most important aspect of constitutional practice, is that the setting of new central rates in the EMS has become a truly collective decision. The importance of this cannot be stressed too much. A basic aim of a system like the EMS is precisely to eliminate the scope for obtaining trade advantages by unilateral exchange rate management. The past offers significant previous experiences of this process of collective decisions. Under the Bretton Woods System the rare changes in central rates were basically decided by the interested country, while the role of the other countries and the IMF was virtually limited to formal ratification. In the 'snake', the leadership of Germany was so strong that there was little room left for bargaining.

Realignments in the EMS have only gradually become collective decisions. The first, in September 1979, largely repeated the 'snake' pattern: one country, Germany, took the initiative of calling a ministerial meeting, at which it presented a complete set of new rates. It was then realized that this method could not work a second time, as the number of parties around the table and their relative importance were very different from those of the 'snake'. The following two realignments (Denmark, November 1979, and Italy, March 1981) were essentially unilateral, and limited to exchange rates: no meeting was called, only one currency was involved and no policy measures were presented and discussed, the Community procedures were limited to giving a sort of 'multilateral approval' to the decision taken by one member. After these three realignments the procedure has become one of collective decision, much closer to those of he other Community areas, such as trade and agriculture, than to those of monetary cooperation. The actual outcome of realignment sessions rarely met the requests of member countries in full; countries often emerged from negotiations with a somewhat different grid of parities from the one they were seeking at the start.

The third institutional aspect of the System that has been shaped by practice is that changes in parities have coincided with the adoption of substantial policy measures. This, of course, had always been part of the spirit of an adjustable peg system, and had been stressed many times by theorists. However, experience justified a certain degree of skepticism about the ability of member countries to follow this line. And indeed, as we have recalled, the first realignments were not satisfactory in this respect. Increasingly, however, changes in parities have been part of major policy changes, which has also meant that policies of domestic adjustment have been increasingly discussed in Community fora as a result of the working of the EMS.

Functional aspects

These three features are 'constitutional' aspects of the System, and they distinguish it sharply from the Bretton Woods approach to multicountry cooperation. Their nature is best clarified in terms of the systemic issues analyzed in Section II above. The System has succeeded in coupling the appropriate degree of discretion with the appropriate level of decision making. It has achieved a form of institutionalized cooperation unknown with earlier regimes.

Other aspects of the experience of the last five years, do not belong to the 'unwritten constitution', but rather to the operation of the System. Nevertheless they help explain how this has actually worked and what its achievements have been.

Many observers have noted that, contrary to world exchange rates (the dollar, the yen, the Deutsche mark), EMS exchange rates have always moved 'in the right direction', which is in itself a positive result, from the point of view of what could be termed the 'trade objective' of the System: i.e. to keep trade open and avoid distortions due to protracted misalignments of real exchange rates.

Less attention has been given to the fact that the timing and the size of realignments have not fully accommodated divergencies in price and cost behaviour in member countries. From the point of view of the 'stability objective' of the System this is very important because it means the greater flexibility with which the System has been managed compared with the Bretton Woods regime has not been pushed to the point of losing the benefits of a disciplinary exchange rate effect. Pressure to restore cost and price competitiveness through internal adjustment has been maintained.

The third important aspect of the way the System has been managed is that compared with the asymmetrical changes of the Bretton Woods system parity changes have been spread more evenly between weak and strong currencies. The philosophy expressed by the European Commission concerning such decisions has been that 'strong currencies should revalue while weak currencies should adjust'. In the eight realignments that have occurred so far, the mark and the guilder have been revalued against all other currencies respectively four and three times.

Finally, in addition to the 'constitutional' and management aspects of the System, mention must be made of a third. This is the fact that the very existence of the EMS has significantly deepened the cooperative character of the policy coordination game among member countries. Procedures for such coordination that had been legislated by the Community well before 1979, were given a new life by the fact that a new commitment had been

made in the field of exchange rates. The level of representation in the relevant policy committees, the qulity and openness of the debates held in such fora, the readiness of the Commission to 'speak out' and of member countries to listen improved after 1979.

V Conclusions

The increasing complexity of the management of multicountry economies requires a greater role for discretionary decisions and a strengthening of multilateral institutions. The EMS has been fairly successful so far in striking a good balance between 'rules' and 'discretion', absorbing major external shocks without incurring a disruption in its structure or a weakening of its commitments. On decisive occasions the System has played a crucial role in catalyzing the necessary political will to take the difficult and often unpopular decisions that were required to achieve better monetary stability.

However, this relatively successful experience should not cause us to overlook the inherent vulnerability of the System in its present setting. That is the conflict between unrestrained national sovereignty in fiscal and monetary policies, on the one side, and capital mobility and supranationalism in trade and exchange rates, on the other. Political and economic pressures could cause member countries to choose a non-cooperative course of action in any moment of the future. Seen in this light, the System has not yet achieved the degree of institutional strength that is necessary to bring European monetary cooperation beyond the 'point of no return'.

NOTES

* The author is indebted to S. Rebecchini for valuable help in the preparation of this paper. He retains full responsibility for both the errors and the opinions contained in these pages.

1 See: Commisson of the European Communities (1982) and (1984).

2 The European Monetary System: The Experience, 1979–1982; IMF Occasional Paper no. 19, May 1983.

3 For examples and comparisons between different measures see: Hooper and Kohlhagen (1978), Kenen (1979), Frenkel and Mussa (1980), Levich (1981), Lanyi and Suss (1982), Bergstrand (1983).

4 This indicator is defined as the mean absolute percentage change of the effective exchange rate. It would be equal to zero if the exchange rate was constant over time, greater than zero otherwise.

5 This indicator is defined as the standard deviation of the percentage changes in the effective exchange rate. The reason for considering only the variability around trend is that costs for traders and investors derive not so much from

exchange rate variations or their size as from the *uncertainty* and *unpredictability* of such changes (see: Bergstrand (1983), Lanyi and Suss (1982)). VEER would be equal to zero if the exchange rate was a constant or, unlike MAP, if it was changing at a constant rate; it would be greater than zero if the exchange rate oscillated around a constant or a trend. This indicator focuses on variability as it influences the competitiveness of domestic firms and the levels of domestic prices, wages and activity.

6 The reason for using EV is that it captures a variability that is likely to entail costs to economic agents but that is not reflected in VEER, which is defined as the standard deviation of a linear combination of random variables (the bilateral exchange rates composing the effective exchange rate) that are likely to be negatively correlated. For example, importers or exporters of a country whose currency is simultaneously appreciating against one currency and depreciating against another are facing a costly variability which causes changes in foreign expenditures and receipts, yet the VEER index remains stable. Being a measure of variability around trend, EV has the same properties as VEER.

In calculating VEER and EV we have utilized percentage changes in exchange rates rather than deviations from a moving average or a trend, because the latter induce an element of arbitrariness and distortions in the measures. The reasons are indicated by Lanyi and Suss (1982): calculating a moving average implies an arbitrary decision on the number of elements to be utilized; in addition a moving average may understate actual exchange rate changes by smoothing movements too much. Therefore the first order percentage change has been utilized to remove the trend in the exchange rate series.

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COMMENT MICHAEL J. ARTIS

Padoa Schioppa's paper falls into two parts, one devoted to some quantitative assessment of the EMS, and the other devoted to more general issues of policy co-ordination with special reference to the way these arise, and are resolved within the EMS. I shall deal with the quantitative assessment first.

Quantitative evidence

The kinds of measures which Dr Padoa Schioppa presents us with here are familiar for this type of problem. In his paper they are brought up to date, and implemented on daily as well as on monthly data. The basic procedure is to compare a measure of exchange rate; inflation or monetary stability across member-EMS countries for the period since the inception of the system with the value of that measure for the same countries prior to the inception of the EMS, and with the behaviour of similar measures constructed for a control group of non-EMS countries over the same two pre- and post-EMS periods. Padoa Schioppa's results confirm those obtained by other authors: for the EMS countries, the EMS period gives greater stability, and the trend is more favourable than that to be found among the control group (where, by and large, volatility has increased). The same basic result, moreover, tends to come through whichever one of a wide variety of statistical definitions of stability, the exchange rate or the money supply is used (though, perhaps not surprisingly, the coefficient of variation and the standard deviation give different verdicts on the convergence of monetary growth rates over a period of general decline).

These exercises, and others like it must be supplied with caveats, of course. A major one is that, rather obviously, the method is only a crude and indirect means of measuring the preferred counterfactual 'what would have happened if the EMS had not been created?'. Necessarily, the results of applying the method can only be a part of an attempt to answer that question.

Second, the stability measures need to be handled with some care. We would not think it a good idea to have perfect stability of nominal exchange rates with fluctuating relative inflation and hence, gyrating real exchange rates. Nor would stability of real exchange rates, if accompanied by extreme but offsetting fluctuations in nominal exchange rates and relative inflation rates, be particularly desirable. The measures have to be taken together, for these reasons.

Third, it is important to be clear why we attach any value at all to measures of stability *per se*. Arguably, the preferred measure is one of predictability. Interpreted in this light, the author's measures assume, variously, that the market could be held to have been capable of predicting, *ex ante* the trends revealed *ex post*, or that the exchange rate is a random walk. Whilst neither hypothesis is completely unreasonable, such hypotheses are not the outcome of standard exchange rate modelling. An alternative suggestion would be to ask whether forward rates are better forecasters of actual rates in the EMS (post-inception) period for member countries than before it and relative to the forecasting performance of forward rates in the control group. It would be interesting to see this checked out on a similar data base to the one used for the principal calculations reported. Batchelor, who performed calculations of this type for his evidence to the *House of Lords Committee on the EMS* (1983), found that forward rate evidence favoured the same conclusion as that arrived at by the means used in the present paper.

Fourth, just to complicate matters, it needs to be said that in any event predictability is not all. In the short run forward markets provide facilities for cover, but these markets are very thin for longer horizons and far-seeing capital markets seem equally rare. In this case, being able to predict future exchange rates is not enough. The episode of the overappreciation of sterling seems to show that many traders understood that the exchange rate would decline in the future but, due to the high fixed cost of re-entry into export markets, found it appropriate to stay in these markets at a marginal loss in the short term. This perception, it would seem, was not shared by the capital market, with the result that firms in this position were forced to self-finance their far-sightedness by liquidating stocks of goods and men on a large scale, or to go out of business. A major benefit of the EMS is to have reduced for its members the prospect of an overshooting exchange rate and experiences of this sort. What is not clear is that the methods used in the paper wholly capture this benefit, for they are primarily addressed to the shorter run.

Other evidence

Since a full verdict on the EMS requires the quantitative assessment to be supplemented by other kinds of evidence, the author proceeds to supply some. There is a possibility that, in doing so, he has 'over-rationalized' the success of the EMS in an understandable desire to see its survival as the embodiment of the development of a multi-country government institution pointing the way to a regeneration of international monetary co-operation and stability of a very desirable kind. That the author's account may involve such an 'error of sentiment' could be sustained by noting the following points:

(1) The major institutional innovation of the EMS (at least as it seemed upon its inception) was the 'divergence indicator'. But this has proven deeply flawed. Technical flaws in its construction have been amply revealed by Spaventa (1982) whilst in practice it is clear (a) that the position of sterling and the lira in relation to the ECU induced a sluggishness in the indicator and (b) (I would hazard) that had the indicator been triggered in the 'strong' direction by Germany, it would have had few, if any, of the consequences supposed of it. Germany would not have accepted them.

(2) The reason for thinking this is related to the second point. Despite the second oil price shock and other 'noises' the EMS has had an easy time in its first 5 years for a number of highly specific reasons. (i) France began with and persisted in an attitude – then somewhat new for her – of sensitivity to inflation which aligned her more closely with Germany. To a degree it was true more generally that there was a predisposition to a greater degree than before to emphasize the control of inflation. (ii) In any case, those countries who wished it, obtained comparatively considerable freedom to change parity (Denmark is the obvious example). (iii) For reasons unconnected with the EMS, the DM was weak against the dollar most of the time and this dispelled the vision of a 'hard' DM which had governed the animosity of many critics of the EMS.

(3) It is too easy to forget that only a little over a year ago there were grave doubts about the ability of France to stay within the EMS.

(4) The durability of the system has, to a degree, been purchased at the price of a flexibility which some consider *too* accommodating. It has been described as a 'mere crawling peg', by those who consider this a term of abuse to suggest that in the compromise of flexibility and rigidity the EMS has fatally erred on the side of the former.

All these considerations should be borne in mind. It is easy to over-rationalize the success of EMS. A final point would be the following: on a broader political front the foundation of the EMS met the need for some new creation to fill the gap in the progress of Europe. Another gap

has opened up now. Some people (Roy Jenkins, (1984) for one; but see also Layard et al. (1984)) have advocated that a second phase of the EMS – a recovery plan, in effect – should fill that gap. This poses altogether more difficult issues than the EMS has so far had to face. But if there is no concentration of measures to promote recovery it seems a good bet that the stresses must show themselves. There is in progress some switch of emphasis from control of inflation to reduction of unemployment. This seems bound to occur, if left to itself, non-uniformly across countries, producing a scenario for policy divergence.

On would like, of course, to believe that the EMS could rise to this challenge. It seems one of the few hopes we have.

General issues

The author's development of his general themes regarding the actual historical and future desirable development of multi-country institutions and decision-making is very appealing. The distinction between rules and institutions is obviously useful. The limits of *ad hoc* cooperation are usefully and sensibly stressed. This form of decision-making is woefully expensive in set-up and bargaining costs. The paper also draws out the difference in developments at the national and international level – at the former, away from discretion towards rules, at the latter away from rules. Few comments seem called for. Below, there follow just two.

(1) Although it is *mentioned*, the author arguably *does not make enough of* the desire of governments to escape the pressure of domestic interest groups, especially trades unions, in this process. This desire favours the establishment of rules, such as monetary growth rules, which have the dual purpose of making a commitment to foreign agents and of exposing unions to political odium if their actions seem to lead either to a breach of the commitment or alternatively to unemployment. As a result of the inflationary experiences of the 60s and 70s, this desire to create more room for governments and less for trades unions became (and remains to some extent) a significant theme of national policy development. Of course, generalisation is risky here. The search for rules which serve to isolate trade union pressure groups and make for confrontation in place of 'consensus' is a somewhat Anglo-Saxon phenomenon. Monetary rules in some other countries have, by contrast, emerged as a *result* of consensus.

(2) Second, for the same reason, governments have been rather disposed *against* protectionism. One thing that can certainly be said of free trade is that it provides protection against sectional producer interests. It is arguable that too much attention, this last decade and a half, may have been diverted to the need to avoid protectionism. The analogy with the

30s was false: then, floating rates led to the abuse of undervaluation initiatives and attempts to export unemployment. In the 70s and 80s, the problem has been rather than countries have accepted or pursued *over*valued exchange rates for the sake of the purchase over inflation thus obtained. Relative to the level of unemployment, and its industrial and geographical concentration, protectionism has not been a great danger. This situation could of course now change as the inflation danger is seen to recede, and that of unemployment to loom larger.

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COMMENT JEFFREY R. SHAFER*

Tommaso Padoa Schioppa has provided a broad-brush review of experience with the European Monetary System, now more than five years old. He writes as a close friend of the system, emphasizing positive aspects of the experience. In doing so, he covers a lot of ground – from broad theoretical issues of a political nature to some quantitative indications of how exchange rates and other key economic variables have performed before and after the establishment of the EMS. I will focus my comments on two issues discussed by Padoa Schioppa. One is a rather narrow one – what is the case for discretionary policies? The other involves a range of questions about exchange rate volatility.

Rules versus discretion

One context in which Padoa Schioppa places the development of the EMS is that of the search for a workable balance between rules and discretion in international economic policies. The case for discretion does not, in my

view, arise from conflicting objectives as he claims. The essence of economics is dealing with conflicting objectives – how to make a decision when one wants more of everything. The economist's approach to such a problem is to specify an objective function that weights the conflicting objectives and solve for its maximum, subject to constraints. The set of solutions corresponding to different inputs imbedded in the constraints is a rule. It may be simple or conditional in very complex ways depending on how many factors are taken into account. There is not, except in some gaming situations, any economic logic to introducing indeterminacy. If the objectives and constraints can be clearly specified, not following a rule only adds noise and inefficiency to the economic environment.

What, then, is the case for discretion? It is that all of the contingencies for a feedback policy may not be anticipated in advance. Discretion becomes the way in which policies are adjusted in light of contingencies that often cannot, as a practical matter, be exhaustively spelled out – many contingencies may be too complex to set out clearly or even to recognize in advance. The case against discretion has two elements: first, it is too tolerant of unstructured decisionmaking. And second, it carries an inherent temptation to pursue time-inconsistent policies, which over the long-haul erode the credibility and predictability that enhance the economic efficiency and effectiveness of a policy strategy.

These considerations pro and con are at odds with one another. Hence policymakers must seek a balance between discretion and formal, not too complicated rules which balance them. But discretionary acts need to be explicable in terms of a broad policy philosophy. I see few situations in which there is an economic, let alone a political, case for capricious policies.

The EMS seems to represent an attempt to balance these considerations. There are a lot of rules – about central rates, margins, credits and other matters. But they are not intended to be a strait-jacket. Intervention policies within margins are vague, and central rates can be changed judgmentally as the outcome of deliberation. Whether the rules are ideal or the balance of rules and discretion is just right is hard to say. But a rigid and immutable set of rules of any conceivable degree of complexity would not avert situations where one would want to set them aside – not primarily for reasons of time inconsistency but because the rules had not covered some contingency that arose. On the other hand, I cannot see that a policy of intervening in exchange markets in amounts and at rates that were determined day-by-day according to the animal spirits of authorities would do anything but add noise to international macroeconomic relationships.

The ideal for policy should be rules, but as a practical matter, prudent populations will settle for something less from their policymakers.

Exchange rate volatility

As an outside observer of the EMS, I have reacted much as aeronautical engineers once reacted after studying the bumblebee – I have to admit that it flys, but I don't understand how. Padoa Schioppa gives us some evidence that the EMS flys – that is, that it has reduced exchange rate volatility by a number of measures. He gives some hints as to what might be going on behind the scenes. But they are not sufficient to answer two questions about the EMS experiment that seem particularly compelling:

- What does the experiment tell us about our theories of exchange rate determination?
- If, in fact, exchange rate variability, however measured, has been reduced within the EMS, has that resulted in an improvement in economic welfare? The answer depends on the nature of the exchange rate fluctuations that were suppressed and on the other consequences of the means by which this was accomplished.

Before turning to some thoughts on what answering these questions entails, I have a few comments on the evidence presented in the paper that exchange-rates within the EMS member countries have been more stable as a result of its establishment. This evidence consists of comparisons of the volatility of short-run (that is, daily and monthly) exchange rate *changes* among the EMS currencies before and after its establishment and comparisons of EMS and non-EMS currency volatility before and after its establishment. The results constitute powerful evidence that the EMS has made a difference in reducing the nominal short-run volatility of exchange rates among participating currencies. A number of technical issues could be raised about how to interpret the statistics (indeed, the author discusses some of them). But the results seem fairly robust as judged both from the various measures presented in the paper and from similar studies done by others. I don't believe it is worth quibbling over just how short-run variability should be measured, given the robust findings.

But I do have some reservations as to whether reducing *short-run* nominal or real exchange variability is a very important achievement, in and of itself. Exchange rate fluctuations are unlikely to have large welfare costs if they average out over relatively short time periods. Well developed forward markets and other hedging opportunities would seem to reduce to a low level the potential inhibiting and distorting effects on trade and

business planning of purely short-run exchange rate uncertainties. Evidence reviewed recently by the IMF tends to confirm this view of the micro effects of short-run exchange rate fluctuation. I suspect that the architects of the EMS were after bigger game in seeking to establish a zone of monetary stability in Europe.

One thing I think they were looking for was more stable exchange rate relationships in the medium-term. Large uncertainties over a period ranging from six months to several years are difficult, if not impossible, to hedge not only because forward markets are thin or nonexistent but also because they involve decisions on investment and business development more than specific transactions of known size and timing. It is not clear whether this objective of more stable exchange rates was seen primarily in real or in nominal terms, and each has some appeal as a proximate objective. I would judge the EMS by both standards, and if it did better on either one and no worse on the other I would be prepared to say that the EMS had achieved what it was intended to do – setting aside the question of at what cost or to what ultimate benefits beyond that of creating a more stable price environment for integrated European commerce. Hence I would find measures of deviations from some baseline – be it an average level, a PPP rate, a trend, or a model prediction – more informative than the volatility of short-run exchange rate changes. I took a quick look at some charts, and the question is too close to call with confidence by eyeball. But I would not be surprised if the EMS passed a before-and-after test using this sort of criteria, and I would be extremely surprised if it did not pass a before-and-after test relative to non-EMS currencies.

But what of the costs, and what of the benefits? The author finds greater convergence of inflation rates and real monetary growth rates among EMS countries averaged after 1979. The mixed comparisons with other countries do not make a completely convincing case that the EMS inflation convergence is markedly different from other groups of countries. Moreover, real money supplies are notoriously dangerous indicators of the stance of monetary policy: because velocity tends to be positively correlated with expected inflation, it is not unusual to find the *real* money supply decelerating when monetary policy is fueling an acceleration of inflation. The question of the contribution of the EMS to convergence must be considered as still open.

The paper offers some tantalizing hints on how exchange rates have been kept in line to the extent that they have been. But we need to know more to evaluate the benefits of the System. Has the existence of central rates and sterilized intervention activities reduced noise in exchange markets – noise which otherwise might have been associated with unstable expecta-

tions? And has this been achieved without any change in fundamental macroeconomic policies? That is to say, has the EMS been a cheap lunch in that there has been little need to subordinate domestic policy instruments to its operation? If so, has this stabilization of expectations reduced only short-run volatility or has the reduction of noise had a stabilizing effect over the medium-term? My own reading of the evidence on exchange market efficiency and on the small percentage of exchange rate changes over the medium-term that seem systematically explainable on the basis of fundamentals (even ex-post), leave me disposed to believe that there is a potential for sterilized intervention that is coordinated and undertaken according to a well-understood set of principles to reduce exchange rate volatility. Excess noise in the system might well be reduced without sacrificing domestic policy objectives. The benefits would be better micro-decisionmaking and less aggravation of vicious and virtuous cycles. But we have, as yet, no evidence that the EMS has achieved this.

Padoa Schioppa suggests that the EMS has been held together by more coordination of monetary policy than meets the eye – the 'unwritten rules'. I take this to mean, in analytical terms, that intervention has not been fully sterilized, whether this was the direct result of the way intervention was technically executed or the result of keying of domestic monetary policy operations to EMS exchange rate obligations. For starters, it would be nice to know the facts. What does the record have to say about correlations between EMS intervention and changes in central bank assets net of non-monetary liabilities? If there is a correlation, is it only apparent in the short-run or over longer periods as well? How symmetrical is the behaviour between large and small countries? Between weak currencies and strong currencies?

If the evidence suggested that central banks' balance sheets expanded and contracted in response to pressures on their currencies within the EMS, different interpretations could still be offered. For a broad spectrum of open-economy macro-economists who are skeptical of the power of sterilized exchange market intervention, such evidence would make sense of a finding of reduced exchange rate volatility within the EMS: it could be attributed to monetary policy reactions. But would such a reduction represent an improvement in welfare? The answer would depend on where the disturbances that led to larger exchange rate fluctuations were coming from before the EMS was established and on this there would be many priors within the spectrum. A fundamentalist monetarist economist – one who believed in the absolute stability of velocity – would expect to see greater stability of exchange rates only as a result of more stable *relative* money growth rates. Perhaps this would be a good thing, but not necessarily if it came at a cost of more unstable money growth for EMS

countries taken together. In the middle ground, fallen away monetarists and lapsed Keynesians, who saw money demand as the central determinant of nominal income but also as subject to unpredictable shocks, would expect to see more volatility of money growth as exchange rate pressures signalled central banks to adjust money supplies in response to money demand disturbances. This volatility might well be associated both with greater exchange rate stability and with more stable economic conditions domestically. Once again, however, macroeconomic stability within the EMS bloc would depend on success in offsetting, rather than exacerbating, aggregate money demand disturbances in the bloc. Reducing *relative* disturbances between participants would not be sufficient.

A third group in the spectrum, comprised of those who see floating exchange rates as a source of additional noise in macroeconomic relationships – and I suspect this was a prevailing view among the architects of the EMS – ought to view greater money supply volatility in response to exchange market pressures with some misgiving. Greater exchange rate stability would then have been purchased at a cost of more unstable domestic monetary conditions. It would no longer be clear that it was worth it in strictly economic terms.

This leads me to the more fundamental agenda behind the EMS. It was established, in part, as a gesture to restore momentum towards greater political and economic unification in the community. If it were successful in this respect, it would be hard to fault the EMS, whether or not it made a large direct contribution to macroeconomic stability. But in this respect, the EMS has not provided as visible an impetus as one might have hoped. The commitment made at the time of its establishment, to take further steps towards monetary integration in Europe, has apparently been set aside. From the outside, it seems that as time has passed it has become more difficult – both politically and economically – to change central rates. Padoa Schioppa argues that this is because those decisions are becoming more collaborative, but this is a charitable view. Moreover, the system is held together, in part, with capital controls and even intra-EEC trade restrictions. Finally, one large member of the Community remains outside the exchange rate arrangements. These tensions may be as much a threat to European integration as more volatile exchange rates would be.

The book on the EMS is not finished yet. I have indicated some economic questions that seem answerable now. And it is important to answer them – not just from the standpoint of evaluating the EMS but for understanding better how alternatives to the present exchange rate arrangements among major currencies and blocs of currencies might function. However, the answer to the most important question, whether external monetary arrangements can contribute to closer economic and

political integration in Europe, will remain open for some time. I, for one, hope the answer will be yes.

NOTE

* The views expressed herein are those of the author and not necessarily those of OECD Member governments or its Secretariat.