

The European Monetary System Lessons from Europe and Perspectives in Europe

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Abstract: In the debate that surrounds the proposals for a reform of the international monetary system the EMS experience is often referenced. These frequent references to the EMS have lacked so far a review of the system aimed at identifying which lessons – if any – one can draw from this experiment at limiting exchange rate flexibility. Analyses of the EMS have been limited to Europe, and have never been brought to bear on the wider question of world monetary arrangements. This is the aim of the first part of the paper. The second part looks at what lies ahead in Europe, asking whether the EMS can survive the current process of rapid financial integration, and what are the prospects for monetary unification. I first discuss the effect of financial integration on public finances, and then I analyse the major development in Europe since the beginning of the EMS: the plan to create a unified financial market. The paper ends with a word of caution on the “financial integration strategy”: financial integration and further progress toward monetary unification will not succeed unless they are accompanied by sweeping fiscal reforms.

I INTRODUCTION

When the EMS was launched in 1978 the new plan for exchange rate stability in Europe was accepted with much skepticism. Policy-makers still were influenced by the collapse of Bretton Woods, and concentrated on learning how to live with flexible exchange rates. Because economists were also attempting to understand the working of flexible exchange rates, there was no analysis of the EMS until the mid-1980s. Now the situation is quite different. The conventional wisdom is that the EMS has been a success, and the debate in Europe has moved on to the issue of monetary unification and the European central bank. Outside Europe, the reform of the international monetary system is no longer an unfashionable topic: “target zones”, and the simple return to fixed exchange rates, have taken centrestage in policy discussions and, to some extent, in economic analysis.¹

*I am especially indebted to Alberto Giovannini, for I draw freely in this paper on material contained in our forthcoming book (1989a).

1. See for instance Krugman (1988a).

There are three views on the future of the international monetary system. Two of them advocate reforms which would limit the degree of exchange rate flexibility; a third concentrates on "fundamentals", and rules out the active management of exchange rates. Ronald McKinnon (1988) is responsible for the first set of proposals. He argues for fixed nominal exchange rates. The system he envisages is very similar to a symmetric gold standard: central banks would use domestic credit policies to peg the price of a common basket of internationally traded goods. Fiscal policy would target external balance: deficits and surpluses would be corrected by changes in the level of spending in the various countries, at given relative prices.

The second proposal, "target zones", was originally formulated by John Williamson (1985), and later elaborated in Miller and Williamson (1988), Croham Committee (1988). The central point of the plan is the assignment of monetary policy to a real exchange rate target: interest rate differences among countries keep the real effective exchange rate of each country within a pre-assigned band. Nominal variables (nominal GDP) are controlled by the average level of world real interest rates, and by domestic fiscal policy in each country.

A radically different view seems to be favoured by the staff of the International Monetary Fund. It begins with the premise that "a reform of the international monetary system should be viewed as a constitutional change that should not be taken lightly, [. . . and] not viewed as an instrument for crisis management." (Frenkel, 1987, p. 11.) Policy-makers should concentrate on eliminating the "fundamental" sources of imbalance in the world economy: "the use of monetary policy to sustain exchange rate stability has definite drawbacks as a longer-term strategy, and that monetary policy is no more than a temporary substitute for changes in underlying fiscal positions." (IMF, 1987, p. 17.)

In the debate that surrounds these proposals, the EMS experience is often referenced. Some – McKinnon, for instance – point to the success of the system at limiting exchange rate volatility. Others – Miller and Williamson – point to the evidence indicating that the EMS has operated as a Deutsche mark zone demonstrating how difficult it is to build symmetric exchange rate regimes. Still others – Fischer (1987a) – point to the apparently crucial role played by capital controls in keeping the system together.

These frequent references to the EMS have lacked so far a review of the system aimed at identifying which lessons – if any – one can draw from this experiment at limiting exchange rate flexibility. Analyses of the EMS have been limited to Europe, and have never been brought to bear on the wider question of world monetary arrangements. This is one of the aims of the present paper.

Two issues seem of particular relevance. First is the issue of symmetry,

that is the formal resolution of the so-called N-1 problem. Mundell (1968, p. 195) pointed out the importance of this problem in any plan for the reform of the international monetary system, and Frenkel (1987) has recently reminded us: "it is essential to ask how the various proposals, including those for target zones, deal with the extra degree of freedom." The second issue is the constraints – if any – that the exchange rate system imposes upon domestic policies, and upon inflation in particular. The issue of "discipline" was central in discussions over the reform of the Bretton Woods system in the 1960s, and has been raised recently by Fischer (1988).

This paper is divided in two parts. In the first I ask what lessons can we draw from the EMS experience that may be relevant for the reform of the international monetary system. Sections 2.1 and 2.2 discuss symmetry and discipline, respectively; Section 2.3 draws the main conclusions. The second part of the paper looks at the prospects in Europe. In Section 3.1 I discuss European public finances; in Section 3.2 I analyse the effects of the two major developments in Europe since the beginning of the EMS: the enlargement of the Community and the Single European Act.

II CAN THE EMS SERVE AS A BLUE PRINT FOR THE REFORM OF THE INTERNATIONAL MONETARY SYSTEM?

2.1 *The Gold Standard, Bretton Woods and the EMS*

A central feature of any operational monetary system must be a solution of the N-1 problem – namely a solution for the problem that in a system of N interdependent countries (and N currencies), only N-1 policies can be set independently, and therefore one policy instrument is redundant. The problem has a symmetric and an asymmetric solution. The symmetric solution "par excellence" is flexible exchange rates: each country sets its own monetary policy independently, and exchange rates are endogenous. Whenever countries actively manage their exchange rates, the consistency between the N-1 targets and the N instruments can be achieved symmetrically or asymmetrically. In the symmetric solution, each central bank uses domestic credit policies to peg the price of a basket of goods in units of domestic currency, and it abstains from sterilising reserve flows. If exchange rates are fixed, central banks must peg similar baskets, ideally to the price of a single good – for example, gold.

In an asymmetric system, the centre country pegs the price of a good (or a basket) in units of its own currency: all other countries peg the bilateral exchange rate *vis-à-vis* the centre country. If exchange rates are fixed, the peripheral countries relinquish all monetary autonomy. In a managed exchange rate system, the possibility of changing the bilateral exchange rate *vis-à-vis*

the central country gives the others some leeway in the pursuit of independent monetary policy.²

The current proposals for reform of the international monetary system all envisage symmetric solutions to the N-1 problem. The McKinnon plan resembles a symmetric gold standard. The "target zones" proposal also calls for symmetry in the management of world monetary policy: "We reject both the idea that any one country should in effect use the level of world interest rates solely for its own purposes, or that the latter should emerge as a result of a set of decentralized decisions by separate countries." (Croham Committee, 1988, p. 50.) These blueprints of symmetric exchange rate systems contrast sharply with the historical experience.

Bretton Woods

In the Bretton Woods system the N-1 problem was solved asymmetrically. Although the numeraire of the system was gold, and thus there was the theoretical possibility of affecting all countries' exchange rates independently by changing their gold price, the *dollar* price of gold was very much regarded as the cornerstone of the system. A change in the dollar/gold parity was considered a *de facto* abandonment of the system. The role of the dollar contrasted with the ability that countries other than the United States had to change their exchange rates. After the abandonment of the "gold pool", in 1968, the Bretton Woods system evolved into a *dollar standard*: a system in which the United States would choose domestic policies with a view to domestic objectives, while the other countries pegged to the dollar, retaining the right to change their peg.

The International Gold Standard

The gold standard that operated from the late 1870s to World War I also worked asymmetrically. Triffin (1947, pp. 58-64) argues that the system was less similar to the classical gold standard than it was to a sterling-exchange standard managed by the Bank of England — at least in the years from 1870 to 1890. The 1931 Committee on Finance and Industry concluded that Britain could "by operation of her bank rate almost immediately adjust her reserve position. Other countries had, therefore, in the main to adjust their conditions to hers." In an econometric study of the international gold standard Giovannini (1986) also shows that the data are not consistent with the

2. If countries retain some policy independence, as in the case of flexible and managed rates, the shortage of independent instruments gives rise to policy conflicts. In the managed exchange rate regime, the possibility of international conflicts can make the regime unstable, because managed rates give the peripheral countries the ability to control the exchange rate in their own interest — and thus against the interest of the central country (see for example Giavazzi and Giovannini, 1988b).

hypothesis that the Bank of England followed the "rules of the game" by using domestic credit policies to minimise the volatility of international gold flows. In the case of the Reichsbank, on the contrary, the hypothesis that it followed the rules of the game cannot be rejected.

The European Monetary System

The EMS provides one more example of a managed exchange rate regime that has worked asymmetrically. Although "symmetry" was the word most frequently pronounced at the Bremen and Brussels summits of June and December 1978 where EMS was created, and notwithstanding rules designed with the explicit purpose of "sharing the burden of adjustment", the system has worked effectively as a DM-zone. Germany by and large has retained the ability to set monetary policy independently; the other countries have pegged to the Deutsche mark. The conclusion that the EMS has worked as a DM-zone is supported by four empirical observations:³

(i) The institutional features that were designed to achieve symmetry in the exchange-rate mechanism of the EMS did not work appropriately. The *divergence indicator* is unbalanced, contains currencies outside the EMS and, most importantly, it does not bind member central banks to any action.⁴

(ii) The *rules for exchange market intervention* were designed with the explicit purpose of "sharing the burden of adjustment": intervention at the margin – when two currencies reach the limit of the bilateral fluctuation band – is compulsory, it has to be carried out by both central banks involved, using each other's currency, and is supported by the Very Short Term Financing Facility. Table 1 reports cumulative intervention figures as percentages of total intervention by all countries in the period from January 1983 to April 1986. From January 1983 to March 1985, there was a general appreciation of the dollar on an effective basis.⁵ In the second period, from April 1985 to April 1986, there was a downward trend of the dollar effective exchange rate index.⁶ The three panels of the table contain data on intervention at the margin of bilateral fluctuation bands (which is carried out in EMS currencies), on intra-marginal intervention in EMS currencies, and on dollar intervention, respectively. The table shows that the two countries most involved in intervention at the margin were Belgium and France. The negative

3. This evidence is presented in Giavazzi and Giovannini (1987, and 1989a, chapter 4).

4. For a discussion of the properties of the divergence indicator see Spaventa (1982); Masera (1987).

5. During that interval there was one EMS realignment which took place in March 1983 and involved a revaluation of the Deutsche mark *vis-à-vis* all EMS partners.

6. In that period there were two realignments: July 1985 (lira devalued) and April 1986 (general Deutsche mark revaluation).

signs in Table 1 indicate a *sale* of foreign exchange by the central bank: for example, the first figure for Belgium ((-)0.554) indicates that the Belgian central bank undertook 55.4 per cent of all marginal interventions carried out between January 1983 and March 1985. The sign is negative, indicating that during this period the Belgian franc frequently hit the bottom of the band relative to another currency in the system. This currency was often the French franc: over the same period the Banque de France was responsible for sizeable interventions (31.3% of the total) in the opposite direction. Notice that the Bank of Italy, which enjoys a wider fluctuation band, never intervened at the margin.

Table 1: *Central Bank Intervention in the EMS*

<i>Interve</i>	<i>Jan. 1983-Mar. 1985</i>	<i>Apr. 1985-Apr. 1986</i>
<i>Marginal Intervention (in EMS currencies)</i>		
Germany	(-)0.093	(-)0.031
Netherlands	(-)0.039	(-)0.108
France	0.313	0.861
Italy	0.000	0.000
Belgium	(-)0.554	0.000
<i>Intra-Marginal Intervention (in EMS currencies)</i>		
Germany	0.000	0.000
Netherlands	0.006	0.051
France	0.637	(-)0.647
Italy	0.073	(-)0.079
Belgium	0.283	(-)0.224
<i>Intervention in US dollars</i>		
Germany	(-)0.645	(-)0.076
Netherlands	(-)0.009	0.092
France	(-)0.303	0.142
Italy	0.012	(-)0.592
Belgium	(-)0.030	(-)0.097
<i>Summary</i>		
Intervention at Margin	0.196	0.429
Intra-Margin Intervention	0.196	0.250
Dollar Intervention	0.608	0.321

Source: Giavazzi and Giovannini (1989a, Chapter 4).

Notes: The data used to construct this table are cumulative intervention figures expressed in US dollars. Negative signs indicate foreign exchange sales by the central bank of the corresponding country. Each entry represents the share of intervention of that country in the total volume of intervention during the given interval, that is in the sum of the absolute values of the entries of that column.

The second panel reports data on intra-marginal intervention. It shows that on average Germany – at least during the years reported in our table – has kept no positions in other EMS currencies for the purpose of intervention. This strongly suggests that Germany might not intervene in the EMS when the Deutsche mark is within the bilateral fluctuation bands of its partner currencies.

The other important piece of evidence on intra-marginal intervention comes from the bottom panel of the table: intra-marginal intervention is as significant in volume as intervention at the margin, and intervention *vis-à-vis* the dollar.⁷ In the second panel, we can see that the direction of intra-marginal intervention changed between the first and the second period. The strength of the dollar between 1983 and 1985 was associated with a weak Deutsche mark within the EMS: the table shows that all the other central banks in the system were purchasing Deutsche marks. After April 1985, when the dollar started falling, the signs in the table change: a weak dollar was associated with a strong DM inside the EMS; all other central banks (with the exception of the Netherlands) intervened selling Deutsche marks.

The third panel of the table reports dollar intervention. The large dollar sales by the Bundesbank, especially during the period of dollar appreciation, might have been motivated by the objective of avoiding the strains within the EMS associated with fluctuations of the dollar exchange rate.⁸ With the data in Table 1, however, we cannot determine whether dollar intervention by the Bundesbank was motivated by the desire to avoid exchange rate strains in the EMS or by the desire to avoid big fluctuations in relative prices with a large trading partner – the United States – along with the assumption that other European authorities would accommodate.

The important lesson from Table 1 is that the burden of EMS-related intervention was shared very unevenly among EMS countries: most of the intra-marginal intervention was carried out by countries other than Germany, while Germany intervened only when bilateral fluctuation margins were reached.

(iii) The strongest evidence in support of the hypothesis that the EMS actually worked as a Deutsche mark area comes from the study of *interest rates*. West German interest rates are unaffected by most intra-EMS shocks, like the expectations of parity realignments, while interest rates denominated

7. For another discussion of the growing importance of intra-marginal intervention, see Ungerer *et al.* (1986).

8. Notice that the dollar interventions by the other central banks are generally consistent with their intra-marginal interventions. When the dollar starts falling, for example France sells Deutsche marks and buys dollars: the DM sale supports the franc inside the EMS, and the dollar purchase is an attempt at slowing down the fall in the dollar that is ultimately responsible for the weakness of the French franc relative to the DM. Italy is an exception: when the dollar starts falling, the Bank of Italy intervenes, selling *both* dollars and EMS currencies (presumably Deutsche marks and Dutch guilders).

in other currencies are those that suffer the full impact of intra-EMS portfolio disturbances. Countries like Italy and France have prevented the wide fluctuations in their own interest rates observed in the (unregulated) Euro-markets from affecting their domestic economies by imposing capital controls. This evidence is similar to that of the gold standard and the Bretton Woods period, when countries other than Great Britain and the United States, respectively, sought to defend their policies from the influence of the "centre" country by imposing various forms of regulatory hurdles on the international transmission of monetary policies.

(iv) The data on *exchange rate movements around EMS realignments* show that at the time of a realignment the Deutsche mark appreciates *vis-à-vis* its EMS partners in the majority of cases. However, the Deutsche mark value outside of the EMS is hardly affected by what happens within Europe. This is consistent with the view that EMS realignments – to the extent that they affect spot exchange rates – are centred around the Deutsche mark.

2.2 *Inflation and the Exchange Rate Regime*

An international monetary system may work asymmetrically because of the efficiency of solving the overdeterminacy associated with the N-1 problem by allocating to one country the task of providing the "nominal anchor" for the whole system. The centre country should be chosen from those whose monetary authorities have the highest "anti-inflationary reputation". This often is referred to as the "discipline" argument for fixed exchange rates.

The "discipline" argument dates back to Mundell's (1968) "optimal burden of adjustment" argument.⁹ More recently, it has acquired new fame – along with the emergence of a new and influential view of the inflation process. Inflation is simply the inefficient outcome of a non-cooperative "game" between the public and the monetary authorities. If inflation is just a source of inefficiency, then the inflation standard in an international monetary system should be set by the country where the "game" produces the least inefficiency: that is the lowest equilibrium rate of inflation. Thus there is an incentive to build monetary areas centred around low inflation countries.

The view rests on the assumption that the exchange rate system can influence inflationary expectations, because exchange rate targets are more credible than monetary targets. This remains an empirical question. Professional views of the role of the exchange rate regime in a disinflation, and the actual experiences, differ widely. On one hand, experiences such as the Southern-Cone "new style" IMF plans, where the exchange rate was used to stop very

9. There is also an influential view maintaining that the Bretton Woods system collapsed when the United States stopped providing price stability to the world economy. See, for example, Johnson (1973).

high inflation rates, were viewed as negative. Critics (for example, Dornbusch, 1982) pointed to the disruptive effects of the large appreciation in the real exchange rate, that was eventually unsustainable, and to the lack of credibility of the exchange rate targets. On the other hand, Bruno (1986) suggests that exchange rate policy might have had an important role in the successful Israeli stabilisation. The positive role of exchange rate policy in the Bolivian stabilisation is also stressed by Sachs (1986).

In the case of the EMS experience, the general perception is that the exchange rate regime helped the high inflation countries. Fischer (1987b) describes the EMS as “an arrangement for France and Italy to purchase a commitment to low inflation by accepting German monetary policy.” Even in countries considering EMS membership, the main advantages of membership are associated with Germany’s reputation. *The Economist* [September 21, 1985] writes:

If sterling does join, the biggest change will be the transfer of responsibility for Britain’s monetary policy from the Bank of England to the Bundesbank which, as the central bank keenest on sound money, sets the pace for others to follow. This would be a blessing: Tory governments may like appointing City gents as governors of the Bank, but Mr. Karl Otto Poehl would do a better job.

The Financial Times [September 28, 1987] writes:

In place of money supply targetry, long since discredited, we would have that unflinching guardian of monetary rectitude, the Bundesbank, standing as guarantor against Britain’s endemic propensity to generate double-figure rates of inflation.

What is the evidence? The EMS has worked as a DM-zone: according to the “discipline view” we would expect the low inflation propensity of the Bundesbank to have shifted inflation expectations downward in the other countries. Table 2 compares inflation rates of various European countries at the start of the EMS with the present. The table suggests both the presence of significant convergence of European inflation rates towards the West German levels, and a general decrease of inflation, which is not limited to the countries belonging to the EMS. Since the conclusion of the preceding section is that West Germany’s monetary policy has been at the centre of the EMS, and since West German authorities built a wide reputation as “inflation fighters” in the second post-war period, the natural question raised by this experience is whether the structure and working of the EMS, and in particular the central role played by the German monetary authorities, have played any role in the disinflation experience of countries as different as Denmark, France and Italy. In Giavazzi and Giovannini (1989a, Chapter 5) we have attempted

to measure empirically the effects of the EMS on the dynamics of inflation in member countries. The results appear to broadly agree with the popular presumptions, but the evidence of a shift in expectations associated with the institution of the EMS is very weak. Inflationary expectations seem to have adjusted with a long lag: 2-3 years. One explanation might be that learning takes time. Another and more appealing explanation is that some European governments used the EMS to justify unpopular domestic policies. These policies, in turn, shifted expectations.

Table 2: *The European Disinflation*
(GDP deflator: annual growth, per cent)

	1978	1987
Belgium	4.3	2.1
Denmark	9.9	4.6
France	9.5	3.3
Germany	4.3	2.1
Ireland	10.5	2.9
Italy	13.9	5.5
Netherlands	5.4	-1.0
United Kingdom	11.3	4.0

Source: *European Economy*.

Using the exchange rate regime to justify being tough is an indirect, albeit effective, way to impose discipline. If it worked in Europe — and our evidence suggests that it might have — then it did so under two *very special* circumstances. First, the EMS is just one element of a much richer set of agreements among European countries in the trade, industrial, and agricultural areas. As I discuss in Section 3.2 these agreements rest on exchange rate stability, and thus lend credibility to exchange rate targets.

The other reason why the EMS may have shifted inflationary expectations is capital controls. By allowing “weak-currency” countries to fend off speculative attacks against the reserves of the central bank, capital controls have performed two important functions in the EMS. They have avoided realignments during periods of crisis in the system — for example, when the dollar falls. Episodes of dollar weakness are often associated with a crisis in the EMS: in the absence of capital controls, it would be difficult to sustain existing parities. Second, capital controls have enabled central banks to delay parity realignments during the disinflation. This has been a crucial factor in forcing inflation convergence, because the discipline that the EMS imposes upon its high inflation members, depends crucially on the interval between successive

realignments being sufficiently long. If high inflation countries had been forced to realign as soon as higher-than-average inflation (combined with the rigidity of the nominal exchange rate) started hurting competitiveness, then the system would have been indistinguishable from a crawling-peg: all discipline gains would have vanished.¹⁰

We conclude that despite its popularity, the view that European countries may have joined the EMS simply to buy the anti-inflationary reputation of the Bundesbank is quite narrow. First of all, the discipline argument certainly was not prominent when the EMS was designed. By neglecting the incentives to stabilise intra-European exchange rates, the reputation view overlooks the main motivations that brought about the establishment of the EMS.

Moreover, the reputation view fails to explain Germany's incentives. What did Germany gain from the discipline it provided to the rest of Europe? There is no general explanation for the incentives of the central country. Models of credibility and reputation are suggestive of the reasons why inflation-prone countries may want to belong to a monetary area centred around a low-inflation country, but do not explain the incentives of the centre country. A tentative explanation for why Germany might have accepted this role is suggested by the observation of real exchange rates. By joining the EMS, Germany seems to have achieved more stability in its real effective exchange rate. EMS membership has dampened the effects on the German economy of extreme dollar-DM fluctuations. This has happened because, since the beginning of the EMS, European currencies on average have kept closer to the Deutsche mark, thus contributing to stabilisation of Germany's global competitiveness. This is the opposite of what happened in the early 1970s, when the fall of Bretton Woods was accompanied by an appreciation of the Deutsche mark *both* in Europe and *vis-à-vis* the United States. This evidence provides some support for the "European Alliance" view of the EMS: the interest that Germany had in the creation of the system was "to limit the detrimental effects of dollar disturbances" (Thiel, 1987, p. 17).

2.3 *Summing Up: Is the EMS Exportable?*

In this section I have reviewed the experience of the EMS to identify the lessons that this experiment in monetary co-ordination could provide to those who are considering a reform of the international monetary system. Policy co-ordination, and the successful attempt at making exchange rate targets credible, are sometimes hailed as important European achievements and examples for experiments outside of Europe as well. This view should be taken with caution:

10. For an analysis of the role of capital controls in the European disinflation see Giavazzi and Pagano (1988a, 1988b). For an analysis of the effects of dollar fluctuations on intra-European exchange rates, see Giavazzi and Giovannini (1986).

(1) The degree of *policy co-ordination* probably has been higher in the EMS than under Bretton Woods, particularly during realignments. However, co-ordination has never been extended to the area of monetary policy targets. As a result, the EMS operates essentially a Deutsche mark zone, in a way that is not very different from the Bretton Woods system.

(2) The *credibility of exchange rate targets* has been enhanced under two very special conditions, unlikely to be reproduced outside Europe:

(i) intra-European agreements, and the EC common agricultural policy in particular, rely on the stability of intra-European exchange rates. Leaving the EMS is perceived in Europe as a move that would question the survival of other EC institutions as well. These institutions have played an important part in lending credibility to exchange rate targets;

(ii) capital controls also have played a major role in making exchange rate targets credible, by severely limiting the possibility of speculative attacks against central banks' reserves. In order to survive, the EMS has become addicted to a mechanism that precludes further financial integration. This is a major problem in view of the fact that item number one on the policy agenda in Europe is the completion of a unified market by 1992, the date set by the Single European Act. Will the EMS survive the removal of exchange controls? This is a controversial issue that I take up in the second part of the paper.

III WHAT NEXT FOR EUROPE?

3.1 *European Public Finances and the Exchange Rate Regime*

The imported reputation argument discussed in Section 2.2 relies on the assumption that inflation is only a source of inefficiency, arising from the information costs of nominal price volatility. However, there are other important aspects of the cost-benefit analysis of inflation. One is the role of inflation in public finance, which might be particularly relevant for European countries.¹¹

Inflation is an important source of government revenue. It should thus be thought of as just one element in an optimal tax problem, namely the problem of raising a given amount of revenue at the lowest cost in terms of welfare. In solving this problem, the distortions induced by inflation should be traded off with those induced by regular taxes.

The extent to which governments generate revenue through the seignorage attached to money creation varies across Europe. Table 3 documents the

11. Dornbusch (1988a, b) and Giavazzi (1988) point to the public finance role of inflation as an important factor in choosing an exchange rate regime for Europe. Seignorage and fixed exchange rates are discussed in Fischer (1983).

importance of seignorage among the sources of government revenue in the EC. The data show that the countries where seignorage revenue is the highest are also the countries where the revenue from other forms of taxation is the lowest. Seignorage still accounts for 7 per cent of total government revenue in Greece, 5 per cent in Spain, around 4 per cent in Italy and Portugal; these are also the countries where the share of tax revenue (net of seignorage) in GDP is the lowest. In many southern European countries seignorage has recently fallen along with the fall in inflation – in Portugal, for example, from 16 per cent of total revenues in 1982, to 4 per cent in 1986; the loss of seignorage, however, has not always been accompanied by a corresponding increase in tax revenues – the result being an increase in public debt (in Portugal, for example, from 40 per cent of GDP in 1980 to 72 per cent in 1987).

Table 3: *The Importance of Seignorage among Total Tax Revenues in Europe*

	<i>Tax Revenues Excluding Seignorage</i>			<i>Seignorage</i>		
	<i>(% GDP)</i>			<i>(% of seignorage plus total tax revenues)</i>		
	<i>1979</i>	<i>1982</i>	<i>1986</i>	<i>1979</i>	<i>1982</i>	<i>1986</i>
Portugal	26.0	31.0	32.4	17.2	15.8	4.2
Greece	27.7	31.8	36.7	5.7	13.1	7.3
Spain	23.4	25.8	30.4	13.2	9.0	4.9
Italy	26.5	33.7	36.2	9.2	6.2	3.5
Ireland	31.2	36.8	40.2	4.1	2.4	0.9
France	40.2	42.7	44.2	1.1	3.1	-0.6
Germany	37.7	37.4	37.5	1.4	0.7	1.4
Belgium	44.5	45.4	45.4	0.8	0.0	0.8
Netherlands	45.0	45.4	45.5	1.1	1.1	0.6
Denmark	44.5	44.5	50.6	1.0	0.2	-4.9
UK	32.9	39.3	39.0	1.7	0.5	0.3

Sources and Definitions: *Seignorage* is the change in the monetary base (line 14 from: International Monetary Fund, *International Financial Statistics*), as in Fischer (1983). *Tax revenues* are from OECD: *Revenue Statistics of OECD Member Countries*, Paris, OECD, 1988. They refer to total tax revenues, including taxes on personal and corporation income, employers' and employees' Social Security contributions, property taxes, consumption taxes, and excises.

Low tax revenues often reflect the structure of the economy; it is not clear that they could be raised very fast. They are often associated with a narrow tax base, rather than with lower-than-average tax rates. In discussing the Greek economy, for example, the OECD writes:

There is [in Greece] a relatively heavy tax burden on incomes and transactions that are easily taxable (wages and salaries, purchases of cars and some consumer durables, real estate and inheritance transactions). Tax evasion and avoidance are partly responsible, but the most important factor is the structure of the economy characterized by a large share of agriculture in GDP (18%), and of self-employment in the non-agricultural labour force (33%). (OECD, *Economic Survey of Greece*, 1987).

The case of Portugal is similar: "Low tax yield is attributable to the narrowness of the tax-base, which is not unrelated to the high marginal tax-rates." (OECD, *Economic Survey of Portugal*, 1986). The inflation tax may also be the only way of taxing economic activity in the underground economy. In some countries a substitution of seignorage for other forms of taxation may not be possible without further adding to the distortions of the tax system. Differences in fiscal structures thus justify differences in the "optimal" revenue from seignorage. It is unlikely that with an unchanged fiscal structure and in the absence of fiscal redistributions, the "optimal" inflation rate may be the same across Europe.

3.2 Which Exchange Rate Regime for the Single European Financial Market?

The major development in Europe since the EMS began was the decision — made in 1985 — to "complete the internal market": that is to eliminate by 1992 a variety of practices that cause frontiers to matter still in the EC. The plan (as set out in the *Single European Act* of 1986, see EC (1985, 1987)) would create a truly unified market, comparable to that which exists in the United States. Its motivation is the widespread impression that notwithstanding the EC, European markets remain less than fully integrated in ways that may not be explained by visible obstacles.¹² Market segmentation is particularly evident in the banking and insurance industries: in fact, the high point of the Single European Act is the establishment of a common market for financial services. However, the plan for integrating European financial markets comes up against the inconsistency between full financial integration and the current working of the EMS.

The recent experiences of liberalisation have had mixed outcomes. No sooner had the Italian monetary authorities removed controls on "leads and lags" (in May 1987) than they were faced with a severe speculative attack. Because of the level and maturity structure of the Italian public debt, the authorities could not accept a rise in domestic interest rates large enough to

¹² For a discussion of market segmentation in the EC, see Krugman (1988b) and Smith and Venables (1988).

stop the capital outflow. The Bank of Italy was thus forced to decide between giving in, and accepting a realignment that it viewed as unwarranted by “fundamentals”, or reintroducing administrative controls. And so went (at least temporarily) the attempted liberalisation of leads and lags. The French experience has been more successful so far, notwithstanding a sequence of attacks on the French franc. There are two likely explanations for such success. The first is that France does not have a public debt problem, so that the French authorities have been more prepared than the Italian to let domestic interest rates bear the burden of adjustment. The other important reason is that foreign lending in domestic currency is still controlled, so that the volume of funds that can be mobilised to stage an attack is limited.

If full financial integration remains the primary political objective in Europe, and if the current system of fixed but adjustable parities cannot survive full financial liberalisation, the choice is between allowing greater exchange rate flexibility, or giving up realignments altogether, moving toward a system of credible, and thus irrevocably fixed rates – that is a monetary union. I believe that greater exchange rate flexibility is not a viable option in Europe today. Since the mid-1950s Europeans have attempted to limit intra-EEC exchange rate fluctuations, for three main reasons. First, European countries are all relatively open. Second, many in Europe hold the floating rates of the 1920s and 1930s responsible for the ensuing collapse of national economies and of the international trading and monetary systems. Third, post-war European institutions – particularly the common agricultural market – depend for their survival on exchange rate stability.¹³

Analysing the exchange rate question in Europe without considering why Europeans are particularly averse to exchange rate fluctuations would not give a clear picture of the problem. The EMS is just one element of a much richer set of agreements among European countries in the trade, industrial and agricultural areas. These agreements rest on exchange rate stability.

In Europe financial integration thus calls for more – rather than less – exchange rate stability. This explains why the viability of irrevocably fixed exchange rates, reserve pooling and the setting of monetary targets by a supernational institution have become prominent issues on the European agenda.¹⁴

13. In Giavazzi and Giovannini (1989a, Chapter 1) we describe in detail the effects of exchange rate realignments on European institutions and in particular on the common agricultural market and on the EC budget.

14. The issue of a “European Central Bank” is analysed in Cohen (1989), and Thygesen (1987). The prospects of the EMS after financial liberalisation are discussed in Padoa-Schioppa (1988).

3.3 *Financial Integration and Fiscal Reform*

The risk of the financial integration *cum* monetary unification strategy is that it will not work in the absence of a fiscal reform. There are two reasons why fiscal reform is a *prerequisite* for financial integration:

(i) Fiscal structures, as documented in Section 3.1, differ across Europe: tax systems are less efficient in the southern countries, and, as a consequence, governments there “optimally” rely more on the inflation tax than northern countries do;

(ii) A monetary union implies giving up exchange rate realignments as a tool of economic policy. The loss of the exchange rate instrument must be compensated either by *fiscal transfers* across countries (centralising some revenues and redistributing them throughout Europe, along the example of the US Federal government), or by an active use of *differentiated fiscal policies*. One option requires building new fiscal institutions in Europe. The other may not be easy since in an integrated market the only transactions and the only factors that can be taxed differently across countries are those that cannot be relocated at low cost.

A note of caution on the “financial integration strategy” is also suggested by the situation of some current members of the EMS. The three OECD countries characterised by the highest ratio of public debt-to-GDP (Italy, Belgium and Ireland) are also members of the EMS. In these countries, the debt problem has emerged during the EMS years and is far from being solved. From 1981 to 1988, the ratio of public sector debt-to-GDP has increased from 61 to 97 per cent in Italy, from 88 to 130 per cent in Belgium, and from 90 to 145 per cent in Ireland. While Belgium and Ireland have a primary budget surplus, Italy still has a primary deficit equal to 3.5 per cent of GDP. Unemployment, however, is close to 20 per cent in Ireland, 12 per cent in Belgium, 10 per cent in Italy. Is the inflation rate consistent with fiscal stability the same in Ireland, Italy, Belgium and Germany? Once again, further steps toward financial integration and monetary unification in Europe are closely linked to the issue of fiscal reform.

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