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Regional Exchange Rate Arrangements:
The European Experience

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1 Introduction

Regional arrangements generally remain controversial. They are sometimes seen as a threat to multilateralism, and multilateralism is, in principle, first best. The argument for multilateralism and against regionalism is best developed for trade arrangements: regional agreements have a trade-creating effect within the region but also a trade-diverting effect in the rest of the world and, for that reason, could quite possibly reduce overall welfare. Yet the threat is not substantiated by historical developments over the last decades. Baldwin (1997) develops a convincing domino theory according to which regional trade arrangements prompt multilateral arrangements as those left out face additional incentives to reach multilateral agreements that they were resisting beforehand. The domino theory is dynamic, trade diversion is static.

Applying the general presumption against regionalism in matter of exchange rate arrangements is even more misleading. The IMF was created to promote multilateralism in exchange rate arrangements largely in reaction to the self-destructive wave of beggar-thy-neighbor devaluations during the interwar period. This is why the IMF and many countries are unhappy with regional arrangements. Yet, a number of factors ought to be taken into account.

First, there is no international monetary system since the end of the Bretton Woods system. Every country is free to choose the arrangement that it deems most desirable, without having to make sure that it fits other countries. True, the IMF's Articles of Agreements ban exchange market manipulations of the beggar-thy-neighbor type, but there is no rule that prevents regional agreements. Regional arrangements do not impair a non-existing system.

Second, existing regional arrangements do not aim at a collectively negative behavior vis a vis non-members. The euro floats freely as does the East Caribbean dollar. The CFA franc is tied to the euro. It is very unclear how third parties can be hurt by such arrangements. Trade blocks have not been found to create adverse trade diversion, currency blocks are even less likely to do so.

Third, a direct consequence of regional arrangements is to reduce the risk of currency crises, which often have unpredictable contagious effects. For instance, European currencies used to be regularly buffeted by speculative attacks; this is now history within the monetary union and, so far at least, it has not led to exchange rate instability elsewhere. Preventing contagious crises is one of the most urgent tasks of the international monetary "system" and regional arrangements are arguably the most efficient response.

The recent interest in regional exchange rate arrangements has been stimulated by the hollowing-out view, sometimes also called the two-corner solution. This view holds that there is no workable middle ground between floating and hard pegs (currency boards or the adoption of a foreign currency). It predicts that the traditional fixed exchange rate regimes are doomed in a world of unfettered capital flows. According to that view, those countries that wish to limit exchange rate flexibility have to go all the way to hard pegs. The regional counterpart to a hard peg is a monetary union.

The creation of the euro also contributes to the rising popularity of regional arrangements. Up until its birth, the project was often greeted with suspicion and warnings of impending disaster (Feldstein, 1997). Five years later, predictions that the arrangement is doomed can still be heard but they sound increasingly hollow. Truth is that the euro has been a stunning success. Gone are the days of speculative attacks and wide inflation differentials in Europe. The debate on whether the European Central Bank (ECB) is performing well is vigorous, as it should be. To be sure, the construction is imperfect, in line with, if not better than, the historical record of new federal institutions. Some populist European politicians blame the euro for every difficulty, and often fall in sympathetic ears, but their arguments are weak and rest on no evidence. Regional monetary unions can work as do other arrangements such as Europe's previous Exchange Rate Mechanism.

Yet, it would be equally misleading to believe that the European example can be easily transposed elsewhere. Over the last fifty years, Europe has achieved a remarkable degree of economic and financial integration. Twenty five countries now share a single market for goods and services and twelve countries have adopted a common currency, the euro. Over the next decade, a few more countries will join the Single Market and ten more countries could adopt the euro. This process is also matched, to some degree, by political integration with efforts under way to align foreign policies and internal security. Not all is perfect, though, and formidable challenges remain on the agenda, if only to improve the existing governance structure initially designed for the first six countries that formed the European Community in 1958.¹ Yet, the depth and width of the arrangement is unprecedented, and it brings together countries that have been at war with each other over the last thousand years. War is today unthinkable, and it is this objective that has underpinned the effort and the readiness to give up significant elements of national sovereignty.

This paper's thesis is that Europe's story carries a number of important lessons but also several warnings. For instance, it argues that, all along, the commitment to fixed exchange rates has taken precedence over capital mobility. Exchange rate stability has been seen as a pre-condition for trade integration, the only way of establishing a level-playing field for international competition. The decision to adopt a common currency has come very late, much as capital mobility has been restrained for decades, and established only after a high degree trade integration had been achieved, along with the establishment of powerful supporting institutions. Put differently, regional trade integration, exchange rate stability and institution building came first, capital mobility and monetary union came last. A key question is whether this sequencing can be modified and whether the pace can be accelerated. The answer is that both are quite unlikely.

The following section examines the reasons why small open – or would-be open – economies care about exchange rate stability and how can stability be achieved. It shows how Europe has dealt with this issue. It emphasizes that choosing an exchange regime cannot be independently of the capital mobility regime choice. Section 3 then describes in detail the gradual hardening of exchange rate arrangements in Europe. Section 4 draws the lessons of that experience. The last section concludes.

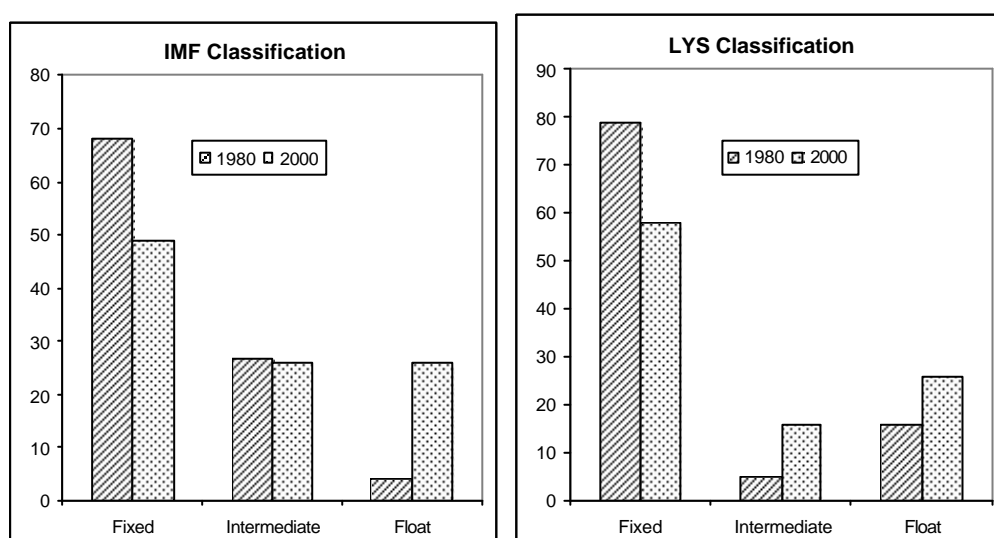
¹ These countries are Belgium, France, Germany, Italy, Luxembourg and the Netherlands.

2 The Logic of Soft Pegs

2.1 Regime choice

Despite its appeal, the hollowing-out hypothesis is not being verified in practice, at least not yet. A few well-known cases of adoption of hard pegs in the 1990s (currency boards in Argentina, Estonia, Lithuania, Bulgaria; dollarization in Ecuador and El Salvador) do not signal mass migration to hard pegs. Many countries have announced that they let their currency float freely, but these announcements have not always been followed by acts. Figure 1 reports on the *de jure* exchange rate regime reported to the IMF and the *de facto* regime determined by Levy-Yeyati and Sturznegger (2002). The figure shows that the proportion of *de jure* pegged exchange rate regimes has declined between 1980 and 2000, with an equal increase of freely floating regimes. Levy-Yeyati and Sturznegger's (LYS) classification confirms the decreasing popularity of pegged regimes but find that migration has taken place towards the intermediate regime (crawls, managed floats). Much the same picture emerges from the classification by Reinhart and Rogoff (2004) who use a very different procedure to identify the exchange regimes.

Figure 1. Official IMF and de facto exchange rate regimes (% of all countries)



Source: Levy-Yeyati and Sturzenegger (2002).

The evidence against the hollowing-out hypothesis is of considerable importance. This hypothesis is based on the entirely correct view that, when capital is freely mobile, pegged regimes are unstable unless the use of monetary policy is purely and simply abandoned, being fully dedicated to upholding the peg. But in that case, the peg becomes a hard one, there is no sustainable midway. In fact the evidence seems to suggest that many countries clearly do not wish to move to the extremes. They exhibit both “fear of floating” (Calvo and Reinhart, 2000) and “fear of pegging”. Resistance

to adopting formal pegs is explained by the loss of monetary independence and by the risk of inviting speculative attacks. Resistance to freely floating is explained by the high degree of volatility that exchange rates then display.

Central to the hollowing-out hypothesis, therefore, is the view that full capital mobility is the natural evolution. What the evidence betrays is the fact that most developing countries are reluctant to remove all restrictions to capital mobility, following the approach of most developed countries. It is not until the late 1980s that full capital mobility has become the norm among developed countries. As will be argued below, this is what has led to the adoption of the euro.

Put differently, the choice of an exchange rate regime cannot be dissociated from the capital mobility regime. The hollowing-out hypothesis, a reincarnation of what used to be called the “impossible trinity”, can be restated as follows: if a country opts for a regime of full capital mobility, the only sustainable exchange rate regimes are the extreme ones, hard pegs or free floating; if it opts for a high degree of exchange stability – to be defined more precisely below – it must restrict capital mobility.

2.2 Forms of exchange rate stability

Exchange rate stability does not necessarily mean a peg. Bretton Woods-style fixed but adjustable pegs with fluctuation bands represent one way of achieving a degree of stability, but it is not the only way. In the presence of high, but moderate inflation, pegs require recurrent depreciations, which can take the form of crawling pegs with various adjustment frequencies. A close substitute is a managed float whereby the authorities allow the exchange rate to depreciate over time, if need be, but limit the range of fluctuation around the trend.

This view of exchange rate stability focuses on the behavior of the exchange rate, an important policy consideration, but not the only one that matters. Equally important is the commitment aspect. A peg announcement, whether it concerns a fixed but adjustable rate or a crawling band, commits the authorities in two ways. First, monetary policy must be constrained. This constraint can be relaxed somewhat by delinking domestic financial markets from international conditions through limits on capital mobility, but the effectiveness of capital controls is limited in this respect. Second, announcing a band of fluctuation, no matter how wide it is, means that its hedges are open to speculative pressure. When the exchange rate comes close to any hedge, the situation usually becomes untenable. Thus a peg announcement carries with it an implicit invitation to speculation. Capital controls offer some protection, this is where they are effective, for they provide with some breathing room in the midst of a currency crisis.²

Managed float is the increasingly popular regime. It seems to offer the best of both worlds, allowing the authorities to limit short run fluctuations while accommodating long run trends and removing the commitment that invites speculative attacks. This

² There is a huge literature on whether capital controls are useful and on their distortionary impact. Most of it is highly critical of capital controls, found to imply high costs and few benefits. A sober assessment is in Rogoff (2002). The statement above only concerns the usefulness of controls during speculative attacks.

view is misleading. Markets are good at spotting the implicit strategy and they will test the implicit limits of fluctuations. If there are no such limits, or if they are fuzzy, the stabilization effect is lost. If the authorities do enforce limits, the difference with explicit bands is cosmetic. Much the same applies to the width of the fluctuation bands. Narrow bands impose a tight constraint on monetary policy, wide bands make little difference from a free float, except that they will occasionally be subject to speculative pressure.

In the end, there is no free lunch: restricting the volatility of the exchange rate can only be achieved by subjecting monetary policy to fairly strict constraints. There are various ways of achieving this aim, they all require discipline. This is why a peg, of one form or another, is sometimes referred to as an anchor. As such it is a desirable tool, to be compared to other monetary policy rules, such as inflation targeting or money growth rules. For small open economies, this may be the best rule, as the next section argues.

2.3 Why exchange rate stability matters: the case of Europe

There are several reasons for wanting to limit exchange rate variability. The most commonly cited reasons are a quest for stability for trade purposes, a strategy of importing monetary discipline, and a lack of sufficiently deep financial and exchange markets. This section argues that, in Europe, the key motivation was trade.

Financial and exchange markets were shallow in Europe in the 1950s. After the move to current account convertibility in 1958, capital account restrictions remained widespread, partly motivated by the belief that it would help to operate the fixed exchange rate system. By the late 1970s, Europe had deep enough markets to operate reasonably efficient exchange markets, yet capital restrictions remained widespread. The UK liberalized in 1979 but it did not join the Exchange Rate Mechanism (ERM) of the European Monetary System instituted that same year. Within the system, Germany was the first, and for a long while the only, country to make the move in 1981 (see Table 1 below). In these pre-liberalization years, there were many bad and one good reason to maintain capital controls. The good reason was the fear that unlimited capital mobility could endanger exchange rate stability.

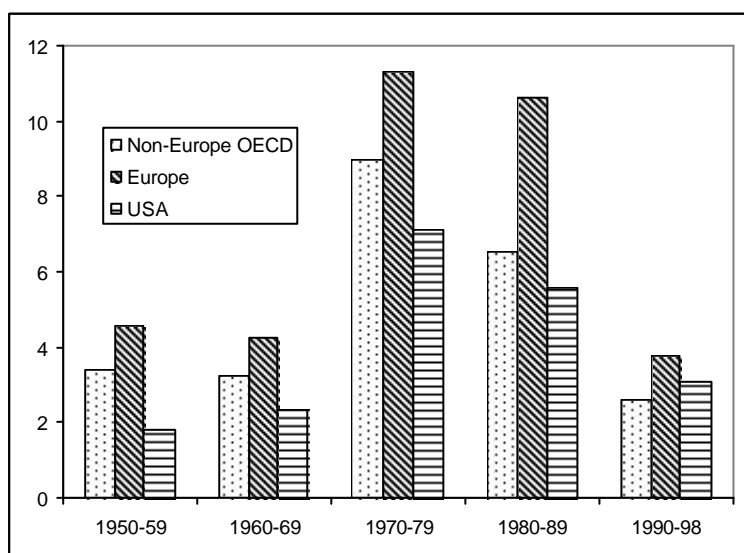
It is often claimed that most countries wanted to use the nominal exchange rate as an anchor to import the Bundesbank's discipline. This is a revisionist view, at least until the 1980s. To start with, the discipline argument predicts that Europe's inflation rate should have remained close to that of the US during the Bretton Woods period, and then close to the German rate. It also predicts that Europe's inflation should have been lower than in the other industrialized countries which have been floating for most of the post-Bretton Woods era (Japan, the UK, Switzerland and Canada; and more recently Australia and New Zealand). Figure 2 does not bear out these predictions. On average, Europe (excluding the floaters, Switzerland and the UK) exhibits the worst inflation performance in the OECD area. If discipline was the motivation, it did not work. Most likely, it was not.

Table 1. Year of Liberalization in postwar Europe

	Internal	External
Austria	1981	N.A.
Belgium	1978	1990
Denmark	1980	1988
Finland	1970	
France	1985	1989
Germany	None	1981
Ireland	1969	1992
Italy	1983	1990
The Netherlands	1981	1986
Norway	1984	
Portugal	N.A.	1992
Spain	1966	1992
Sweden	1983	
Switzerland	1975	1980
United Kingdom	1971	1979

Sources: Exchange controls from Bakker (1996), p. 220; credit ceilings from Cottarelli et al. (1986), unpublished appendix.

Figure 2. Inflation in the OECD area



Source: IMF

Note: Non-Europe is Japan, Canada, Australia, New Zealand, Switzerland and the UK

The view that exchange rates can be used as an anchor is fairly recent, at least in European official thinking. Arguing that the inflation anchor argument lays as the motivation for the setting up the EMS involves mixing up timing. It is only after the wave of currency crises of 1983, once France adopted the "Franc fort" strategy, that the EMS started to function asymmetrically with the DM as its recognized anchor. When the EMS was created, reference was explicitly made to nominal exchange rate stability, not to the desire of anchoring inflation to best practice in Germany. Realignments were not only possible but actively practiced and always justified as a "correction" of accumulated inflation differentials. In fact, the EMS was explicitly set up as a symmetric system, with no center currency. Its rules carefully avoided adopting the Bretton-Woods presumption that high inflation-weak currency countries would bear the burden of adjustment in case of misalignment and market pressure. Responsibility for exchange market interventions was strictly bilateral, with unlimited support from the strong to the weak currency country, as is explained in Section 3 below. Much to the discomfort of the Bundesbank,³ the EMS was aiming at a "regression toward the mean", not attempting to build up pressure towards best practice.

The view that exchange rate stability promotes commerce has no theoretical support (uncertainty can either encourage or discourage international trade depending on assumptions) and limited empirical support, see for example Kenen and Rodrik (1986) for a sample of industrialized countries and de Grauwe (1988) for the European Union; stronger evidence has been adduced by Rose (2000) and by the literature on the border effect (Helliwell, 1998; Parsley and Wei, 2001). At any rate, this motivation has been crucial. Policymakers happened to believe that nominal exchange rate stability matters for trade, possibly for good reasons.

Evidence on the stability of intra-European exchange rates is presented in Figure 3 for the key French franc/Deutschmark exchange rate. In the top left chart, the figure displays the real exchange rate between these two currencies over the period 1971-1998, at the end of which both currencies ceased to exist. The chart underneath shows the real exchange rate of the franc vis a vis the US dollar. The contrast is sharp and confirmed by the two middle charts which depict the behavior of Sterling, a non-EMS member (except for a very short period in 1992). Much the same pattern applies to the other EMS currencies. For comparison purposes, the rightmost charts show the real exchange rate between Argentina and Brazil over the period 1980-2003. Much as is the case for Britain and its European partners, the bilateral volatility between the two currencies is of the same order of magnitude as their volatility vis a vis the dollar. Clearly, the European countries that wanted to stabilize their bilateral exchange rates succeeded.

It is important to note that it is not the *nominal* exchange rate that was stabilized, but the *real* rate. This remark is important for two reasons. First, while the target was the real exchange rate, the instrument was the nominal exchange rate. The procedure was to use frequently the ERM's provisions for realignments and to base these realignments quite explicitly on PPP. Second, the observation confirms that the goal

³ As documented in Eichengreen and Wyplosz (1993), the Bundesbank had arranged for a private agreement with the German Treasury that would suspend the intervention clause if it determined that it was threatening price stability. This clause was invoked during the lira crisis in September 1992.

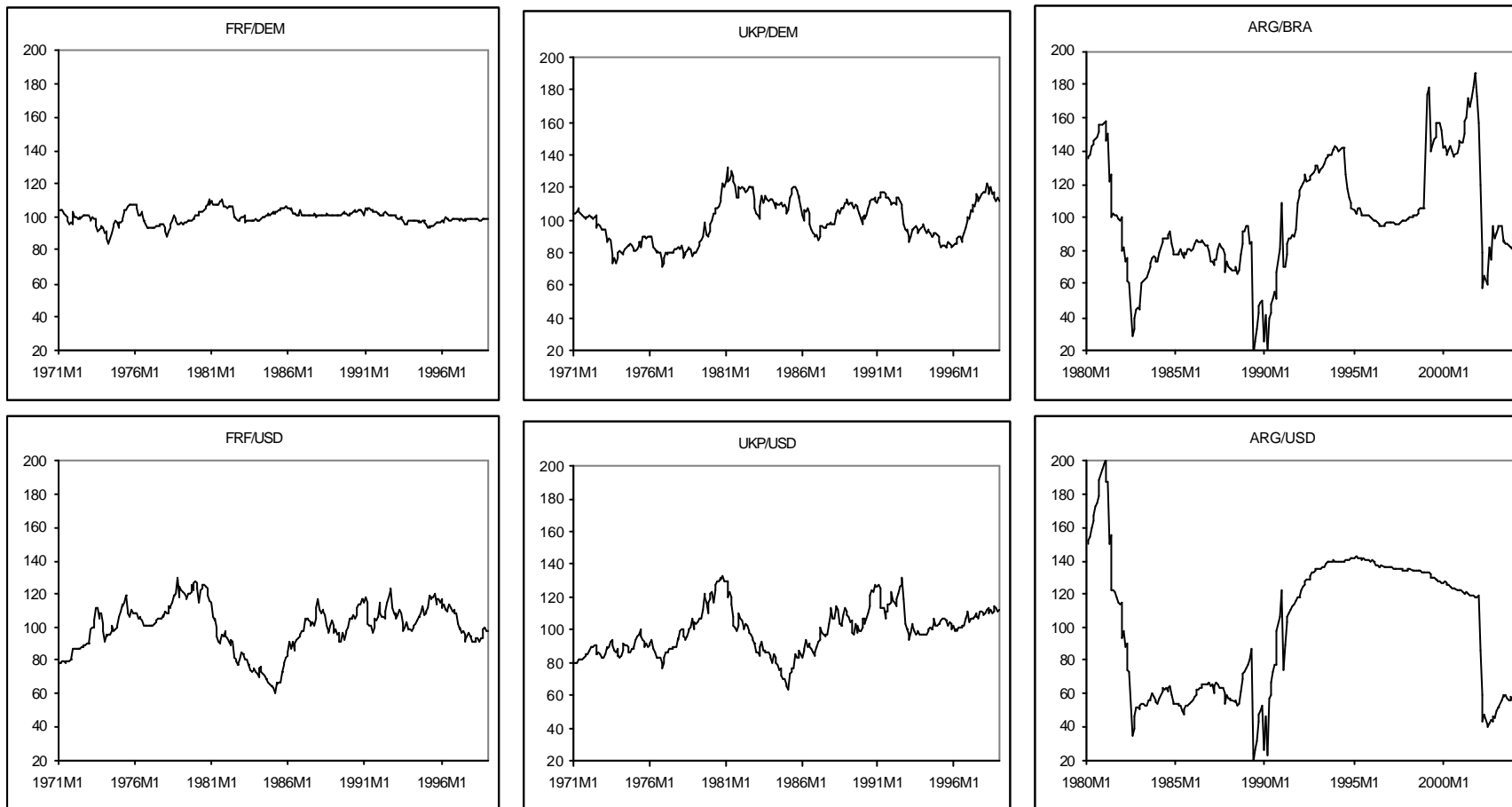
was not use the exchange rate as a nominal anchor to achieve uniformly low inflation. Germany was attached to price stability, and achieved it throughout the period. Other countries, notably France and Italy, had more tolerance for inflation, and periodically realigned their exchange rates to re-establish competitiveness.⁴ But the UK's inflation performance was similar to that of France and Italy. If the UK did not join the ERM it is not because of inflation but because it paid less interest to exchange rate stability than its partners. Clearly, inflation differentials were considerably more modest than those observed e.g. in Latin America. It is likely that the arrangement would not have been possible for large inflation differentials. In that sense, exchange stability was promoting discipline.

Summarizing, this section argues that the European countries have identified real exchange rate stability as a key policy target. The discipline argument for exchange rate stability aims at the nominal, not the real exchange rate: nominal rates were anything but stable and Europe's inflation performance has been worse than in most other developed countries. The view that exchange rates were kept pegged because the markets were too shallow to be efficient is not convincing either. That may have been the case in the 1950s and the 1960s when the currencies were simply not convertible, but certainly not in the 1970s and beyond.

⁴ The Netherlands is one country that actively used the exchange rate as an anchor and undertook never to devalue vis a vis the Deutschemark.

Figure 3. Real Exchange Rates

(Sample average = 100)



Source: IMF

Note: The index uses the consumer price index.

3 Exchange Rate Arrangements in Europe

This section briefly describes the different arrangements adopted in Europe since the end of World War II. It illustrates two key aspects of Europe's monetary integration: a constant quest for internal exchange rate stability and a succession of daring advances and setbacks. Europe's approach to exchange rate coordination has been gradual and pragmatic. It has mainly reacted to events, both external (e.g. the end of the Bretton Woods system) and internal (the removal of capital controls), shunning any grand design. The 1971 Werner Plan to launch a common currency within two years never took off. The project was adopted twenty years later only when it had become obvious that the ERM could not cope with full capital mobility, even though policymakers may not have realized this necessity.

3.1 Brief historical overview

Bretton Woods. The Bretton-Woods agreements provided indirectly for fixed exchange rates within Europe but it was not a joint undertaking, nor was it intended to further any specific European goals. The agreements matched European interests, but also those of the US equally preoccupied with the restoration of trade links. Faced with an acute shortage of dollar balances, European countries did not move to establish currency convertibility from the outset. As they concentrated on developing bilateral payment settlement agreements, both among themselves and with non-European countries, they started to work out their own arrangements:

The European Payments Union. The European Payments Union (EPU) was set up in 1950 to simplify the cumbersome web of some 200 bilateral payment agreements. It worked as a multilateral clearing system, focusing on the overall balances of payments of its member countries vis a vis the union. Generally considered as a success, the EPU is credited for having helped the resumption of intra-European trade. The EPU had some drawbacks, mainly its tendency to encourage trade amongst its members, discriminating against non-members.

Convertibility. The next major move, the restoration of currency convertibility in 1958, was decided collectively, alongside the adoption of the Treaty of Rome, the foundation of Europe's Common Market. Convertibility initially only concerned the current account. For many more years the financial account remained subject to fairly draconian restrictions in most countries. The arrangement provided for a high degree of exchange rate stability, with few realignments. The first major depreciation, by the UK, did not occur until 1967. It was followed by a depreciation of the French Franc and a revaluation of the Deutschmark, both in 1969.

The Snake. By the time the Bretton-Woods system collapsed during 1971-73, further imbalances had accumulated inside Europe. After a series of realignments, most European countries undertook to maintain limited margins of fluctuations for their bilateral exchange rates while the other developed countries let their currencies float. The resulting arrangement, the Snake, was a mixed success; most countries were able to keep up with the arrangement, but speculative pressure forced others—mainly France, Italy, and Sweden—to exit the Snake. Outside of Britain, there was no serious questioning of the wisdom of keeping exchange rates pegged.

The Werner Plan. The main setback from monetary integration during this period was the abandonment of the Werner Plan. Completed in 1970 and endorsed by the Council of Ministers in 1971, the Werner Report had recommended the rapid adoption of a common currency. It mapped out three stages, including the pooling of foreign exchange reserves for joint interventions. The turmoil surrounding the breakup of the Bretton-Woods system led the larger countries to aim at more modest steps, partly out of pragmatism, partly as a pretext to escape a move that was clearly ahead of policymakers' thinking. The smaller countries, which were seeing their own policy autonomy decline, were frustrated by the failure but unable to shake the domination of the larger countries.

The European Monetary System. Monetary integration soon took another direction, though. The European Monetary System (EMS) was agreed upon in 1978 and launched in 1979. Eight of the then nine members of the European Community became active members of the exchange rate mechanism (ERM). When the euro was launched in January 1999, all members of the European Union were part of the ERM, with the exception of Sweden, the UK, and Greece. Greece joined the ERM later that year.⁵

The European Monetary Union. During its first ten years of existence, the ERM underwent frequent crises. By the early 1980s its survival was very much in doubt, especially as a series of attacks affected the French franc in the wake of the election of President Mitterrand. The political reaction turned out to be another show of support for fixed exchange rates. The authorities rededicated themselves to a new ERM, one where the DM would play the role of central currency. This "Greater DM area" gradually asserted its credibility and became seen as such a success that policymakers grew emboldened and resolved to move to the next logical step, monetary union.⁶ But the ERM success was concealing a buildup of tensions. The combination of accumulated imbalances and of a major policy mistake—the denial that German unification would require a DM revaluation—triggered a round of violent speculative attacks. Two countries (Italy and the UK) left the ERM, many were forced to devalue, some of them several times. The ERM was radically changed when its margins of fluctuations were widened to the point of irrelevance. Yet, while the ERM currencies were officially quasi-floating, unofficially the monetary authorities endeavored to keep them within narrow margins, in fact quietly mimicking the defunct ERM.

3.2 The exchange rate mechanism: a sophisticated arrangement

The ERM, which lasted in its first incarnation for 20 years, is of more than historical interest. To start with, it is now to play an important role again as the new EU members are expected to join the mechanism on their way to the monetary union.⁷

⁵ Among European non-member of the EU, Switzerland has traditionally steered its own currency alongside the DM, even though it has always been very careful not to declare an official linkup, and has occasionally used the exchange rate as a tool of monetary policy.

⁶ A detailed review of this evolution is provided by Kenen (1995).

⁷ ERM II was started when the euro was launched. Its only member has been Denmark. All then new EU members have the obligation to join the mechanism "soon".

More importantly, perhaps, is the fact that it is the success of the ERM that convinced policy makers to go to the next step, monetary union. This is why it is of general interest to critically review its main features.

When the ERM was launched, two main requirements presided over its design. The first one was to provide a tool for stabilizing the intra-European exchange rates that had been buffeted in the years following the demise of the Bretton Woods system. It had to be sturdier than the Snake. The second requirement was of a political nature. The other countries were unwilling to simply tie their currencies to the deutschemark, even though it was already the most stable European currency.

The solution to the second issue was to make the ERM fully symmetric. In contrast with the hub-and-spoke arrangement of Bretton Woods, exchange rates were fixed bilaterally, producing a matrix of bilateral parities that became known as “the grid”. Each bilateral rate could fluctuate by $\pm 2.25\%$ around its declared parity.⁸ In addition, the responsibility of maintaining the exchange rate within the agreed upon margin of fluctuation was shared by each pair of countries, with no presumption that more had to be done by the weaker currency. Symmetry was the response to political sensitivities.

The solution to the first question was an unprecedented commitment that, if need be, the parities would be defended by unlimited interventions, conducted by both countries whose bilateral rate was pushed to its declared margin of fluctuation. In addition, other ERM member countries could be asked to provide support, either through interventions or through short term loans. Cohesion and mutual support was the answer to economic fragility.

Furthermore, both upon entry and subsequently, the choice of every bilateral parity had to be collective, in fact by consensus. This was designed to prevent any beggar-thy-neighbor manipulation by a group of member countries. This was also seen as a justification to the collective defense of existing parities.

Thus, the ERM was much more than a “European Bretton Woods”. It was an ambitious undertaking that already removed from national hands the decision on exchange rate parity. It sent the signal that any attack on a particular currency would be met by a collective defense. It envisioned an active management of parities, so that realignments would not come to be seen as a system’s failure, but rather as an indication of flexibility.

Indeed, the ERM went through a large number of realignments until 1986, more than one per year on average. Interestingly, these realignments were usually anticipated by the markets and thus preceded by speculative attacks. These attacks, however, were not lethal because capital controls limited the volume of required interventions and also because the corrective realignments were promptly enacted.

Over time, however, the deutschemark emerged as the de facto center of the system. All countries that were running higher inflation than Germany, and had to repeatedly

⁸ The Italian lira was given a temporarily larger margin of $\pm 6\%$.

devalue under speculative pressure, gradually accepted the view that they ought to aim at a lower inflation rate. From 1986 onwards, they effectively adopted the deutschemark as the anchor and committed to hold their exchange rate parities unchanged. *De facto*, they proceeded to closely follow the Bundesbank's policy. This approach worked in the sense that inflation gradually declined everywhere toward the German level. With nominal exchange rates stable for several years, the ERM became seen as a major success and the idea of irrevocably fixing the exchange rates by adopting a common currency became almost natural. It led to the Maastricht Treaty.

Meanwhile, however, past accumulated inflation differentials – on the way to inflation convergence – had made some currencies overvalued. The 1990 collective removal of capital controls meant that the unavoidable realignments would be a dangerous affair. Indeed, when speculation started, triggered by difficulties in ratifying the Maastricht Treaty, two currencies had to leave (the Italian lira and Sterling pound, which had joined a few months before at an overvalued rate) and the margins of fluctuation had to be widened to a huge +/- 15%. The ERM was in shambles, but the decision to launch the euro had been firmly taken, which provided for continuing currency stability.

The late difficulties of the ERM illustrate three general points. First, any system of pegged rates has to be flexible. Using the exchange rate as an anchor is a possibility for one country, not for a system. Such a strategy has to weigh on monetary policy in the country that adopts it, it is a disciplinary device. Within the ERM, with its symmetric nature and promise of mutual support, the discipline aspect is weakened and any slippage affects all members. Second, it is impossible to maintain pegs when capital is fully mobile. Strict monetary policy discipline is a necessary but not sufficient condition in a world where self-fulfilling crises are conspicuous. Third, it is quite striking that the system worked well when it was symmetric and failed when Germany had become *de facto* center. This does not mean that a hub-and-spoke system cannot work but it does suggest that a regional system can work without a center if all the rest is well thought through.

3.3 The monetary union

The European monetary union (EMU) is less original than the ERM. In many respects it mimics arrangements that can be found in many federal countries. This section therefore does not attempt to provide a detailed presentation of EMU; rather, it deals with the originality of the undertaking and points out a few key distinguishing features.

Sharing a common currency is rare. The other existing unions either concern very small countries (the East-Caribbean monetary union) or follow from specific historical developments (the African monetary unions and Panama's dollarization). Because the currency is generally seen as a symbol of sovereignty, monetary unions are seen as an extraordinary step.⁹

⁹ Symbolically, the euro bank notes have been very carefully designed to carry no national symbol: they show bridges, doors, windows, etc. that could be seen anywhere in Europe, studiously avoiding famous figures or other signs that could be associated with a country. Coins do carry symbols, though.

Yet, the loss of sovereignty is mostly symbolic. As we all know, money is neutral in the long run, so monetary policy does not have lasting effects on the real side of the economy. Of course, monetary policy has powerful short run effects and we live in a succession of “short times”. Even though, once capital is freely mobile, the room for maneuver is remarkably limited for small open economies. Determined monetary policy actions typically result in large exchange rate reactions (the celebrated overshooting phenomenon) that are bound to limit the willingness of the monetary policy authorities to freely use their instruments. Of course, if exchange rate stability is deemed important, monetary policy must be entirely dedicated to this objective, which means that its actual independence is lost. This is the message from the “fear of floating” pattern described in Section 2.1 above. It is also the message from the ERM experience and the gradual alignment of all central banks on the Bundesbank. It is again the message from the growing number of countries that have adopted the inflation targeting strategy as a way to visibly harness their use of monetary policy. This is not to claim that monetary policy is useless, simply to remind ourselves that its use must be severely constrained if it is to deliver the public good of price stability.¹⁰

This is why EMU is less of a sacrifice than is commonly realized. Once the decision is taken, the main challenge to build up the institution. At the technical level, the situation is fairly straightforward: a single currency requires a single monetary authority and there are not many possible monetary strategies. To be sure, debates rage on the ECB’s strategy, but these are details. More complex is the governance issue, that of giving the important power of carrying out monetary policy to a multinational authority. While the broad design must be inspired by arrangements in federal states, the fact that Europe remains a union of independent nation states greatly complicates matters.

The solution adopted offers a mix of federal and international arrangements. The decision power is given to the European System of Central Banks, the Eurosystem. Its decision-making body is the Governing Council, composed of the six members of the ECB’s Executive Board and the governors of the national central banks (NCBs). The Executive Board is of a federal type as its members serve in a personal capacity. Yet, they are appointed by the member states, which inevitably mean that nationality matters a great deal. As could be expected, the emerging pattern is that the large member countries (France, Germany, Italy and Spain) have managed to appoint one of their nationals and intend to keep it that way, and the two remaining positions are filled by nationals of the smaller countries. This is of course a mockery of the spirit of the principle that Board members are appointed solely on the basis of their competence and in no way serve as representatives of their countries. Similarly the fact that the NCB governors serve on the Governing Council *ex officio* is another contradiction to the non-representativeness principle.

More worrisome is that the size of the Governing Council is due to expand as new countries join EMU. Already with 18 voting members, the decision process is highly unlikely to permit deep exchanges of views. Its size could grow to 31 members if all current EU members adopt the euro, and with more countries to access the EU the

¹⁰ Brazil and Argentina are two cases in point. Brazil’s adoption of the inflation targeting strategy greatly constrains its use of monetary policy. Argentina’s currency board effectively meant abandoning monetary policy autonomy, which proved to be too much.

Governing Council could become even larger. This difficulty is well recognized but politically delicate. The Eurosystem has proposed capping the number of voting members to 15, resorting to a complex rotation system that will recognize the size of countries.

Even more worrisome is the widely discussed “democratic deficit”. The Eurosystem is completely independent: the members of its Governing Board are all appointed to long terms and cannot be removed from office. Yet, independence brings about the question of accountability. The chosen solution has been to make the ECB accountable to the European Parliament. However, the European Parliament has no formal power on the ECB, except for confirming the appointments of Executive Board members. It cannot make suggestions on future policies, it can only comment on past policies. The result is a weak *ex post* process, with no serious consequence if the Parliament disagrees with the actions of the Eurosystem.

These aspects reflect the political and institutional difficulties of a monetary union. Even though Europe is unique in having a structured governance system (the European Council that brings together the Heads of States or Governments, the Council of Ministers) and an elected Parliament, the current organization is not fully satisfactory. It is true that the EMU has functioned quite well so far, and it is hard to foresee major difficulties, which suggests that the arrangements are not fundamentally flawed, yet criticism is endemic and may weaken the construction in the event of serious difficulties.

3.4 Fiscal policy: coordination and discipline

The final issue of interest concerns the treatment of fiscal policy. The more exchange rates are fixed, the less monetary policy can be used for macroeconomic stabilization purposes. As a result, fiscal policy becomes the main, if not the only macroeconomic stabilization tool. Yet, in the absence of fiscal policy discipline, any monetary policy commitment, including exchange rate stability, is bound to be undermined. In addition, it is often asserted that, because they affect exchange rates, fiscal policies must be coordinated. Thus, the tighter is the degree of cooperation on the exchange rate, the more limits have to be put on the conduct of national fiscal policies, in effect reducing the scope for macroeconomic national stabilization policies.

On the other hand, the closer is the exchange rate linkage within the region, the more each country depends on others’ behavior. It is often claimed that the overall policy mix matters for regional interest and exchange rates, especially in a monetary union. This is misleading. If the region is closely integrated in the international financial markets, each country is too small to have an impact on the regional interest rates. This is even true for the European monetary union. The collective stance matters if the region is large, as is the case of Europe, but this means that fully coordinated policies might have an impact. Given that, in each country, fiscal policy is highly political and hard to design, full coordination is totally unlikely.

What remains true is that one country’s default, especially if it is large in the region, could have a serious effect on the whole region. This is why fiscal discipline becomes a regional concern, in particular within a monetary union. Europe has adopted the Stability and Growth Pact, an agreement to limit budget deficits to 3% of GDP. This pact is ill-conceived for two reasons. First, what is required is long-run debt

sustainability, not annual deficits. Annual deficits are far too constraining and a rigid ceiling is far too demanding. Second, the Stability and Growth Pact includes a procedure whereby the Council of Ministers can tell individual countries what they should do with their budget deficits and fine them if they fail to heed to the recommendations. This is an extremely intrusive approach that threatens sovereignty in a sensitive domain. These two flaws have become increasingly visible and have led to a complete breakdown of the Pact: it has been “suspended” in November 2003 when the Council should have initiated the fine procedure against the two largest countries, France and Germany.

The European experience illustrates both the necessity for some fiscal discipline commitment and the need to embed it in a sensible procedure. Suggestions for improvement have been advanced e.g. by Sapir and all (2003) and Wyplosz (2002). They suggest shifting the target away from annual deficits and toward the debt level and include various proposals to involve more directly the member states.

4 What does the European Experience Tell Us?

4.1 Reasons for seeking exchange rate stability

This section draws on the European experience to explore what are options for other regions that also feel the need to stabilize their exchange rates. The traditional need is linked to trade considerations, either because intra-regional trade is large (South East Asia is a good example) and/or can profitably be deepened (Latin America) or because the countries of the region compete with each other on third markets. But there are other valid reasons, all suggested by the literature on currency crises.

The first generation of crisis models emphasizes the role of monetary policy indiscipline, itself often a consequence of fiscal indiscipline. While this literature focuses on the causality running from policy indiscipline to currency crises, it is possible to invert the logic and consider that exchange rate stability can be used to reduce the incentive toward indiscipline. This is the classic idea that the exchange rate can be used as an anchor to pin down policy and market expectations. As is now well understood, this approach must be supported by appropriate national and regional institutions.¹¹

The second generation of crisis models explains the occurrence of self-fulfilling crises, which can in turn become contagious, a phenomenon illustrated by the 1992 crises in the ERM or the “tequila effect” throughout South America in 1996. The regional nature of contagion, well documented in Glick and Rogoff (1998), calls for a collective defense system.

The third generation identifies a particular channel for self-fulfilling crises, the potentially lethal effect of foreign currency borrowing by governments, banks and firms, as was observed in South-East Asia in 1997. A collective defense system is part of the solution, but arrangements to borrow in regional currencies can also make a

¹¹ The case of Argentina illustrates the fact that good monetary institutions are not enough if the fiscal institutions are inadequate.

contribution. The Chiang Mai initiative is an example of recent attempts to move in that direction.

4.2 Sequencing: where to go and how to get there

As noted in Section 2.2, there are many ways of stabilizing exchange rates within a region, ranging from soft managed floats to hard monetary unions. Europe has climbed the ladder from soft to hard, using each step to develop institutions that were then used to prepare the next step, but without ever committing to the next step.

Europe's sequencing very much follows the traditional sequencing approach initially proposed by McKinnon (1979). It first liberalized intra-regional trade with the creation of the Common Market in 1958, then gradually integrated itself into world trade through a succession of GATT agreements. It also started with current account convertibility upon launching the Common Market and very gradually adopted financial account convertibility, achieving full capital liberalization in 1990 as part of the Single Act. Retaining capital controls made it possible to operate the ERM for a decade. Thus exchange rate agreements started with fixed but adjustable exchange rates until capital liberalization forced a choice between the two extreme corners, and most countries opted for the monetary union corner. Thus Europe very much followed all textbook prescriptions, and it worked. The exception is the gap of the 1990s, when full capital mobility was in place but yet the monetary union. This forced the *de facto* suspension of the ERM through the adoption of very large margins of fluctuations, a way of *de jure* upholding the mechanism. Yet, this parenthesis was accompanied by continuing exchange rate stability – see Figure 3 – for one notable reason: by then the decision to launch the euro had been taken and a firm date had been set. While this latter sequencing was entirely fortuitous, it is rich of lessons. It establishes the crucial role of expectations in underpinning exchange rate stability. It also demonstrates the importance of institutions; the 1990s were dedicated to fulfill the EMU entry conditions so that, visible efforts at convergence provided an anchor, underpinned by the gradual buildup of the Eurosystem.

The European process thus provides a roadmap that is feasible, not only because it has already been done, but also because it accords well with basic principles. Does this mean that this is monetary union is the only destination and gradualism the only way to get there? Probably not.

South-East Asia provides an example where some degree of exchange rate stability has been achieved since the 1997-9 crisis through unofficial managed float. The Chiang Mai initiative offers some support, but it remains a partial and bilateral effort. Will exchange rate stability be preserved when the going gets rough? Quite likely not. Stability has benefited for a period of quietness, partly supported by very low interest rates worldwide. Things may change, and this can happen fast. Another part of the story are the huge foreign exchange reserves that have been amassed throughout the region, along with agreements to provide mutual limited support. The impression that this is enough is entirely misplaced. Reserves are, by definition, limited while the size of speculative attack is virtually infinite.¹² In addition, the cost of maintaining these

¹² The reason is not just that international financial markets can mobilize vast resources. More profoundly, the domestic currency component of sterilized foreign exchange market interventions, which exhaust reserves, are immediately recirculated by speculators, which calls for more

reserves is high, which makes the current arrangement quite inefficient. The region will have to strengthen its current arrangements if it is to achieve sustainable exchange rate stability.

At the other end of the spectrum, can regions immediately jump to a monetary union without the intermediate step of a system of fixed and adjustable exchange rates, such as the ERM? In principle, such a leapfrogging strategy is possible. The European principle of gradualism is not based on economic principles. As a regime change, it can be achieved virtually instantaneously, in fact it must be achieved instantaneously, and this is how it happened in Europe on January 1, 1999. True, it was preceded by a long period of mandatory convergence, but this was a protection requested by Germany to ensure that the “culture of price stability” would become sufficiently engrained that the euro could be as good as the deutschemark. This does not have to be the case in other instances, provided that inflation differentials are limited, an issue taken up below.

On the other side, the European principle of gradualism is based on political and institutional principles. The process has been one of continuous erosion of national sovereignty, through confidence building-up steps. A monetary union also requires institutions, not just a common central bank – which can be put together reasonably quickly – but also all the accompanying appointment and control mechanism discussed in Section 3.3 above. In addition, it may take years to design and print banknotes.

Thus, while there is no fundamental economic reason that prevents adopting a common currency without transiting through an ERM-type agreement, the lead time to actually start a monetary union is a matter of years. This constraint raises the question of what happens along the way, noting that excessive turmoil might jeopardize the whole project. One solution is to quietly build up the required institutions while allowing all future member currencies to float freely. If this period is characterized by wide fluctuations, it may be difficult to pinpoint the rate at which the disappearing currencies will be converted into the new collective currency. The risk is that some conversion rates result in overvaluation. This would seriously threaten the eventual monetary union, for years of painful deflation may be needed to eliminate the overvaluation. Another solution is a managed float designed to erase wide fluctuations and which would allow testing possible conversion rates. As usual – see Section 2.2 – managed floats are no panacea, for markets are likely to test the intentions of monetary authorities, which may require heavy interventions. The best that can be done under the circumstances is to conduct tightly coordinated interventions, assuming that large reserves stocks have been previously accumulated. While such interventions are usually unlikely to succeed, they stand to be supported by an agreement to adopt a common currency by a clearly established date. A necessary condition for this option to work, though, is that national monetary and fiscal policies be conducted with sufficient prudence not to undermine the project itself.

interventions, which provides yet more ammunition to speculators in an unending cycle. See Jeanne and Wyplosz (2003).

In the end, we come back to a full circle. ERM-type arrangements and Maastricht-style convergence programs are not strictly required to move to a monetary union. Yet, given the unavoidable lead time, the transition period is fraught with potentially lethal dangers. A key concern is that the choice of conversion rates can only be based on past behavior, which in turn requires sufficient exchange rate stability during the transition period. In addition, once the monetary union starts, inflation rates will have to be broadly similar.¹³ Given that inflation rates tend to be sticky, inflation convergence needs to be fairly complete before the monetary union starts to avoid overvaluation. In the end, therefore, a high degree of coordination is required during the transition period.

4.3 Institutions

Exchange rate arrangements cannot operate in a void. Light arrangements, like loosely coordinated managed floats, can be accommodated without dedicated institutions, as is the case in South East Asia. More ambitious agreements do require institutions and even light arrangements must be supported by domestic institutions, a view now well recognized in the literature, see e.g. Persson and Tabellini (2000) and Drazen (2000).

An obvious characteristic of institutions is that they take time to build and to establish themselves. In a way, therefore, they are needed before they exist. The early buildup of institutions may well be a key success factor of Europe's successful integration. The European Commission was set up in 1958 by the Treaty of Rome when the Common Market was launched. Its powers and ambitions were initially quite limited. Over the years, it has become the advocate of integration, binding together two opposite forces. On one hand, it embodies the collective interest and the gains from cooperation. On the other hand, it derives its powers from governments which represent national interests. This explains its often arcane decision process and many of its shortcomings. The Commission's inherent internal contradiction is not often appreciated: its role is to manage those elements of national sovereignty which have been given up by its member states while it needs approval from the member states which are instinctively loath of relinquishing politically sensitive decision powers. The fact that the Commission exists, and has seen the range of its responsibilities grow considerably since it was created, cannot be overestimated. Not only does the Commission act as the lobby for integration, it also undertakes the background work needed to study further steps. When the time is politically ripe, which can never be anticipated, the project is readily available in the Commission's drawers. Besides the Commission, Europe has built up a vast array of institutions, as it has gradually expanded the scope for cooperation beyond economics. Each step usually illustrates the same uneasy compromise between integrationist and nationalistic forces. A good example is the European Parliament, which became the handy, if weak, body to which the ECB is accountable.

Because exchange rate arrangements must involve some reduction in national sovereignty. This is never an easy decision to take and it is likely to need prodding

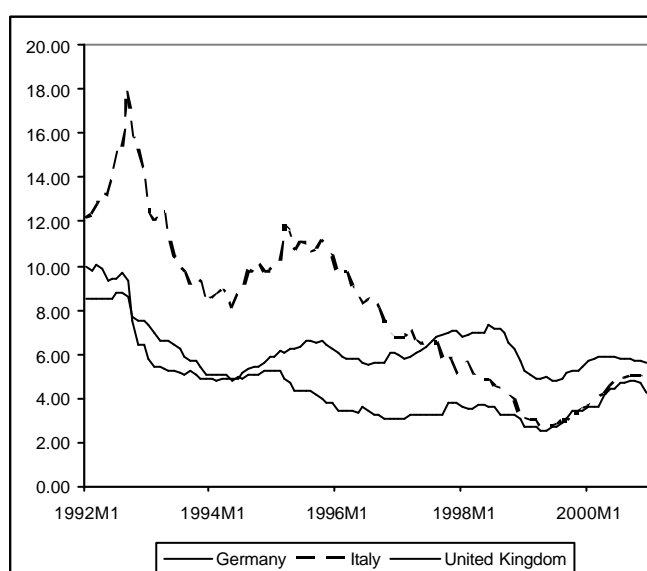
¹³ National inflation rates in a monetary union do not have to be equal. There may be temporary fluctuations related to varying macroeconomic conditions. There may also be trends reflecting different productivity gains (the Balassa-Samuelson phenomenon).

and technical support. Countries that contemplate such arrangements should have a budding institution that can study the concepts and propose various solutions. It should not have any power but it should be clearly inter-regional from the outset. An advantage is that it would need to report regularly to the Ministers of Finance, thus encouraging and framing their deliberations.

4.4 The role of financial markets

In matter of exchange rate arrangements, financial markets are both foes and friends. There are foes because they are prone to challenge policies whenever they detect vulnerability. Some vulnerabilities are the consequence of bad policies, in which case an early warning is not unproductive even if it is painful. But in a world where self-fulfilling crises feed on intrinsic vulnerabilities, markets can impose excessively high standards of good behavior. On the other hand, when policies are well-designed, the markets can produce powerful support. A good example is the run-up to the monetary union in Europe. Figure 4 displays short term interest rates. When it became clear that Italy would join EMU, its interest rates quickly converged to the German level, and stayed there. Not only did this convergence represent a vote of confidence in the undertaking, but it solidified the link between the lira and the mark until the euro was launched. In contrast, the British rate has retained a life of its own, mirrored in euro-pound exchange rate fluctuations. A further lesson from Figure 4 is that the European bond markets have become integrated, thus holding up the promise of a deep and efficient market. This has been a bonus to the smaller countries and *ex post* justification of capital liberalization.

Figure 4. Treasury bill rates in Europe



Source: IMF

The implication is markets ought to be called upon when they can provide support and kept at bay when they can be disruptive. If the exchange rate arrangements are of the soft peg variety, they are highly vulnerable to speculative pressure. This observation provides a solid case for restraining capital flows. If the decision is to go all the way

to a monetary union, the markets can support the process, but only if it is well crafted and politically guaranteed. Until this is the case, the markets are likely to spot cracks in design and political will and tear up the project, another case for imposing restraints.

Finally, is regional financial market integration a substitute to an exchange arrangement? To start with, if some of the national markets are already integrated in world markets, regional integration means *de facto* global integration. As argued in Section 2.1, financial market integration sharpens the choice of an exchange rate regime, the hollowing out hypothesis. Consequently, such a move can either provide impetus for a hard exchange arrangement (monetary union) or force free floating. Regions that include countries that are conducting a substantial of trade among themselves are unlikely to find a high level of exchange rate volatility

5 Conclusions

Europe has provided the two most accomplished examples of regional exchange rate arrangements: the ERM and now a monetary union. Are these arrangements that should and can be emulated elsewhere? This paper has argued that small open economies with intensive trade links, or that wish to intensify trade links, are naturally interested in stabilizing their internal exchange rates. It has already argued that the European approach has followed well-recognized sound principles. For these reasons, it offers a blueprint that could be adopted in other regions.

Yet, it is not an example that will be easy to follow. The strategy of achieving a deep level of economic integration was built upon much wider objectives. than just a common market. At the heart of this process lies the desire to put to rest centuries of wars. Fresh memories of mutual destruction have made it easier to agree to ever wider transfers of sovereignty in spite of determined opposition and profound national divergences. Indeed, it is not by chance that the decision to share a common currency closely followed an exceptional event, the collapse of the Berlin Wall.

Another important feature of the European process is that there never was any master plan. Integration has always been characterized by a process of muddling-through, two steps forward and one step backward, with deep and lingering divergences as to what the end objective is. But each integration step has made the next one more likely. Success in one area emboldened political leaders to contemplate another even bolder project in another area. More crucially perhaps, each important step is matched by some additional institutional buildup that provides the backbone for further moves. It is difficult to overestimate the importance of an early adoption of institutions dedicated to integration, no matter how imperfect these institutions are.

Another important aspect is that for a significant period many European countries have kept capital controls in place in a world where full capital mobility was the exception, not the rule. When the worldwide process of liberalization picked up speed, Europe had already moved a long way down the road of regional exchange rate stability. Given its attachment to and success with exchange rate stability, when forced to choose between a free float and a monetary union as the result of its own

financial liberalization, the choice was relatively straightforward. Today's situation is different and the exchange rate stabilization objective is more difficult and dangerous.

In particular, the polarization of available choices makes it harder to avoid, as Europe did, a master plan that includes a reasonably speedy move to a monetary union. It requires more political will in regions that have been hesitant to consider sovereignty transfers and that have not yet put in place the institutions that will be required to prepare and implement the necessary steps. This includes building up a regional central bank, providing for some form of democratic accountability, and adopting measures that will guarantee fiscal discipline. It seems that it will take exceptional circumstances to effectively move in that direction.

This is why, after all, a slow process may be more realistic, even if its evolution must be measured in numbers of generations, not years. This means starting with some joint management of exchange rates, perhaps not fixed and adjustable as in the ERM, but the joint management of floats, including a dedicated regional institution and ERM-type multilateral agreements of mutual support. Whether such a first step should be supported by capital controls remains an open and controversial issue. It is sometimes claimed that it is too late in today's globalized world. Countries that already liberalized their capital movements, and often paid a high price for it¹⁴, are unlikely to revert back. If this is indeed the judgment of policymakers, the arrangement must allow for substantial exchange rate flexibility.

¹⁴ There is substantial evidence that financial opening is followed by currency crises. See e.g. Kaminsky and Reinhart (1999) and Wyplosz (2002).

References

- Baldwin, Richard (1997) "The Causes of Regionalism" *The World Economy* 20(7): 865-88.
- Calvo, Guillermo and Carmen Reinhart (2000), "Fear of Floating", *Quarterly Journal of Economics* 117(2): 379-408.
- Drazen, Allan (2000) *Political Economy in Macroeconomics*, Princeton University Press.
- Eichengreen, Barry and Charles Wyplosz. 1993. "The Unstable EMS", *Brookings Papers on Economic Activity* 1: 51-124.
- de Grauwe, Paul. 1988. "Exchange Rate Volatility and the Slowdown in Growth in International Trade", *IMF Staff Papers* 35, pp. 63-84.
- Feldstein, Martin "The Political Economy of European Monetary Union: Political Reasons for an Economic Liability", *Journal of Economic Perspectives* 11(4): 23-42.
- Glick, Ruben and Kenneth Rogoff (1998) "Contagion and Trade: Why Are Currency Crises Regional", CEPR Discussion Paper No. 1947.
- Jeanne, Olivier and Charles Wyplosz (2003) "The International Lender of Last Resort: How Large Is Large Enough?", in: M. P. Dooley and J. A. Frankel (eds.), *Managing Currency Crises in Emerging Markets*, University of Chicago Press, 2003.
- Kaminsky, Graciela and Carmen Reinhart (1999) "The Twin Crises: The Causes of Banking and Balance-of-Payments Problems", *American Economic Review* 89(3): 473-500.
- Kenen, Peter B.. 1995. *Economic and Monetary Union in Europe: Moving Beyond Maastricht*, Cambridge University Press.
- Kenen, Peter and Dani Rodrik. 1986. "Measuring and Analyzing the Effects of Short-Term Volatility in Real Exchange Rates", *Review of Economics and Statistics* 68, pp. 311-319.
- Levy-Yeyati, Eduardo and Federico Sturzenegger (2002) "Classifying Exchange Rate Regimes: Deeds versus Words", Universidad Torcuato di Tello.
- McKinnon, Ronald (1979) *Money in International Exchange, The Convertible Currency System*, Oxford University Press.
- Parsley, David and Shang-Jin Wei (2001) "Limiting Currency Volatility to Stimulate Goods Market Integration: A Price Based Approach," NBER Working Paper No. 8468.
- Persson and Tabellini (2000) *Political Economics, Explaining Economic Policy*, MIT Press.
- Reinhart, Carmen and Kenneth Rogoff (2004) "The Modern History of Exchange Rate Arrangements: A Reinterpretation", *Quarterly Journal of Economics* 119(1): 1-48.
- Rogoff, Kenneth (2002) "Rethinking capital controls: When should we keep an open mind?", *Finance and Development* 39(4).

- Rose, Andrew. 2000. "One Money, One Market: Estimating the Effect of Common Currencies on Trade", *Economic Policy* 30, pp. 7-46.
- Sapir André, Philippe Aghion, Giuseppe bertola, martin hellwig, jean Pisani-Ferry, Dariusz Rosati, José Viñals and Hellen Wallace (2003) *An Agenda for a Growing Europe*, The European Commission.
- Wyplosz, Charles (2002) "How Risky is Financial Liberalization in the Developing Countries?", *Comparative Economic Studies* 44(2-3): 1-26.
- Wyplosz, Charles (2002) "Fiscal Discipline in EMU: Rules or Institutions?" Paper prepared for the Group of Economic Analysis of the European Commission.