CHAPTER 1

Introduction

Since 1979, the Exchange Rate Mechanism (ERM) of the European Monetary System (EMS) has represented the cornerstone of monetary policy strategies in Europe and the most ambitious experiment in international monetary and exchange rate cooperation of the post-Bretton Woods era.[1] Over the past decade, the nature of the ERM has changed drastically, from a system of fixed but adjustable rates with limited international capital mobility – as originally intended – to the "hard" mechanism implicitly ratified by the Basle-Nyborg agreement in 1987, characterized by stable and narrow target zones and the removal of capital controls.

By the end of the 1980s, the prima facie satisfactory performance of the "hard" ERM enhanced the general appeal of a further transformation of the system toward complete monetary harmonization and eventual unification. The successful conclusion of this transition was heralded as the permanent solution to the problem of inconsistency among national monetary policy objectives under free mobility of commodities, persons, and capital.

Starting in early 1992, however, a sequence of adverse developments of increasing severity seemed to compromise past achievements, as well as to undermine the process towards European Monetary Union (EMU). The crisis and revamping of the ERM between 1992 and 1993 represent the key events in the recent monetary history of Europe. Their origins, consequences, and implications are at the core of the current academic and political debate, both in Europe and elsewhere.

The literature offers different readings of the ERM crisis. A first set of explanations focuses on the behavior of macroeconomic and political fundamentals in Europe. Specifically, a popular interpretation of the 1992–93 events emphasizes the consequences of German internal reunification, and the monetary/fiscal policy mix adopted by that country in the early 1990s, for the stability of the ERM. Other explanations stress the divergent developments of national prices and costs, presumably reflecting divergent national monetary and fiscal

1. As the EMS consists of an agreement among the central banks of *all* member States of the European Community to manage exchange rates and finance currency interventions, the ERM represents only one aspect of the EMS and involves only a subset of the EMS countries. In March 1979, the ERM countries did not include the United Kingdom. By the end of November 1996, the ERM countries did not include the United Kingdom, Greece, and Sweden.

policies during the "hard" ERM years; the liberalization of international financial movements under the Single Act; and the perceived weakening in national policy makers' commitment to fixed exchange rates in the aftermath of the Danish referendum in June 1992. These views of the crisis are, to a large extent, complementary to each other.

A second set of explanations downplays the role of fundamentals, pointing out instead the possibility that the ERM was hit by a wave of disruptive, self-fulfilling speculative attacks. According to this view, at the root of the crisis was a sudden and essentially arbitrary shift in market participants' expectations.

The question we address in this book is whether these theories, individually or collectively, offer a reasonable picture of the ERM crisis. We believe that in the present stage of international debate on EMU, when European policy makers are about to give shape to the future by (one hopes) drawing lessons from the experience of the past, an incorrect or even incomplete assessment may have costly repercussions. In addition to the German unification shock, competitiveness problems, a perceived fall in the commitment to exchange rate stability after the first Danish referendum, and disruptive self-fulfilling speculative attacks, which other aspects should be taken into account in a comprehensive interpretation of the 1992–93 episode?

In our view, the literature has paid insufficient attention to a crucial element. The ERM crisis was the crisis of an exchange rate *system*, not the collapse of a collection of unilateral pegs pursued by each country on its own. The literature on the crisis has rightly focused on the policy conflict between Germany and the rest of the ERM in the aftermath of German reunification. It has, however, ignored the role played by structural policy spillovers and strategic interactions in the system as a whole. We believe that the nature and the extent of coordination (or lack thereof) of monetary and exchange rate policies among the countries facing the German reunification shock is a key factor in the analysis of the causes and consequences of the monetary earthquakes that shook the European monetary construction in the recent past.

In this book, we build a model of international cooperation and currency crises that adds the rules of the international monetary game to the conventional list of fundamentals in the economic system. We develop our interpretation of the crisis both in a historical perspective and in the light of the current debate on monetary union and financial integration in Europe. Also, we present a reconstruction of the 1992–93 events that emphasizes important factual evidence corroborating a systemic interpretation of the crisis. Our analytical framework is able to encompass several theories and explanations of the ERM demise. We will therefore revisit the existing literature, showing directions for possible extensions and generalizations.

This introductory chapter presents an overview of both the theoretical and policy-related aspects of our analysis. First, we look back at the root of the

European consensus on limiting exchange rate flexibility. Next, we review the logical and empirical weaknesses of a fixed exchange rate as nominal anchor. After a brief analysis of the current state of the debate on the ERM crisis, we outline the main results of our reconstruction and interpretation of the 1992–93 events.

1.1 The roots of the European consensus on limiting exchange rate flexibility

The evolution of the Exchange Rate Mechanism – from the pre-1987 flexible system of adjustable target zones, through the "hard" regime between 1987 and 1992, and up to the crisis and near collapse of 1992 and 1993 – is but an episode, albeit a crucial one, in what Giavazzi and Giovannini (1989) refer to as the "quest for exchange rate stability in Europe". The term *quest* seems indeed appropriate. The dictionary definition of quest as "a journey in search of adventure, as those undertaken by knights-errant in medieval times" fits well the complex web of events in the European currency markets, from the early fights in defense of the monetary Snake up to the more recent battles against successive waves of speculative attacks in 1992–93.

It seems appropriate to begin our study of the origins and implications of the ERM crisis by focusing briefly on the rationale underlying the widespread agreement regarding currency stabilization in Europe, and by analyzing its evolution over time. Needless to say, opinions diverge radically as regards both the technical validity and the political relevance of the arguments in favor of limiting exchange rate flexibility. Nevertheless, there is a general consensus that, from a historical perspective, the political drive toward exchange rate stability in Europe has been bolstered by two widely shared perceptions about the way the economy functions.

First, European political leaders have traditionally held the view that the completion of an internal market for goods, factors, and assets requires an orderly development of the European Community (EC) monetary system. With the abolition of tariffs, subsidies, and other barriers to trade, commercial policy disappears from the set of policy tools available to individual national authorities. In the presence of nominal rigidities of goods and factors prices, national policy makers may be tempted to use exchange rate policy in order to gain competitive advantage over the other members of the Community.

To the extent that a nominal devaluation can be translated into a devaluation of the real exchange rate (even if only temporarily), this form of competition has long been regarded by Europeans as inconsistent with free and fair trade. Furthermore, if adversely affected countries were to resort to conventional trade-restricting measures in order to retaliate against unfair exchange rate competition, the single market could be permanently impaired.

In addition to this European aversion to "beggar-thy-neighbor" exchange rate policies, there is the belief that uncoordinated national macroeconomic policy is increasingly ineffective (because of large international spillovers) in a steadily more integrated European economy. The inefficiencies stemming from neglecting international spillovers, together with the potential danger of the use of exchange rate policy as a competitive tool, motivate the insistence at Community level on the need for closer policy coordination among member countries within a framework of stable exchange rates.

Second, the traditional resistance to freely floating exchange rates in Europe is a specific manifestation of a general skepticism about the operation of unregulated financial markets. In this view, a regime of flexible exchange rates is subject to two kinds of inefficiencies. The first is severe and persistent misalignments of international relative prices (overlooking the fact that persistent misalignments can occur under a fixed exchange rate regime as well). The second concerns excess volatility of exchange rates – with its possible trade and investment-deterring consequences – and other manifestations of speculative "bubbles" in the foreign exchange markets.

From this standpoint, speculative financial markets not only reflect and process exogenous, "fundamental" noise generated elsewhere in the economic system; they are themselves an independent generator of nonfundamental noise. Financial markets, including the foreign exchange markets, are seen as potential destabilizers of the international trade system and of the "real" economy in general.[2]

In the last thirty years, an additional reason for the unpopularity of price flexibility in the exchange market could be found in the Common Agricultural Policy (CAP).[3] While the share of the Community budget devoted to this policy may contribute to the strength of Brussels' aversion to flexible exchange rates, it is worth stressing that the political consensus that created the CAP in its present form has been eroding over time, and the role of the CAP as an independent motivation for exchange rate stability may diminish further as far-reaching reforms of the system are implemented. Other political-economy considerations, such as the distribution of international seigniorage away from the United States through the institution of a European reserve asset and vehicle currency, may have received some attention in the past,[4] but they do not

2. This mistrust of the allocative efficiency of financial market prices underlies Keynes' position on the reform of the international monetary system. He emphatically rejected the notion that financial asset prices fully reflect fundamentals, and assumed and recommended that the Bretton Woods international financial system should be characterized by extensive capital controls.
3. See Chapter 2. The havoc created in the CAP by significant exchange rate variability is often mentioned as an argument in favor of irrevocably fixed exchange rates or a common currency. On the other hand, it also could be argued that anything that helps undermine the CAP cannot be all bad.
4. See Giscard D'Estaing (1969) and the brief discussion in Chapter 10.

seem to play any significant role in the current debate and decision-making processes.

Technical economic considerations have certainly been relevant in the different attempts to shape the process of European integration. Nonetheless, a full understanding of this process is impossible without paying proper attention to the general political movement for greater unity of Western Europe. Historically, German leaders keen on European economic integration have been concerned with strengthening the ties of Germany to the Western allies. A perception that the world political order was changing (reflecting the secular decline in the relative economic strength of the United States, as well as doubts about the ability and/or willingness of the United States to assume leadership in the post-Vietnam era[5]) motivated the political initiative by Giscard d'Estaing and Schmidt that led to the creation of the European Monetary System and the exchange rate management system at its core, the ERM. Ongoing transformations in Eastern Europe provided the stimulus for advocating an ambitious leap forward in West-European integration in the second half of the 1980s and the early 1990s.

1.2 The ERM and the logic of nominal anchors

In addition to the traditional motivations underlying the "quest for exchange rate stability" in Europe, a relatively novel view gained widespread attention during the 1980s, in parallel with the progressive increase in the degree of asymmetry in the European Monetary System. For several countries, participating in the ERM was increasingly viewed as a politically acceptable, institutionally painless way of "importing" disinflation and "borrowing credibility" (according to the famous characterization by Fischer, 1987) from the Bundesbank through the stability of the exchange rate. The intellectual case for reducing exchange rate flexibility often hinged upon the argument that, for an open economy, a fixed nominal exchange rate was the preferred *nominal anchor*, that is, the most effective way to pin down market expectations and stabilize nominal prices of goods, services, and factors of production.[6]

The logic of using a fixed exchange rate as a nominal anchor is straightforward. With perfect capital mobility, by setting a publicly observable, readily verifiable exchange rate target vis-à-vis a key currency or a basket of currencies,

5. The strong personal animosity of Chancellor Schmidt towards President Carter is often mentioned as an additional relevant factor.
6. Bill Branson has pointed out that use of the term *nominal anchor* reveals the economics profession's ignorance of things nautical, as every ship has two anchors. The adoption of two nominal anchors (such as the nominal exchange rate and the money wage) would in fact amount to one real anchor (the real exchange rate in our example) and the absence of any nominal anchor. Anne Sibert has added the further observation that, while every ship has two anchors, a second is used only in special circumstances.

the policy makers in the inflation-prone country give up the ability to conduct independent national monetary policy. Neither nominal interest rates (except for default risk premia) nor monetary aggregates can any longer be influenced by the domestic policy makers in the inflation-prone country, the *Periphery*. To the extent that the peg is reliable, inflation expectations of the public in the Periphery are influenced by the commitment to follow the monetary stance of the (supposedly more conservative) central bank of the *Center* country or countries.

In assessing the performance of the European Monetary System, a crucial question that was frequently overlooked during the ERM years is whether a fixed exchange rate represents the best choice of nominal anchor for a Periphery country, relative to any other nominal anchor, such as a monetary aggregate, the inflation rate (or the price level), or the level or growth rate of nominal GDP.

A first argument in favor of an exchange rate anchor is that it has a direct impact on prices and costs. This is obviously an advantage when we compare the exchange rate with a monetary aggregate. It is clearly not a source of superiority when we compare the exchange rate with a price level nominal anchor. Targeting the price level itself as the nominal anchor, however, would not give any specific guidelines as to how the actual instruments of monetary, financial, and fiscal policy should be used in the pursuit of the objective.

From the standpoint of ranking alternative nominal anchors in terms of their contribution to the ultimate objective of reducing price fluctuations, monetary targetry[7] effectively died during the 1980s as any trace of a stable relationship between every previously used monetary aggregate and any reasonable definition of the general price level vanished. The stability of the relationship between the exchange rate and the general price level (roughly, the stability of the real exchange rate) is, however, not one of the great success stories of empirical open-economy macroeconomics either.

Is an exchange rate commitment more easily established or more credible than a commitment to other nominal anchors? The short answer is that we have no satisfactory theoretical arguments or empirical evidence to argue convincingly on either side of this issue.

An argument in favor of an exchange rate anchor is that it is a natural "focal point" because it is more highly visible in everyday life than the other nominal anchors. The idea that the exchange rate may be a superior commitment device because it is more easily monitored and verified than the other candidate nominal anchors has some prima facie plausibility. When there is a unified exchange rate and financial markets are well developed, the value of the exchange rate can

7. Monetary targetry, that is, the use of monetary growth as a nominal anchor, is of course consistent with a wide range of operating procedures for monetary policy and with the use of a variety of actual monetary and financial instruments (including discount rates, reserve requirements, open market operations, and sterilized and unsterilized foreign exchange market intervention).

be continuously and instantaneously monitored 24 hours a day. Observations on monetary aggregates are rarely available more frequently than weekly, and representative price level data are hard to find at smaller than monthly intervals. While all this is true, it is not self-evident that the differences in observation frequencies in question (continuous versus discrete, daily versus weekly or monthly) really make much of a difference from the point of view of establishing and maintaining credibility.[8]

National or personal political prestige costs often are alleged to be associated with the abandonment of a fixed parity, especially if the abandonment takes the form of a devaluation rather than a revaluation. Why the exchange rate should be an index of national prestige is hard to establish from the conventional first principles that are assumed to motivate *homo economicus*. There is no doubt, however, that one reads and hears "macho talk" about the external value of the currency of a kind that one does not encounter about national monetary or price level targets. The perception of devaluation as national humiliation has at times been a real political factor, although, in view of the extensive list of devaluations that occurred nevertheless, its importance should not be exaggerated.

Indeed, while monetary targets have more often been honored in the breach than in the observance, it is clear that exchange rate commitments also have been broken with remarkable regularity in both industrial and developing countries.[9] No exchange rate commitment (with the possible exception of full monetary union) is absolute or unconditional, whatever the language with which it is introduced. Judging from the official public statements before and during the ERM crisis, Pinocchio would not make a good minister of finance.

1.3 Escape clauses and financial stability

From the vantage point of an inflation-prone country, even taking the argument in favor of the exchange rate as nominal anchor at face value, there is still the problem of designing an efficient exchange rate policy targeted at reducing the inflationary bias in domestic policy making. Exchange rate rules, like policy rules in general, are subject to an inherent tension between two desiderata: flexibility (the ability to respond to unexpected shocks) and credibility (the ability to renounce opportunistic violations of prior policy commitments).[10]

At one extreme, the implementation of an irrevocable, unconditional peg – one that locks in the conversion rate between two currencies under all circumstances – would lower expected inflation but also force the government

8. After all, the Bundesbank maintains anti-inflationary credibility despite (a) pursuing explicit monetary (M3) targets, (b) frequently violating the monetary targets, and (c) occasionally overshooting even its (implicit) inflation objectives, as was the case in the aftermath of reunification.
9. See for instance Obstfeld and Rogoff (1995b).
10. See for example Buiter (1981) and Minford (1995).

to a painful defense of the existing parity in the presence of sizable macroeconomic disturbances. Perfect credibility of the nominal anchor would be achieved at the expense of any flexibility of the nominal interest rate and the nominal exchange rate in implementing stabilization policies.

At the other extreme, the adoption of a float would guarantee exchange rate flexibility when needed, but it would not in and of itself provide any monetary (and/or fiscal) discipline. A high degree of flexibility could indeed be argued to aggravate the credibility problem.[11] As an intermediate step between fully discretionary monetary policies (contingent rules without credible precommitment) and fixed exchange rates (rules providing commitment without flexibility), realignment rules in a fixed exchange rate regime have been proposed as a way of retaining some of the advantages of a contingent rule, while reducing "discretion" in policy making and its associated inflationary consequences.

Such an argument provides the logical underpinnings of the ERM as a system of flexible or adjustable pegs, that is, a fixed exchange rate regime with implicit escape clauses allowing for the possibility of realignments in the presence of relatively large, publicly observable, and verifiable shocks. Since the welfare consequences of a realignment depend on both the gains from flexibility and the costs of reduced credibility, escape clauses ideally should allow governments to devalue without also signalling to the private sector that persistently inflationary economic policies have been adopted. To the extent that the market participants have information on the state of the economy, the reliability of the government's commitment to defend the new parity need not be reduced by a devaluation if this is a response to a severe adverse contingency.

Is it possible to design a fixed exchange rate regime with an option to realign that would be exercised only under clearly specified, understood, and verifiable contingencies and that does not impart an inflationary bias to the economy? In practice, it will be very difficult to distinguish between an abandonment of the parity that reflects the legitimate exercise of the escape clause and one that represents a discretionary breach of the contingent rule.[12] But, in addition to

11. There are two reasons for this. First, imperfect and asymmetric information may make it difficult for the private sector to infer from the government's observed behavior whether the government is responding to an unexpected shock in the manner prescribed by the (contingent) policy rule, or whether it is exercising discretion and departing from its pre-announced policy rule for opportunistic reasons. Second, bounded rationality provides strong arguments in favor of simple, unconditional rules (such as a fixed exchange rate) that are intrinsically less complex and easier to monitor than flexible, contingent rules. It should be stressed, however, that in a world with unbounded rationality, fixed, unconditional rules would be subject to the same kind of credibility (or time-consistency) problems as fully flexible, contingent rules. See Chapters 6 and 7.
12. It is worth emphasizing that monetary targets are not immune to the same problem of interpretation. The violation of the monetary target could be the proper exercise of an (implicit) escape clause permitting departure from the norm in the face of unexpected developments in velocity.

these practical considerations, there exists an argument against escape clauses that has acquired increasing importance since the crisis. This argument is based on implications for financial stability.

Consider a world where the policy norm is given by a fixed, unconditional rule such as a fixed exchange rate. Departures from that norm (the exercise of an escape clause) are feasible, but they involve a political "sunk" cost, say a loss of anti-inflationary reputation. The recent literature has frequently pointed out that, in the presence of such an escape clause and in the absence of credible precommitment, the interplay between private sector expectations and optimal public policies may generate "multiple equilibria" that would not exist without the escape clause (or indeed in a world with fully credible commitment). For unchanged fundamentals, there could be either low expectations of devaluation (the good equilibrium) or high expectations of devaluation (the bad equilibrium).[13]

Thus, when measuring the level of social welfare in terms of the objective function of the policy makers, "flexible pegs" such as the ERM will typically generate some equilibria that welfare-dominate the equilibrium under a fixed rule, as well as some equilibria that are welfare-inferior. Exogenous, arbitrary mechanisms will determine whether market participants (including financial intermediaries and currency speculators) coordinate on one equilibrium or another.

These theoretical results have generated considerable skepticism about the efficiency of escape clauses in a fixed exchange rate regime, and even about the effectiveness of any unilateral peg policy. In the academic literature and the popular press, the crisis of the ERM has often been interpreted as the requiem for fixed exchange rate policies among industrial economies. The Mexican peso crisis two years afterwards has, according to this interpretation, sealed the coffin for emerging economies as well.

1.4 The debate on the ERM crisis

In the post-mortem interpretations of the 1992–93 events, unilateral peg models with multiple instantaneous equilibria have provided theoretical foundations for the analysis of self-fulfilling speculative attacks in the foreign exchange markets. According to this approach, an exchange rate crisis due to self-fulfilling speculative behavior consists of a sudden (unexpected) shift from an equilibrium with zero or low expectations of devaluation to another equilibrium with high expectations of devaluation, for unchanged fundamentals. If a crisis is triggered by such a shift in expectations, the familiar macroeconomic indicators would not give any early indication that a period of exchange rate instability is approaching. Right up to the instant the crisis hits, forward-looking asset

13. We survey this literature in Chapter 7.

prices in the financial markets would reflect expectations of a persistence of the good equilibrium.

In the case of the ERM, financial markets indeed did not anticipate the magnitude of the crisis. The interest differentials between ERM countries and Germany fell on average in 1992; in the summer, there was some worsening of credibility, but to a very limited extent.[14] According to this view, the unanticipated (and essentially arbitrary) shift in market participants' expectations appears to have had permanent effects: Since the 1992 crisis, endemic monetary and financial instability is the original sin that marks the ERM after the fall.

In contrast to this "multiple equilibria" interpretation, the literature has provided at least three interpretations of the ERM crisis based on fundamentals. The first one stresses the role of the German reunification shock and of the fiscal-monetary policy mix that accompanied it. The basic elements of this story are well known. The German domestic demand boom, partly fueled by the sustained fiscal transfers from the West to the Eastern regions of the country, put upward pressures on the German real exchange rate. Given the Bundesbank's commitment to containing inflationary pressures, a D-mark real appreciation would have required either a nominal devaluation or a deflation in the rest of the ERM. The employment and fiscal costs of such a deflation undermined the stability of the exchange rates of the Periphery currencies vis-à-vis the Center.

The focus of the second "fundamental" interpretation of the crisis is on the policy makers' commitment to exchange rate stability. At the beginning of the 1990s, the perceived political benefits from participating in the ERM were high. Price stability being a national priority, governments tended to base the credibility of their anti-inflationary policies on their ability to maintain a stable exchange rate vis-à-vis the D-mark. The first Danish referendum revealed that the popular consensus over Maastricht was much weaker than previously believed. The social costs of deflationary policies, exacerbated by the regime of high interest rates following German reunification, suddenly became less bearable. The temptation to correct domestic imbalances through a devaluation grew stronger. This temptation was strengthened by the pronounced fall of the US dollar in the summer of 1992, in line with the (imperfectly understood) empirical regularity that a low dollar weakens some European currencies with respect to the D-mark.

The third "fundamental" explanation points to an inherent weakness of any price stabilization policy based on pegging the exchange rate. If inflation has inertia or if the new exchange rate regime is not perfectly credible, the policy initially results in an appreciation of the real exchange rate. Worsening competitiveness affects the trade balance, production, and employment. In or-

14. See Chapter 4.