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GLOBALIZING CAPITAL

A HISTORY OF THE INTERNATIONAL MONETARY SYSTEM

Second Edition

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— CHAPTER FIVE —

After Bretton Woods

It's our currency but it's your problem.
(U.S. Treasury Secretary John Connally)

Even more than the reconstruction of the gold standard in 1925 or the restoration of convertibility in 1958, the demise of the Bretton Woods international monetary system in 1973 transformed international monetary affairs. Ever since central banks and governments had been aware of the instrument that came to be known as monetary policy, the stability of the exchange rate had been the paramount goal to which it was directed. Monetary policy was used to peg the exchange rate except during exceptional and limited periods of war, reconstruction, and depression. But in 1973 policy was cut loose from these moorings, and exchange rates were allowed to float.

This transition was a consequence of the rise of international capital mobility. Throughout the Bretton Woods years, capital controls had provided some insulation from balance-of-payments pressures for governments that felt a need to direct monetary policy toward other targets. Controls offered the breathing space to organize orderly adjustments of the adjustable peg. Policymakers could contemplate changing the peg without provoking a destabilizing tidal wave of international capital flows. But the effectiveness of controls had been eroded over the years. The recovery of international financial markets and transactions from the disruptions of depression and war had been delayed, but by the 1960s it was well under way. With the reestablishment of current-account convertibility, it became difficult to distinguish and segregate purchases and sales of foreign currency related to transactions on current and capital accounts. Market participants found new and clever ways of circumventing barriers to international capital flows.

Stripped of this insulation, governments and central banks found the operation of pegged but adjustable exchange rates increasingly problematic. The merest hint that a country was considering a parity change could subject it to

massive capital outflows, discouraging officials from even contemplating such a change. Defending the parity did not prevent balance-of-payments pressures on pegged rates from continuing to mount, of course, or the markets from challenging pegs they suspected were unsustainable. In a world of high capital mobility, defending a parity required unprecedented levels of foreign-exchange-market intervention and international support. Support of this magnitude was something countries hesitated to extend when they doubted the willingness and ability of a government to eliminate the source of the payments imbalance.

The alternatives to pegged but adjustable rates were polar extremes: floating and attempting to peg once and for all. Large countries like the United States and Japan, for whom the importance of international transactions was still limited, opted to float. For them, the uncertainties of a fluctuating exchange rate, while not pleasant, were tolerable. For smaller, more open economies, especially developing countries with thin financial markets, floating exchange rates were even more volatile and disruptive. They opted for the other alternative: attempting to establish a fixed currency peg. Developing countries maintained tight capital controls in an effort to support currency pegs against major trading partners.[1] The countries of Western Europe, for whom intra-European trade was exceptionally important and whose Common Agricultural Policy (CAP) could be seriously disrupted by exchange rate swings, sought to peg their currencies to one another, there too behind the shelter of controls. They created new institutions to structure the international cooperation needed to support a collective currency peg.

But there was no turning back the clock. The ongoing development of financial markets, powered by advances in telecommunications and information processing technologies, hampered efforts to contain international financial flows. Doing so was not only difficult but also increasingly costly: with the development of competing financial centers, countries imposing onerous controls risked losing their financial business to offshore markets. Developing countries that failed to liberalize risked being passed over by foreign investors. Liberalization, though inevitable, exacerbated the difficulty of pegging the exchange rate, leading a growing number of developing countries to float.

The same trend was evident in Europe, although there the transformation took a different form. The interdependent economies of Western Europe had repeatedly sought to operate collective currency pegs. In the 1970s they had attempted to maintain the $2^1/_4$ percent fluctuation bands of the Smithsonian

[1]Many of these countries tightened controls in the 1970s and 1980s in response to the rise of capital mobility. Edwards and Losada 1994 document that this was the case in a number of Central American countries, for example, which had long pegged their exchange rates to the dollar.

Agreement in an arrangement known as the *European Snake*. In the 1980s they sought to limit exchange rate fluctuations by creating the European Monetary System (EMS). But with the removal of capital controls at the end of the 1980s, the EMS became increasingly difficult to operate. Orderly changes in parities became all but impossible. Strong-currency countries grew reluctant to support their weak-currency partners, given that effective support would have to be virtually unlimited in a world of liquid markets and high capital mobility. The limits to international cooperation in a Europe of sovereign monetary authorities became clear to see. A series of crises then forced the members of the EC to widen the fluctuation bands of the EMS from $2^1/_4$ to 15 percent in 1993.

The other option was to move further in the direction of hardening the exchange rate peg. A few countries—Hong Kong, Bermuda, the Cayman Islands, and subsequently, Argentina, Estonia, Lithuania, and Bulgaria—did so by establishing currency boards. They adopted parliamentary statutes or constitutional amendments requiring the government or central bank to peg the currency to that of a trading partner. A monetary authority constitutionally required to peg the exchange rate was insulated from political pressure to do otherwise and enjoyed the confidence of the markets. The problem with currency boards was that monetary authorities were constrained even more tightly than under the nineteenth-century gold standard from engaging in lender-of-last-resort intervention. Currency boards were attractive only for countries in special circumstances: typically they were very small, their banks were closely tied to institutions overseas and hence could expect foreign support, they possessed exceptionally underdeveloped financial markets, or they had particularly lurid histories of inflation.

The other way of hardening the peg was to move toward monetary union. Notwithstanding detours, this was the avenue pursued by the members of the European Community. In 1991 they adopted a plan to establish a European Central Bank (ECB) to assume control of their monetary policies, irrevocably peg their exchange rates, and replace their national monies with a single European currency. Whether other regions will emulate their example remains to be seen. What is clear is that informally pegged or pegged-but-adjustable exchange rates are no longer a feasible option. In most cases, the only alternative to monetary union has become more freely floating rates.

FLOATING EXCHANGE RATES IN THE 1970S

The transition to floating following the breakdown of Bretton Woods was a leap in the dark. Officials—especially those of organizations like the IMF that

were heavily committed to the old system—did not jump willingly; they had to be pushed. In July 1972 the governors of the International Monetary Fund set up the Committee of Twenty (C-20), composed of representatives of each of the twenty country groups represented by an IMF executive director, to prepare proposals for reforming the par value system.[2] Their "grand design" assumed, at odds with reality, the maintenance of adjustable pegs and concentrated on the provision of international reserves and on measures to encourage adjustment. Work on this proposal continued even after currencies were floated out of their Smithsonian bands in 1973 and the adjustable peg had expired.

While the Europeans and Japanese hoped for the restoration of par values, the United States, having endured repeated attacks on the dollar, was inclined to continue floating (especially once George Shultz replaced John Connally as secretary of the treasury). The Americans saw the problem as one of European countries intent on running surpluses and the solution—shades of the Keynes Plan—as a set of "reserve indicators" that would compel their governments to take corrective action. The governments of the surplus countries—particularly Germany—hesitated to submit to sanctions that could compel them to inflate. They opposed the use of IMF resources to buy up the overhang of dollars. Failure to surmount these obstacles forced the C-20 to abandon work on its grand design in 1974.

The members of the IMF then groped toward the Second Amendment to the Articles of Agreement, which legalized floating. At Bretton Woods thirty years earlier, a small group of countries had held the fate of the monetary system in its hands. And the same was again true: after the collapse of the C-20 process, the G-10, which had been responsible for the ill-fated Smithsonian negotiations, resumed its deliberations. The IMF established the ironically named Interim Committee (ironic because it existed for thirty years). The most important forum was the G-5, composed of finance ministers from the United States, Japan, France, Germany, and the United Kingdom, plus invited guests.

The French advocated pegged rates and a system that would prevent reserve currency countries from living beyond their means. They sought to limit America's exorbitant privilege of financing its external liabilities with dollars. U.S. treasury secretary Shultz and his undersecretary, Paul Volcker, were prepared to contemplate stabilizing the dollar only if bands were sufficiently wide that U.S. policy would not be significantly constrained and if the participating countries agreed on indicators whose violation would compel surplus countries

[2]The United States had come to feel isolated from the rest of the G-10 and realized that an amendment to the IMF Articles of Agreement regularizing a new system would require the assent of countries not represented there. It consequently backed the idea of negotiations with representatives of a larger group of countries within the framework of the IMF.

to revalue or otherwise share the adjustment burden. This inversion of the positions held by the United States and the Europeans at Bretton Woods, which mirrored the changing balance-of-payments positions of their respective economies, did not go unremarked upon.

The French, forced to acknowledge the depth of American resistance, agreed at the Rambouillet summit in 1975 to the face-saving formula of a "stable system" of exchange rates rather than a "system of stable rates." This concession opened the door to the Second Amendment to the Articles of Agreement, which came into effect in 1978. The Second Amendment legalized floating and eliminated the special role of gold. It obligated countries to promote stable exchange rates by fostering orderly economic conditions and authorizing the Fund to oversee the policies of its members.

Forecasts of the operation of the new system ran the gamut. Jacques Rueff, the French critic of Bretton Woods, predicted that the collapse of par values would provoke the liquidation of foreign exchange reserves and a deflationary scramble for gold like that which had aggravated the Great Depression.[3] This view neglected the learning that had occurred in the interim. From the experience of the 1930s, governments and central banks had learned that when the exchange rate constraint was relaxed, policymakers and not markets could control the money supply. Indeed, they had learned this lesson too well; they started up the monetary printing presses to finance budget deficits and oil-import bills. The problem of the 1970s became inflation, not the deflation Rueff had feared.

And there was no consensus forecast of the behavior of floating rates. Some believed that the demise of par values removed the problem of one-way bets and persistent misalignments. Floating rates would settle down to equilibrium levels from which they would have little tendency to diverge. The contrary view was that the world was about to enter a dangerous era of financial turmoil and instability.

Today we know that both positions were oversold. Nominal and real exchange rates proved to be more volatile than when currencies were pegged and than predicted by academic proponents of floating. Nominal rates frequently moved by 2 or 3 percent a month; their variability greatly exceeded that of relative money supplies and other economic fundamentals.[4] Real rates were nearly as volatile (see Figures 5.1 and 5.2). Still, there was not the financial chaos the opponents of floating had anticipated.

At first, it seemed that the pessimists would be proven correct. The dollar depreciated by 30 percent against the deutsche mark in the first six months of

[3] See Rueff 1972, chap. 5 and passim.

[4] This regularity, now well known, is perhaps best documented by Rose 1994.

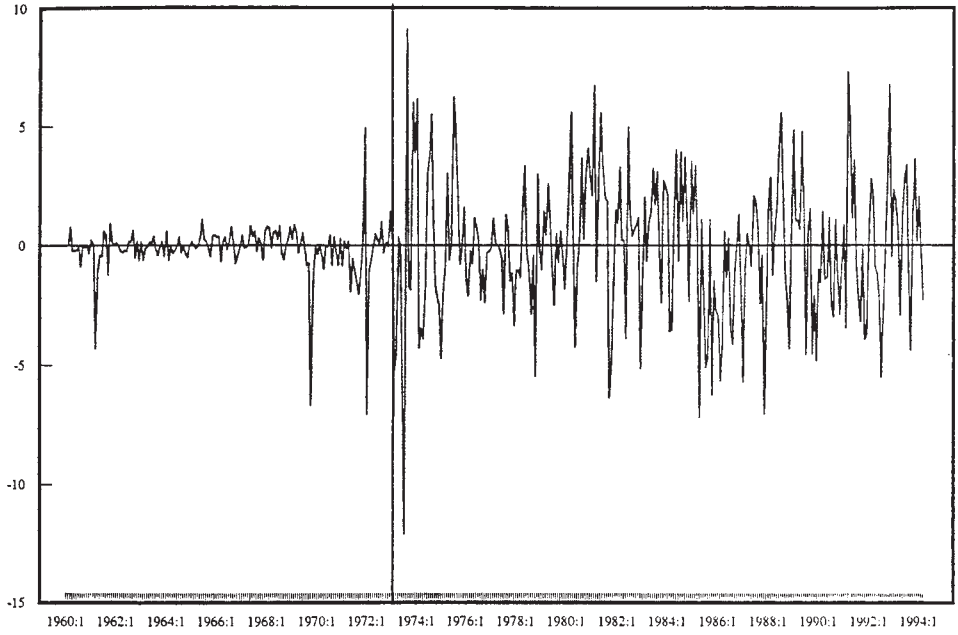

Figure 5.1. Monthly Change in the Deutsche Mark–U.S. Dollar Real Exchange Rate, February 1960–March 1994 (monthly percentage change in relative wholesale prices). *Source*: International Monetary Fund, International Financial Statistics various years.

floating. After that, however, it settled down. Much of the dollar's decline had been needed to eliminate its earlier overvaluation. Misalignments, though a subject of complaint, were not as severe as feared by the critics of floating (see *misaligned currency* in the Glossary). Sterling may have been undervalued in 1976, the dollar overvalued in 1978. The undervalued yen may have appreciated excessively in 1977–79. But none of these currencies was as seriously misaligned as the dollar would become in the mid-1980s. This was an achievement, given that economies were buffeted in the 1970s by two oil shocks and other commodity-price disturbances.

The absence of 1980s-style misalignments in the second half of the 1970s reflected two factors: that governments intervened in the currency markets, and that there was some willingness—in contrast to U.S. policy in the first half of the 1980s—to adjust monetary and fiscal policies with the exchange rate in mind. The Canadian dollar, French franc, Swiss franc, lira, yen, and pound sterling were actively managed. Intervention was on both sides of the market: it was used to support weak currencies and to limit the appreciation of

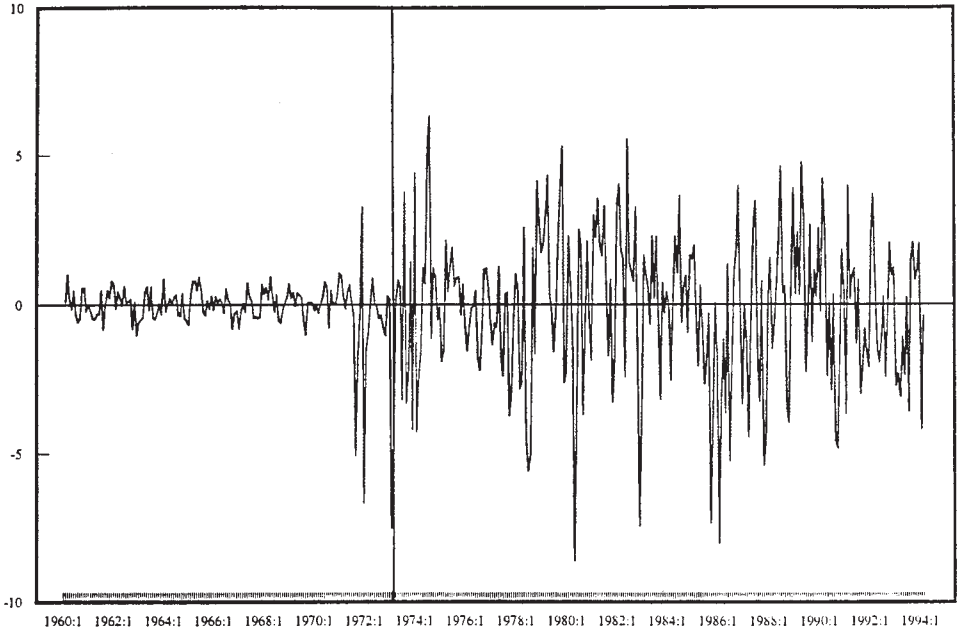

Figure 5.2. Monthly Change in the Japanese Yen–U.S. Dollar Real Exchange Rate, February 1960–March 1994 (monthly percentage change in relative wholesale prices). *Source*: International Monetary Fund, International Financial Statistics, various years.

strong ones. The Bank of Japan intervened both to support the yen in 1973–74 and then to stem its appreciation in 1975–77, for example.

The dollar/deutsche mark rate was only lightly managed; through 1977 intervention was modest. For the first two years of floating, the Federal Reserve confined itself to smoothing day-to-day fluctuations without attempting to influence the trend. But when the dollar fell by more than 11 percent against the deutsche mark in the six months ending in March 1975, the Federal Reserve, with the reluctant support of the German Bundesbank and the Swiss National Bank, undertook concerted intervention. For a time, their operations halted the currency's fall. But in 1977, responding to expectations of accelerating U.S. inflation provoked by the Carter administration's policies of demand stimulus, the dollar's depreciation resumed.

This time the Bundesbank agreed to make available a special credit to the U.S. Treasury's Exchange Stabilization Fund. Swap lines between the Bundesbank and the Fed were doubled. Intervention rose from DM 2 billion in the first three quarters of 1977 to more than DM 17 billion in the two quarters that

followed.[5] The dollar recovered for a time. When it weakened again in the second half of 1978, the two central banks undertook another DM 17 billion of intervention.[6]

Critical to the success, however limited, of these operations were domestic policy adjustments. To be sure, policies were not continuously directed toward exchange rate targets. The macroeconomic stimulus applied by the administration of President Jimmy Carter when it assumed office at the beginning of 1977 was adopted with full knowledge that its inflationary effects would weaken the dollar. The administration's hope was that other countries would also adopt more expansionary policies, limiting currency instability. Fearing inflation, the Japanese and Europeans refused to do so despite their awareness that the currency problem would be compounded.

But when currency fluctuations threatened to get out of hand, compromise ensued. The details were hammered out at the Bonn summit meeting in July 1978. The Carter administration announced an anti-inflation package to restrain wages and public spending. It agreed to raise domestic oil prices to world levels, eliminating a discrepancy that in the European and Japanese view aggravated the external deficits responsible for the dollar's decline. In return, the Europeans and Japanese agreed to expand. Japanese prime minister Takeo Fukuda submitted a supplementary budget that increased government spending by 1.5 percent of GNP in 1978. The Japanese authorities reduced the discount rate to an unprecedented 3.5 percent in March 1978. Bonn agreed to increase federal government expenditures and cut taxes by amounts sufficient to augment German domestic demand by approximately 1 percent in 1979. The French government made a similar commitment. "Remarkably, virtually all the crucial pledges of the Bonn summit were redeemed," in the words of Putnam and Henning.[7] These cooperative adjustments in policy may have been too modest to stabilize exchange rates, but they prevented the major currencies from diverging further.[8]

How did governments reconcile domestic policy objectives with the imperatives of exchange rate stabilization? In fact, the two did not always conflict. In all the countries that participated in the Bonn summit, there was a powerful faction that favored on domestic grounds the policy changes needed

[5] *Reports* of the Deutsche Bundesbank for 1977, 1978, and 1979 cited in Tew 1988, p. 220.

[6] There was also U.S. and foreign intervention in the markets for the Swiss franc and Japanese yen.

[7] See Putnam and Henning 1989, p. 97. Implementation of the U.S. promise to decontrol oil prices was delayed, however, until after the 1978 election, to the irritation of the Europeans.

[8] See Henning 1994, p. 129; Gros and Thygesen 1991, p. 37; and Sachs and Wyplosz 1986, p. 270.

to stabilize exchange rates. And where conflicts occurred, governments resorted to capital controls to mitigate the trade-off between domestic policy autonomy and currency stability. In 1977–78, as an alternative to more inflationary policies, the German authorities revoked the authorization for nonresidents to purchase certain classes of German bonds and raised reserve ratios on nonresident deposits with German banks in order to limit capital inflows into Germany and prevent further appreciation of the mark. The Japanese government supported the yen in 1973–74 by revising capital controls to favor capital inflows and discourage outflows.[9] In 1977 it imposed 50 percent reserve requirements on most nonresident deposits, in 1978 raising these to 100 percent and prohibiting purchases by foreigners of most domestic securities on the over-the-counter market.

Readers should not come away with the idea that the 1970s were copacetic. With the transition to floating, real as well as nominal exchange rates became more volatile than before. The contrast is evident in the behavior of both the yen/dollar and deutsche mark/dollar rates (again, see Figures 5.1 and 5.2). Not only were month-to-month changes in real rates larger than before, but movements in one direction could persist. But these problems, however serious, were not as severe as those that arose with the dollar's dramatic misalignment in the 1980s. The difference in the 1970s was more concerted intervention, more extensive use of capital controls, and greater willingness to adapt policies to the imperatives of the foreign-exchange markets.

FLOATING EXCHANGE RATES IN THE 1980s

Three events transformed the international monetary environment at the end of the 1970s. One, the advent of the European Monetary System, I discuss later. The others were shifts in the stance of U.S. and Japanese policies.

Few nations had been more committed than Japan to exchange market intervention. Like Germany, Japan experienced a period of rapid inflation after World War II and valued its nominal anchor. In an economy heavily dependent on exports, powerful interests resisted revaluation. Symptomatic was the Bank of Japan's effort to continue pegging the yen to the dollar at the level of 360 established in April 1949 even after Nixon closed the gold window in August 1971.[10] After two weeks, however, the Bank of Japan was forced to allow the currency to float up to 308 to the dollar, where it was repegged following

[9] See Horiuchi 1993, pp. 110–13.

[10] See Volcker and Gyohten 1992, pp. 93–94.

the Smithsonian negotiation. When the Smithsonian Agreement collapsed in February 1973, the yen was again allowed to float. At first, intervention was used to hold the currency within a narrow trading range. Starting with the first oil shock, however, the exchange rate was permitted to fluctuate more widely (see Figure 5.3).

This transition to a more flexible policy had important implications for the international monetary system. By the 1970s, with the considerable growth of the Japanese economy, the level of the yen had become an issue of concern to other countries. While the Japanese government continued to intervene selectively in the foreign-exchange market, the behavior of the dollar/yen rate came to resemble that of the dollar/deutsche mark rate: increasingly it was left to be determined by market forces and allowed to fluctuate over a considerable range.

The United States also gravitated toward greater exchange rate flexibility. If there had been any doubt about American priorities, it was removed by the appointment of Paul Volcker as chairman of the Federal Reserve Board in 1979 and Ronald Reagan's election as president in 1980. Volcker was prepared to let interest rates rise and the growth of the money supply fall to whatever levels were required to bring inflation down from double digits. The well-known Dornbusch model of exchange rate determination, which had gained wide currency in the 1970s, suggested that the exchange rate would overshoot its long-run equilibrium level in response to a change in rates of inflation and money growth.[11] This is what happened: Germany and Japan having abandoned policies of exchange rate targeting, the dollar appreciated by 29 percent in nominal terms and 28 percent in real terms between 1980 and 1982.

The Reagan administration followed with cuts in personal income taxes. It indexed tax brackets for inflation and increased military spending. As the budget deficit widened, U.S. interest rates rose: the differential in relation to foreign rates was a full point larger in 1983–84 than it had been in 1981–82. "The textbooks [did not] have much trouble explaining the source of this increase in U.S. interest rates," as Jeffrey Frankel put it.[12] The same can be said of the increase in the foreign-exchange value of the dollar. Foreign capital was attracted to the United States by high interest rates, pushing up the currency still further.

[11] See Dornbusch 1976. While the Dornbusch model suggested that the appreciation of the dollar should have occurred all at once, at the moment when the change in U.S. monetary policy took place, the currency actually strengthened gradually over the 1980–82 period. Michael Mussa (1994) suggests that this reflected a gradual realization on the part of the public that the change in policy that had taken place was credible and permanent.

[12] See Frankel 1994, p. 296.

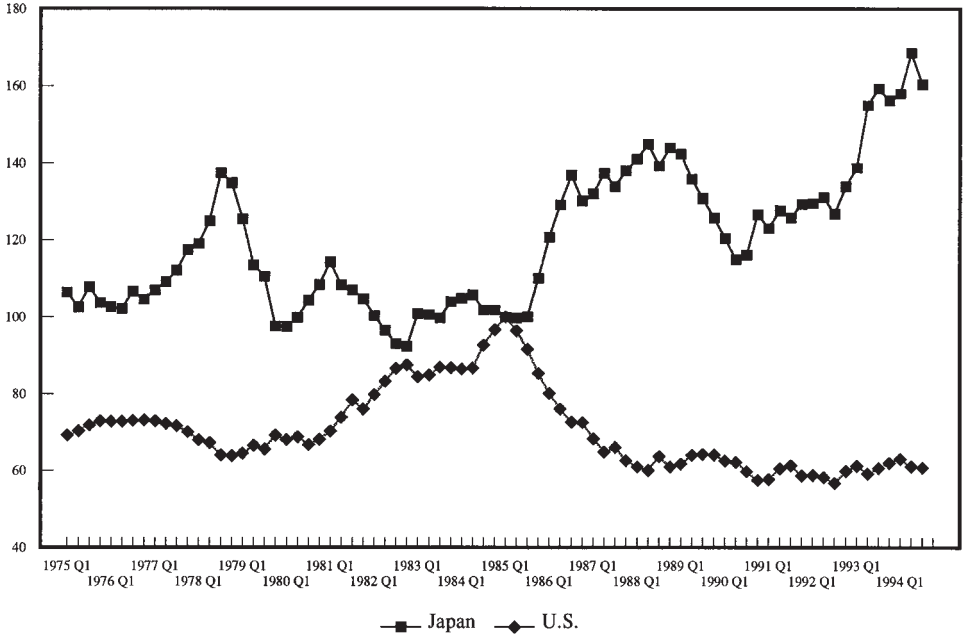

Figure 5.3. U.S. and Japanese Real Exchange Rates, 1975–94 (1985 = 100). *Source*: International Monetary Fund, International Financial Statistics, various years.

Initially this dramatic appreciation elicited little in the way of a policy response. There was scant willingness on the part of the United States to contemplate tax increases, cuts in government spending, or changes in Federal Reserve policy to bring U.S. interest rates down and render the dollar less attractive to foreign investors. Volcker's Fed still attached priority to the reduction of inflation; Treasury Secretary Donald Regan believed in entrusting the exchange rate to the market.

The dollar's appreciation in 1983–85 highlighted the need for cooperative adjustments of macroeconomic policies to counter misalignments. But in the 1980s, as on prior occasions, intellectual disputes precluded cooperation. U.S. policymakers such as Treasury Undersecretary Beryl Sprinkel were committed to the monetarist proposition that a stable rate of monetary growth would produce stable inflation and a stable exchange rate.[13] They denied that the dollar's strength reflected the crowding-out effects of deficit spending and high interest rates, ascribing it instead to the administration's success in containing

[13]This was the view of exchange rate determination espoused by Milton Friedman in his influential 1953 article on floating rates. See Friedman 1953.

inflation.[14] Not only was foreign exchange intervention inappropriate, in this view, but it was unnecessary since, by assumption, exchange rates were driven by the market to efficiency-maximizing levels.

The Europeans and Japanese continued to attach more importance to exchange rate stability. For historical reasons they had more faith in intervention and cooperation, and they subscribed to a model of the economy in which budget deficits and high interest rates were the source of misalignments. But however desirous they were of harmonizing policies, collaboration also required a course correction on the part of the United States.[15] Left to their own devices, the Europeans withdrew into the EMS, while the Japanese made the most of their improved export competitiveness.

Figure 5.4 shows that the difference between U.S. interest rates and foreign interest rates closely tracked the dollar's rise through the first half of 1984. After June, however, the dollar rose further to an extent that was not readily explained by interest rates and macroeconomic fundamentals. The currency continued to appreciate, by an additional 20 percent through February 1985, even though the U.S. interest rate premium began to fall.

This movement, widely interpreted as a speculative bubble, eroded the Reagan administration's resistance to foreign-exchange-market intervention.[16] At a secret meeting at New York City's Plaza Hotel in September 1985, G-5 finance ministers and central bank governors agreed to try to push the dollar down. They were united by their desire to head off protectionist legislation wending its way through the U.S. Congress as a result of the damage inflicted on domestic producers of traded goods. For the Reagan administration, congressional protectionism threatened its agenda of deregulation and economic

[14]Disinflation could indeed explain the real appreciation experienced by the United States in 1980–81 when U.S. monetary policy shifted in a more contradictory direction (this being the implication of the Dornbusch model), but it was more difficult to account for the further real appreciation of subsequent years. See discussion below.

[15]This was something which neither the Treasury nor the Fed was willing to contemplate. At the G-7 summit in Williamsburg, Virginia, in 1983, the Europeans pushed for reductions in U.S. deficits to stem the dollar's rise. The American response was that the strong dollar was not the result of U.S. deficits and high interest rates. See Putnam and Bayne 1987, p. 179 and passim. By the end of 1983 American producers of traded goods had begun to complain of the injury they suffered as a result of the dollar's appreciation. Treasury Secretary Regan therefore sought to pressure Japan to take steps to strengthen the yen. His initiative, which pressed the Japanese to open their capital markets to international financial flows, ironically led to an outflow of capital from Japan and a further weakening of the yen. The United States for its part offered little in the way of policy adjustments. See Frankel 1994, pp. 299–300.

[16]Paul Krugman (1985) and Stephen Marris (1985) provided analytical grounding for the bubble interpretation of the 1984–85 appreciation.

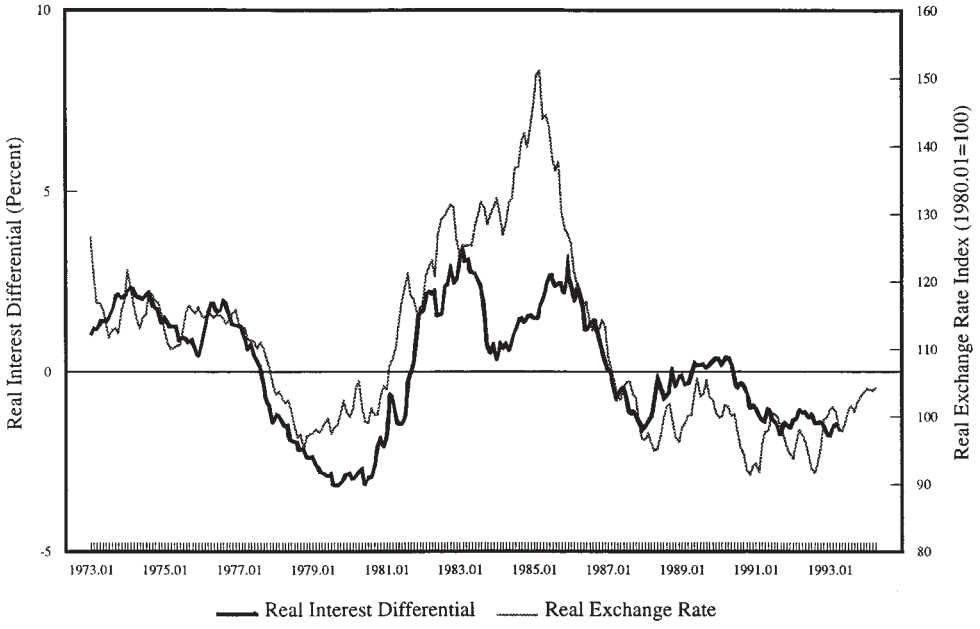

Figure 5.4. U.S. Dollar Real Exchange Rate and Long-Term Interest Differential, 1973–94. *Source*: International Monetary Fund, International Financial Statistics, various years. *Note*: Real exchange rate is U.S. consumer price index relative to trade-weighted average of consumer prices of other G-7 countries. Real interest rates are long-term government bond yields minus twenty-four-month moving average of inflation. Interest differential is real U.S. rate minus weighted average of real interest rates of other G-7 countries.

liberalization; for the Japanese and Europeans it jeopardized their access to the American market. The five governments issued a joint statement of the desirability of an "orderly appreciation of the non-dollar currencies" (a typically prosaic way for politicians to refer to dollar depreciation) and of their readiness to cooperate in attaining it.

The dollar fell by 4 percent against the yen and the deutsche mark the day the Plaza communiqué was released, and it continued to decline thereafter. However, no change in monetary and fiscal policies had been discussed at the Plaza, much less undertaken. This, in conjunction with the fact that the dollar had already begun to decline six months earlier, led some to conclude that the negotiation was inconsequential—that the currency's fall was simply the unwinding of an unsustainable appreciation. The contrary view is that the Plaza Accord and sterilized intervention undertaken in its wake signaled an impending policy shift—a new willingness to adapt policy in the directions needed to

stabilize the exchange rate.[17] That the dollar began to fall before the Plaza meeting can in fact be reconciled with this argument. Some months earlier (after the 1984 presidential election), the more pragmatic and interventionist James Baker and Richard Darman had replaced Donald Regan and Beryl Sprinkel at the Treasury, suggesting that new policies might be in the offing. Intervention had been agreed to at a G-5 meeting in January 1985, and the Bundesbank had intervened heavily (see Figure 5.5). All this suggests that intervention and cooperation in fact played a role in halting the dollar's rise.

Once it began falling, the dollar depreciated rapidly. The United States had run down its net foreign assets as a result of the external deficits of the early 1980s; a lower exchange rate was needed to offset a weaker invisibles account.[18] Even so, by the second half of 1986 the Europeans and Japanese began to complain that the process had gone too far. The dollar had lost 40 percent of its value against the yen from the peak the year before, creating problems of cost competitiveness for Japanese producers. The Japanese government intervened extensively to support the dollar. In September a bilateral deal between the United States and Japan, trading Japanese fiscal expansion for U.S. abstention from talking the dollar down, sought to stabilize the exchange rate. But absent a willingness to adjust macroeconomic policies in the United States and Europe, the effects were limited.

This realization prompted the Louvre meeting of G-7 finance ministers in February 1987, where more fundamental policy adjustments were discussed. The ministers agreed to stabilize the dollar around current levels; some observers went so far as to suggest that the ministers established a "reference range" of 5 percent.[19] The central banks concerned undertook intervention. The Japanese agreed to further stimulus measures, the Germans to limited tax cuts, the United States to more nebulous adjustments in domestic policy. The Federal Reserve in fact allowed U.S. interest rates to rise (reversing the downward trend that had begun in 1984), although whether its decision was motivated by the decline of the dollar or by signs of impending inflation remains unclear.

[17] See Feldstein 1986 and Frankel 1994 for the competing views.

[18] Some argued that in addition U.S. exporters had lost their foothold in international markets and that foreign producers had gained a permanent beachhead in American markets as a result of the early-1980s misalignment; a lower exchange rate was needed to offset this.

[19] See Funabashi 1988, pp. 183–86. Karl Otto Pöhl, who was president of the Bundesbank, recalls some confusion among G-7 ministers over what they had agreed upon. Pöhl's understanding was that formal *target zones* had not been established but that a first step toward their implementation had been taken. But others, especially finance ministers of the smaller countries involved, may have interpreted discussions as implying a formal commitment. See Pöhl 1995, p. 79.

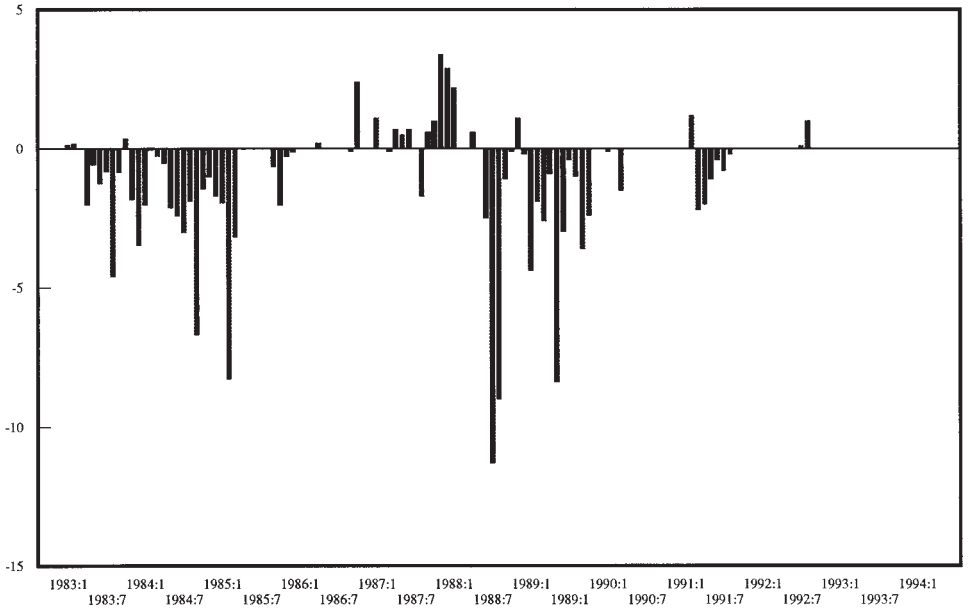

Figure 5.5. Bundesbank Operations in the Deutsche Mark–U.S. Dollar Market, 1983–94 (billions of D-marks). Deutsche Bundesbank, Annual Reports, various years. *Note*: Positive entries denote Bundesbank intervention on behalf of the U.S. dollar.

The International Monetary Fund played a surprisingly small role in these developments. The Second Amendment to the Articles of Agreement, in suggesting that the IMF's role was to encourage policy coordination among its members, removed the Fund's responsibility for overseeing a system of par values but spoke of the need for "firm surveillance" of national policies. But the leading industrial countries showed little interest in a forum where scores of smaller nations might have some say in their decisions. As a result, governments relied less on changes in underlying monetary and fiscal policies and more on foreign-exchange-market intervention than the Fund may have wished. The IMF is portrayed in the academic literature as a mechanism for applying sanctions and rewards to encourage countries to follow up on cooperative agreements.[20] In practice, the fact that the Fund was an unattractive venue in which to conduct negotiations, and that none of the countries concerned drew on Fund resources to finance their foreign-exchange-market intervention, prevented it from effectively carrying out this role.

[20]In technical terms, the IMF is portrayed as a "commitment technology." See Dominguez 1993, pp. 371–72.

The U.S. currency rallied in mid-1988 and again in mid-1989. But as with the Plaza and the 1986 bilateral United States-Japan accord, there was little willingness on the part of the United States to follow through with changes in domestic (in particular, fiscal) policies. Sterilized intervention not backed by a commitment to adjust domestic policies had only transient effects.[21] And the United States, Germany, and Japan lacked the web of interlocking agreements needed to lock in policy adjustments.

The dollar's decline resumed in the second half of 1989, and the United States settled into the policy of benign neglect of the exchange rate pioneered by the Carter administration. The administrations of presidents George Bush and Bill Clinton displayed little readiness to adjust policies to stop the currency's fall. A typical Bush reaction to a question about the declining dollar was, "Once in a while, I think about those things, but not much."[22] With this response, Bush was only swimming with the political tide. An overvalued currency, like the dollar in the mid-1980s, imposes high costs on concentrated interests (producers of traded goods who find it difficult to compete internationally) who powerfully voice their objections. In contrast, an undervalued currency, like the dollar in the mid-1990s, imposes only modest costs on diffuse interests (consumers who experience higher inflation and import prices) who have little incentive to mobilize in opposition. Thus, there was little domestic opposition to the dollar's decline. Its depreciation was driven by domestic considerations, such as the Fed's decision to cut interest rates in 1991 in response to the U.S. recession, and a second set of cuts in 1994, again taken to counter signs of a weakening economy.

The situation was reversed in other countries, where an undervalued dollar meant an overvalued local currency. By 1992 the low level of the dollar had become a huge problem for Japan, where the profits of tradable goods producers were squeezed, and for Europe, the one place where it could be argued that the interlocking web of commitments needed to support the maintenance of pegged rates existed.

THE SNAKE

The countries of Europe followed the other path, seeking to create an institutional framework within which they could stabilize their currencies against

[21]This had been the finding of the Jurgensen Committee, an intergovernmental working group commissioned to study foreign-exchange intervention. See Working Group on Exchange Market Intervention 1983.

[22]Cited in Henning 1994, p. 290.

one another. That European countries were more open to trade than the United States heightened their sensitivity to exchange rate fluctuations.[23] Europe, not the United States or Japan, was where floating currencies had been associated with hyperinflation in the 1920s. Europe was where the devaluations of the 1930s had most corroded good economic relations.

Still, Europe's steadfast pursuit of pegged exchange rates in a period marked by the quadrupling of oil prices, the breakdown of Bretton Woods, and the most serious business-cycle fluctuation of the postwar era is one of the most striking features of the period. Its motivation must be understood in terms of the development of the European Economic Community. The EEC was seen by its European founders and their American allies as a mechanism for binding Germany and France together and, by heightening their economic interdependence, for discouraging them from going to war. It helped prevent these and other European countries from reneging on their commitment to cooperate in the economic domain. The EEC created an interlocking web of agreements and side-payments that would be jeopardized if a country followed noncooperative monetary policies. The success of the Community, which by the 1970s had gone a considerable distance toward liberalizing intra-European trade, increased the share of member countries' total trade that took place with one another. To the extent that exchange rate stability was desirable for encouraging the expansion of trade (a proposition for which the evidence provides limited support), focusing on the liberalization of trade within Europe made it possible to achieve that objective by stabilizing intra-European rates. European experience thus supports those who suggest that stable and extensive trade relations are a prerequisite for a smoothly functioning international monetary system.

The EEC completed its customs union ahead of schedule by the end of the 1960s. Monetary unification was the next logical step, especially for those who saw the EEC as a nascent political entity. In 1969 the European Council reaffirmed its intention of moving ahead to full economic and monetary union (EMU). It was motivated in part by the incipient instability of the dollar and by fears that a disorderly revaluation of European currencies would endanger the EEC.[24] This led in 1970 to the formation of a study group of high-level officials chaired by the prime minister of Luxembourg, Pierre Werner.[25]

[23]This is argued by Giavazzi and Giovannini 1989.

[24]This is the interpretation of Harry Johnson (1973).

[25]See Werner et al. 1970. The Werner Report was not the EEC's first discussion of monetary integration. The Treaty of Rome had already acknowledged that the exchange rates of member countries should be regarded as a matter of "common interest." The revaluation of the Dutch guilder and German mark in 1961 then prompted discussion of how the customs union could be

The Werner Report described a process by which monetary union could be achieved by 1980. It recommended creating a central authority to guide and harmonize national economic policies, concentrating fiscal functions at the Community level, and accelerating the integration of factor and commodity markets. It did not recommend creating a single European currency or a European Central Bank, however, instead assuming that responsibility for exchanging European currencies at par could be vested in a European "system of national central banks." The transition was to be accomplished by a progressive hardening of exchange rate commitments (narrowing of fluctuation bands) and closer harmonization of macroeconomic policies. The recommendations of Werner's group were endorsed by the politicians, who set out on the path it delineated.

In retrospect, it was naive to think that Europe would be ready for monetary union in 1980, much less that it could achieve that goal without building institutions to support the operation of such an arrangement. Admittedly, it had established a customs union and created the Common Agricultural Policy that was the European Community's most visible function. The desire to avoid jeopardizing the CAP, whose administration would be complicated by frequent and sizable exchange rate movements, was a source of support for the Werner Report. But few political functions had been transferred to the European Parliament or the European Commission. The web of interlocking agreements needed to bond national governments to monetary unification—to prevent them from reneging on a commitment to follow guidelines for macroeconomic policy set down by the Community—remained underdeveloped. And the enlargement of the Community to incorporate Denmark, Ireland, and the United Kingdom in 1973 introduced new diversity that further complicated integration efforts.

If nothing else, the discussions surrounding the Werner Report provided a basis for responding to the collapse of the Bretton Woods System. The Smithsonian Agreement of December 1971 tripled the width of fluctuation bands against the dollar, allowing intra-European exchange rates to vary by as much as 9 percent. For the members of the EEC, exchange rate variability of this magnitude was an alarming prospect. They therefore sought to limit the fluctuation of their bilateral rates to $4^1/_2$ percent in an arrangement known as the Snake. They maintained that arrangement even after the Smithsonian "tunnel" collapsed in 1973.[26] Denmark, Ireland, and the United Kingdom, which were

extended to the monetary domain. By the mid-1960s this had led to the creation of the *Committee of Central Bank Governors.*

[26]Following the collapse of the Smithsonian arrangement, the floating Snake was referred to, not entirely seriously, as the "snake in the lake" to distinguish it from its predecessor, "the snake in the tunnel."

not yet members of the EEC, agreed to participate in the Snake within a week of its founding. Norway linked up a month later. The members of the Snake established Short-Term and Very-Short-Term Financing Facilities to extend credits to weak-currency countries. The European Monetary Cooperation Fund, with a board made up of governors of national central banks, was established to monitor European monetary policies, oversee the operation of credit facilities, and authorize realignments, mimicking the global role of the IMF. Countries were authorized to retain controls on capital movements within Europe, but current transactions were unrestricted as under the Articles of Agreement. The inspiration derived from the Bretton Woods System of pegged but adjustable rates was clear.

The Snake soon encountered difficulties (see Table 5.1). While all of Europe suffered a loss of competitiveness due to the dollar's post-1973 decline and the first OPEC (Organization of Petroleum Exporting Countries) oil-price shock, the weaker currencies were disproportionately affected.[27] Both foreign support and domestic policy adjustments remained limited, however, and could not contain exchange market pressures. In January 1974 France was forced to float; it rejoined the Snake in July 1975. The German Bundesbank then adopted a strategy of targeting monetary aggregates, which prevented it from accommodating the inflationary pressures caused by higher oil prices. The French government of Jacques Chirac, in contrast, adopted expansionary fiscal policies, forcing it to again leave the Snake in 1976.

All the while, Germany intervened in support of the currencies of its small northern European neighbors. But officials of both the Bundesbank and the Free Democratic Party on which the governing coalition relied grew increasingly concerned about the inflationary consequences. Purchases of foreign currencies for deutsche marks, if they remained unsterilized, threatened to bring German inflation rates up to those prevailing in the countries to which the Bundesbank lent support.[28] This tension was resolved by the Frankfurt realignment of October 1976 in which the currencies of the Benelux and Scandinavian countries were devalued against the deutsche mark, inaugurating a period of more frequent parity changes. While the complete story of the Frankfurt realignment is yet to be told, German officials appear to have demanded greater exchange rate flexibility as the price for continued cooperation. Any

[27]The Bundesbank was forced to intervene on their behalf. This was the first instance of what became a familiar pattern, in which a weak dollar was associated with a strong deutsche mark within Europe. The same problem afflicted the European Monetary System in 1992, as we shall see below.

[28]Alternatively, if the Bundesbank's intervention were sterilized, there would be good reason to worry that its effects would be neutralized. See note 21 above.

TABLE 5.1
Chronological History of the Snake

1972	
April 24	Basel Agreement enters into force. Participants are Belgium, France, Germany, Italy, Luxembourg, and the Netherlands.
May 1	The United Kingdom and Denmark joined.
May 23	Norway becomes associated.
June 23	The United Kingdom withdraws.
June 27	Denmark withdraws.
October 10	Denmark returns.
1973	
February 13	Italy withdraws.
March 19	Transition to the joint float: interventions to maintain fixed margins against the dollar ("tunnel") are discontinued.
March 19	Sweden becomes associated.
March 19	The deutsche mark is revalued by 3 percent.
April 3	Establishment of a European Monetary Cooperation Fund is approved.
June 29	The deutsche mark is revalued by 5.5 percent.
September 17	The Dutch guilder is revalued by 5 percent.
November 16	The Norwegian krone is revalued by 5 percent.
1974	
January 19	France withdraws.
1975	
July 10	France returns.
1976	
March 15	France withdraws again.
October 17	Agreement on exchange rate changes ("Frankfurt realignment"): The Danish krone is devalued by 6 percent, the Dutch guilder and Belgian franc by 2 percent, and the Norwegian and Swedish kroner by 3 percent.
1977	
April 1	The Swedish krona is devalued by 6 percent, and the Danish and Norwegian kroner are devalued by 3 percent.
August 28	Sweden withdraws; the Danish and Norwegian kroner are devalued by 5 percent.
1978	
February 13	The Norwegian krone is devalued by 8 percent.
October 17	The deutsche mark is revalued by 4 percent, the Dutch guilder and Belgian franc by 2 percent.
December 12	Norway announces decision to withdraw.

Source: Gros and Thygesen 1991, p. 17.

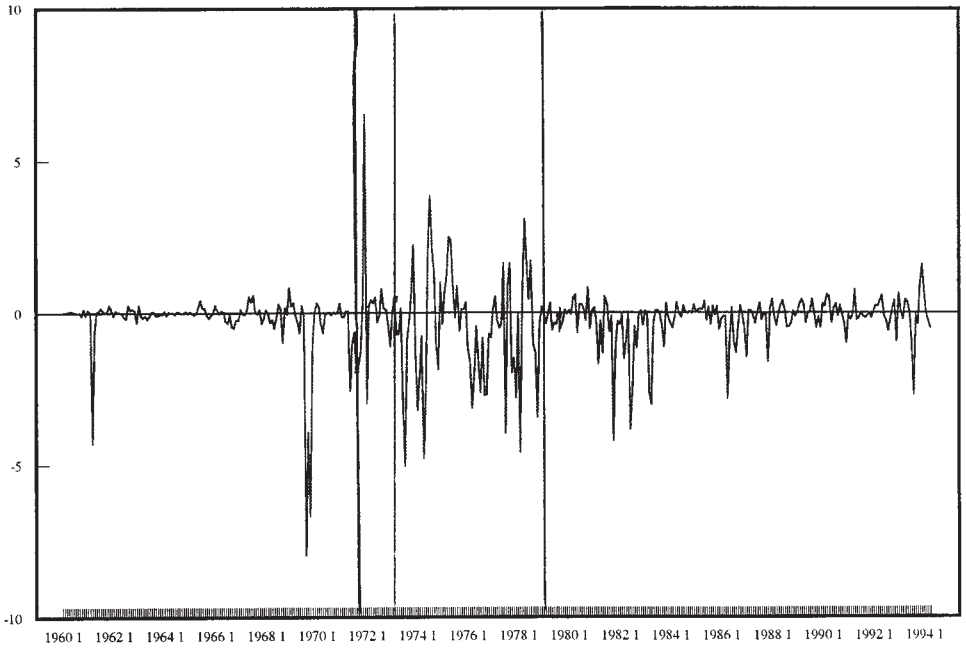

Figure 5.6. Monthly Change in the Deutsche Mark–French Franc Real Exchange Rate, February 1960–April 1994. *Source:* International Monetary Fund, International Financial Statistics, various years.

notion that monetary union could be achieved by pegging exchange rates within unchanging bands was thereby dealt a blow.

In the end, the Snake failed to provide exchange rate stability at the regional level. Intra-European rates were stabilized for limited periods, but efforts to hold them within narrow bands were frustrated. Not only did countries engage in serial realignments, but several were compelled to withdraw from the Snake entirely. Figures 5.6–5.8 distinguish four periods: a first before the closing of the gold window, a second through the collapse of the Smithsonian Agreement, a third corresponding to the European Snake, and a fourth denoting the European Monetary System. It is apparent that the critical French franc/deutsche mark exchange rate was less stable under the Snake than during Bretton Woods.[29]

Why was the Snake so troubled? For one thing, the economic environment, marked by oil shocks and commodity market disruptions, was unpropitious for efforts to peg exchange rates. The liberation of the Snake from the

[29]Note the contrast with the deutsche mark/Belgian franc rate, which was relatively stable during the years of the Snake, reflecting Belgium's success in staying in the system.

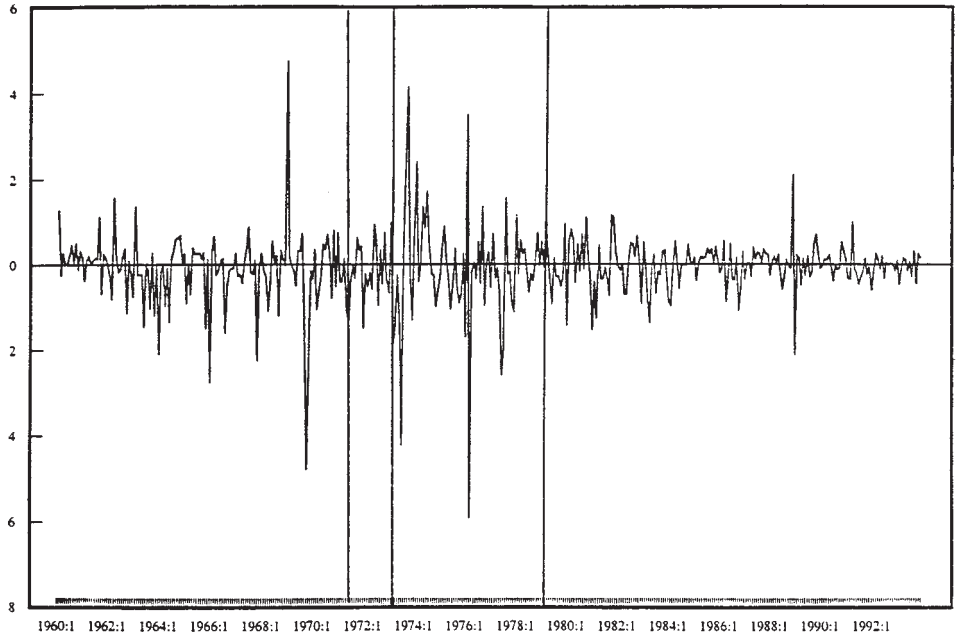

Figure 5.7. Monthly Change in the Deutsche Mark–Dutch Guilder Real Exchange Rate, February 1960–December 1992 (monthly percentage change in relative wholesale prices). *Source:* International Monetary Fund, International Financial Statistics, various years.

Smithsonian tunnel coincided with the first OPEC oil-price shock in 1973 and the 1974 commodity-price boom. Because different European countries relied to differing degrees on imported petroleum and raw materials, the impact was felt asymmetrically. Some countries experienced more unemployment than others. Some governments were exposed to more intense pressure to respond in expansionary ways. These dislocations interrupted the upward trend in France and Germany's intra-European trade, dimming enthusiasm in both countries for integration initiatives. In the same way that the goal of monetary union by the end of the century tied down intra-European exchange rates in the early 1990s—and questions about whether the Maastricht Treaty on European Union would be ratified undermined the stability of prevailing rates—the hope that the Snake might be a stepping stone to monetary union by 1980 encouraged the markets to support Europe's narrow bands only until the shocks of the 1970s made the Werner Report obsolete.[30]

[30]On the Maastricht Treaty and ratification difficulties in 1992, see discussion later in the text.

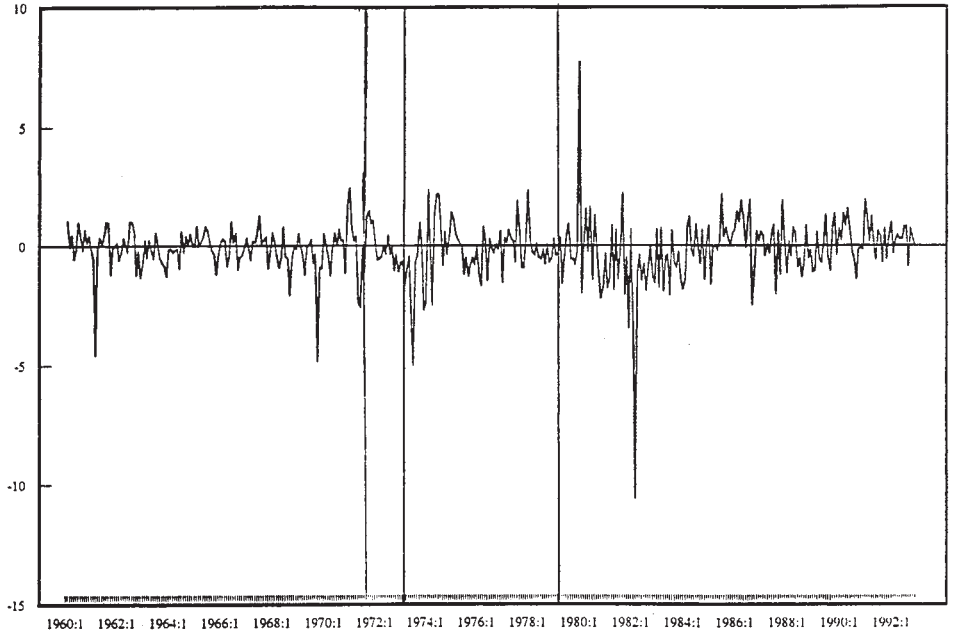

Figure 5.8. Monthly Change in the Deutsche Mark–Belgian Franc Real Exchange Rate, February 1960–December 1992. *Source:* International Monetary Fund, International Financial Statistics, various years.

Moreover, officials in different countries had different views of the appropriate response to disturbances. That monetary policy should be directed toward the maintenance of price stability was not yet an intellectual consensus. Some European policymakers, not having had the freedom to experiment with expansionary monetary initiatives under Bretton Woods, failed to appreciate how attempts to aggressively utilize monetary policy, especially in an environment of unbalanced budgets, could stimulate inflation rather than output and employment. Given Germany's aversion to inflation, the result was a lack of policy cohesion.[31]

Ultimately, the disturbances of the mid-1970s were so disruptive to the Snake because the political and institutional preconditions for the harmonization of monetary and fiscal policies remained underdeveloped. The fiscal federalism and centralization foreseen by the authors of the Werner Report, which

[31]Note the parallel with the failure to coordinate reflationary responses to the Depression of the 1930s, when incompatible conceptual frameworks in different countries stood in the way of international cooperation.

might have helped weak-currency countries cling to the Snake, remained wholly unrealistic. There was no entity in Brussels accountable to fiscal constituencies at the national level; governments consequently resisted ceding fiscal responsibility to the Community. The adjustments in national fiscal policies needed to hold exchange rates within the Snake were not made.

Analogous problems afflicted monetary policy. The European Monetary Cooperation Fund possessed little authority, central bank governors being unprepared to delegate their prerogatives. Meeting separately as the Committee of Central Bank Governors, they were supposed to set guidelines for national monetary policies but did little more than coordinate foreign-exchange-market intervention.[32] In the end, there existed no regional analogue to the International Monetary Fund to monitor policies and press for adjustments. The absence of such an institution meant that the strong-currency countries could not be assured that their weak-currency counterparts would undertake policy adjustments. Therefore the foreign support they were willing to provide was necessarily limited.

The Snake had been established as a symmetric system in reaction to French objections to the dollar's asymmetric role under Bretton Woods. But once the Snake was freed from the Smithsonian tunnel, the deutsche mark emerged as the Europe's reference currency and its anti-inflationary anchor. The Bundesbank set the tone for monetary policy continentwide. Yet there existed no mechanism through which other countries could influence the policies of the German central bank and no option other than exit through which they could control their own monetary destinies. This "accountability deficit" was the ultimate obstacle to the success of the Snake.

THE EUROPEAN MONETARY SYSTEM

The French sought to rectify these deficiencies by creating the European Monetary System in 1979. They sought to strengthen the oversight powers of the Monetary Committee of the European Community with the goal of creating an EC body to which national monetary policymakers could be held accountable. And they secured a provision in the EMS Act of Foundation authorizing governments to draw unlimited credits from the Very-Short-Term Financing Facility, seeming to oblige the strong-currency countries to extend unlimited support to their weak-currency partners. In practice, however, neither provision of the new system worked as intended by France and the small EC countries that depended on German policy.

[32] See Gros and Thygesen 1991, pp. 22–23.

The French had never wavered in their support for pegged rates; when the country was forced at Rambouillet to abandon the effort to establish such a system globally, President Valéry Giscard d'Estaing redirected his efforts to stabilizing the critical franc/deutsche mark rate. France's inability to stay in the Snake demonstrated that this was easier said than done. The experience inspired French officials to seek the construction of a sturdier structure within which intra-European exchange rates could be held. Critical to the success of their initiative was the cooperation of the German government. Giscard's German counterpart, Federal chancellor Helmut Schmidt, saw the creation of the EMS as a logical step toward a federal Europe—as a way of salvaging the vision of the Werner Report and of "bringing the French back in."[33] Linking the franc and other European currencies to the deutsche mark would also help to insulate the German economy from the effects of a depreciating dollar. In the same way that the dominance of the British and American delegations simplified the Bretton Woods negotiations, the fact that the EMS arose out of a meeting of the minds between the leaders of the two dominant EC member states finessed free-rider and coordination problems. Schmidt and Giscard's bilateral agreement received the endorsement of the European Council in July 1978, leading to the creation of the European Monetary System in 1979.[34]

Negotiating the EMS Act of Foundation still required reconciling French and German interpretations of the failure of the Snake. German officials argued that the Snake had operated satisfactorily for countries that subordinated other goals to the imperatives of price and currency stability. Their French counterparts complained that the Snake was a German-led system that accorded other countries inadequate input into policy. The Schmidt-Giscard initiative thus sought to create a new institution to reconcile France's desire for symmetry with Germany's insistence on discipline. The moribund European Monetary Cooperation Fund would be replaced by a European Monetary Fund (EMF) to manage the combined foreign-exchange-rate reserves of the participating countries, to intervene in currency markets, and to create *ecu* reserves to serve as European SDRs. The EMS would feature a "trigger mechanism," which would be set off when domestic policies jeopardized currency pegs. Violation of agreed-upon indicators would force strong-currency countries to expand and weak-currency countries to contract.

[33]As Schmidt put it in his memoirs, "I had always regarded the EMS not only as a mere instrument to harmonize the economic policies of the EC member countries, but also as part of a broader strategy for political self-determination in Europe." Cited in Fratianni and von Hagen 1992, pp. 17–18.

[34]On the chronology of EMS regulations, see Ludlow 1982.

Thus, Keynes's preoccupation at Bretton Woods, that surplus countries be forced to revalue or expand so as not to saddle deficit countries with the entire burden of adjustment, again took center stage. But as at Bretton Woods and again in the early 1970s when the United States sought to salvage the system of pegged but adjustable rates by appending a set of "reserve indicators" to compel surplus countries to adjust, the strong-currency countries, whose support for any reform was indispensable, were reluctant to agree. The Bundesbank realized that if the trigger mechanism failed, requiring it to purchase weak EMS currencies for marks, its mandate to pursue price stability could be compromised. If the EMF created unbacked ecu reserves to meet the financing needs of the deficit countries, the inflationary threat would be heightened.[35] The Bundesbank Council therefore objected to the agreement.[36]

Intense negotiations followed.[37] The French and German governments dropped their proposal for a trigger mechanism that might require changes in Bundesbank policy and for the transfer of national exchange reserves to a European Monetary Fund. Although the EMS Act of Foundation still spoke of foreign support "unlimited in amount," and although no restrictions were placed on drawings on the Very-Short-Term Financing Facility, an exchange of letters between the German finance minister and the president of the Bundesbank conceded the German central bank the right to opt out of its intervention obligation if the government were unable to secure an agreement with its European partners on the need to realign.[38] If it proved impossible to

[35] It remained unclear to what extent the EMF would be empowered to create additional ecus. The Brussels Resolution of December 5, 1978, authorized only swaps of ecus for gold and dollar reserves, which did not imply net liquidity creation. However, an annex to the Bremen conclusion (reached at the Bremen meeting of the European Council in early 1978) had spoken cryptically of ecus created against subscriptions in national currencies "in comparable magnitude." See Polak 1980.

[36] There was resistance to the mandatory triggering of interventions and policy adjustments in other branches of the German government as well, and in Denmark and the Netherlands.

[37] Schmidt, by his own account, threatened to change the Bundesbank law, compromising the central bank's independence if it failed to go along. His account is as yet uncorroborated, and some authors doubt that he would have carried out the threat. See Kennedy 1991, p. 81.

[38] See Emminger 1986. Extracts from the correspondence appear in Eichengreen and Wyplosz 1993. This correspondence remained secret, and not until the 1992 EMS crisis was its import fully appreciated. This secrecy accounts for the appearance in the interim of passages like the following: "But the most important single feature of the EMS has not yet been mentioned. A self-fulfilling speculative crisis cannot take place unless the market can commit larger sums of money than governments can mobilize. The market must be able to swallow their reserves. That cannot happen in the EMS, where governments can mobilize infinite amounts by drawing on reciprocal credit facilities." Kenen 1988, p. 55. I suggest below that self-fulfilling attacks were in fact possible because foreign support was not infinite.

reestablish appropriate central rates, raising fears that its commitment to price stability would be threatened, the Bundesbank could discontinue its intervention.

Thus, not only was Germany's obligation to provide foreign support effectively circumscribed, but it was made contingent on the willingness of other countries to realign. Germany assumed the strong-currency-country role that had been occupied by the United States at Bretton Woods. It followed that the Bundesbank Council, like the U.S. delegation at Bretton Woods, sought to limit the surplus country's intervention obligations and the balance-of-payments financing that would be made available to weak-currency countries.

Unlike the United States in 1944, however, Germany had a third of a century of experience suggesting that deficit countries would hesitate to adjust; hence, it acknowledged the necessity of allowing the latter to devalue (in less embarrassing EMS-ese, to realign). Experience with the Snake had fallen into two periods: a first before the Frankfurt realignment when the system had been strained by the failure to realign; and a second of greater exchange rate flexibility that had been more satisfactory. Germany and its EMS partners drew the obvious conclusion.[39]

The parallels with Bretton Woods extended beyond the desire for managed flexibility. The currencies of countries agreeing to abide by the Exchange Rate Mechanism (ERM) were to be held within $2^1/_4$ percent bands, as they had been in the final years of the Bretton Woods System.[40] Capital controls were permitted as a way of preserving governments' limited policy autonomy and of giving them the breathing space to negotiate orderly realignments. Clearly, the postwar international monetary agreement cast a long shadow.

Eight of the nine EC countries participated in the ERM from the outset (the United Kingdom being the exception). Italy, saddled with stubborn inflation, was permitted to maintain a wide (6 percent) band for a transitional period.[41] None of the original participants in the ERM had to withdraw from the system over the course of the 1980s, in contrast to experience with the Snake, although France came close at the start of the decade.

Central rates were modified on average once every eight months in the first four years of the EMS (see Table 5.2). Over the next four years, through

[39]Moreover, in contrast to the early years of the Snake, when it was hoped that the stability of exchange rates could be tied down by the Werner Report commitment to complete the transition to monetary union by 1980, the EMS Act of Foundation entailed no such commitment, implying the need for greater exchange rate flexibility.

[40]Countries in weak financial positions were permitted to operate wider 6 percent bands for a transitional period after entry.

[41]That transitional period was extended to 1990.

TABLE 5.2

Revaluations of the Deutsche Mark against other EMS Currencies (measured by bilateral central rates, in percent)

	Belgian/Luxembourgian franc	*Danish krone*	*French franc*	*Dutch guilder*	*Irish pound*	*Italian lira*	*Total EMS*[a]
Weight[b] (in %)	16.6	4.0	32.0	17.4	1.8	27.5	100
Realignment date with effect from:							
September 24, 1979	+2.0	+5.0	+2.0	+2.0	+2.0	+2.0	+2.1
November 30, 1979	—	—	—	—	—	—	+0.2
March 23, 1981	—	—	—	—	—	+6.4	+1.7
October 5, 1981	+5.5	+5.5	+8.8	—	+5.5	+8.8	+6.5
February 22, 1982	+9.3	+3.1	—	—	—	—	+1.6
June 14, 1982	+4.3	+4.3	+10.6	—	+4.3	+7.2	+6.3
March 21, 1983	+3.9	+2.9	+8.2	+1.9	+9.3	+8.2	+6.7
July 22, 1983	—	—	—	—	—	+8.5	+2.3
April 7, 1986	+2.0	+2.0	+6.2	—	+3.0	+3.0	+3.8
August 4, 1986	—	—	—	—	+8.7	—	+0.2
January 12, 1987	+1.0	+3.0	+3.0	—	+3.0	+3.0	+2.6
January 8, 1990	—	—	—	—	—	+3.7	+1.0
Cumulative since start of the EMS on March 13, 1979	+31.2	+35.2	+45.2	+4.0	+41.4	+63.5	+41.8

Source: Gros and Thygesen 1991, p. 68.

a. Average revaluation of the deutsche mark against the other EMS currencies (geometrically weighted); excluding Spain.

b. Weights of the EMS currencies derived from the foreign trade share between 1984 and 1986, after taking account of third-market effects, and expressed in terms of the weighted value of the deutsche mark.

— = not applicable.

January 1987, the frequency of realignments declined to once every twelve months. The change reflected the gradual relaxation of capital controls, which made orderly realignments more difficult to carry out. In addition, it reflected changes in global economic conditions. The first four EMS years were punctuated by a recession that, like the post-1973 downturn that had marked the birth of the Snake, magnified policy divergences in Europe. The pressure of unemployment in some EMS countries greatly aggravated the strains on the new system.

This became evident in 1981, when France's new Socialist government, led by François Mitterrand, initiated expansionary policies. The budget deficit was allowed to rise by more than 1 percent of GDP, and the annual M2 growth rate exceeded the government's 10 percent target. The franc weakened as soon as the markets began to anticipate that the electorate would install a government ready to hit the fiscal and monetary accelerator. Incoming officials, led by Minister of Economic Affairs Jacques Delors, recommended an immediate realignment as a way of starting the new government off with a clean slate. This was rejected on the grounds that it would stigmatize the Socialists as the party that always devalued.

In the new Mitterrand government's first four months in office, the French and German central banks were forced to intervene extensively in support of the franc. By September, devaluation could no longer be resisted. Face was saved by placing the change in the context of a general realignment of EMS currencies.[42]

But absent fiscal and monetary retrenchment, the French balance of payments was bound to weaken further. The market acted on the expectation, selling francs and forcing intervention that drained reserves from the Bank of France. Tightening capital controls put off the day of reckoning but could not do so indefinitely.[43] The franc was devalued against the deutsche mark again in June 1982 and a third time in March 1983.[44] The French government was driven to ponder withdrawing from the EMS and even from the EC.[45]

[42]The parallel with the 1936 Tripartite Agreement extended beyond the attempt to salvage the Socialist government's reputation by placing the realignment in the context of a broader agreement. In 1936 the newly appointed government of Léon Blum had also initiated expansionary fiscal policies, reduced hours of work, and stimulated demand. It had considered but rejected the possibility of devaluing upon taking office. It was then forced to allow the franc to depreciate four months later.

[43]On changes in French capital controls, see Neme 1986.

[44]On both occasions the franc/deutsche mark adjustment was dressed up by also realigning other rates.

[45]That the French government considered this last option might seem incredible. But, as noted above, France's withdrawal from the EMS would have jeopardized the CAP, the EC's

In the end, this option proved too radical, given France's investment in European integration. The day was carried by the moderate wing of the Mitterrand government, led by Delors and Treasury Director Michel Camdessus, and the government scaled back its policies of demand stimulus. It was not that expansionary fiscal and monetary policies were incapable of spurring the economy. To the contrary, they were quite effective: French GDP growth, unlike that of other countries, did not go negative even in the depths of the European recession. What French policymakers did not anticipate was how quickly the external constraint would bind.

The Socialists' policies of demand stimulus provoked such rapid reserve losses because of the lack of policy coordination between France and Germany. Just when the French embarked on their expansionary initiative, the Bundesbank took steps to suppress inflationary pressures. Any hope that the Bundesbank might be pressured into lowering interest rates was dashed in October 1982 when Germany's Socialist-Liberal coalition was replaced by the more conservative government of Helmut Kohl. Unlike the Schmidt government, Kohl and his colleagues had no desire to encourage the Bundesbank to reduce German interest rates.[46] It became clear that the European economy would not emerge from recession at the rate assumed in French forecasts. Lower levels of demand in Europe, in conjunction with a widening inflation differential between France and Germany, implied more serious losses of French competitiveness.[47] Fortunately for the EMS, the French Socialists ultimately bowed to these realities.

The second four years of the EMS were consequently less turbulent than the first. As the European economy began to recover, policies of austerity became more palatable. The threat to policy convergence receded. The dollar's appreciation in the first half of the 1980s made it easier for European governments to live with a strong exchange rate against the mark. The Mitterrand debacle had served as a caution, effectively reconciling Germany's most important EMS partner to policies of currency stability.

The dispersion of inflation rates across countries, as measured by their standard deviation, fell by half between 1979–83 and 1983–87. Although

central program, which meant that withdrawing from the EMS could have seriously eroded European solidarity. See Sachs and Wyplosz 1986.

[46] See Henning 1994, pp. 194–95.

[47] In addition, supply-side rigidities afflicting the French economy meant that demand stimulus produced more inflation and less output than the government had hoped. Additional social security taxes, higher minimum wages, and reduced hours of work caused employers to hesitate before taking on workers. With the aggregate supply curve shifting in at the same time the aggregate demand curve shifted out, inflation rather than growth resulted.

capital controls were partially relaxed, important restrictions remained, providing governments some time to negotiate realignments. None of the four realignments that took place in the 1983–87 period exceeded the cumulative inflation differential. None therefore provided devaluing governments an additional boost to their competitiveness that might permit them to continue running more inflationary policies than Germany without suffering alarming losses of competitiveness. Thus, policy signaled a hardening commitment of EMS countries to nominal convergence. Europe's "minilateral Bretton Woods" appeared to be gaining resilience.

RENEWED IMPETUS FOR INTEGRATION

While the European Community seemed on the road to solving its exchange rate problem, other more fundamental difficulties remained. Unemployment was disturbingly high, often in the double digits, and policymakers felt hamstrung by their commitment to peg the exchange rate.[48] They worried about European producers' ability to compete with the United States and Japan. All this led them to contemplate a radical acceleration of the process of European integration as a way of injecting the chill winds of competition into the European economy and helping producers to better exploit economies of scale and scope. The initiative turned out to have profound and not wholly anticipated consequences for the evolution of the European Monetary System.

The dynamics that followed were complex. In their most schematic form, the interplay between monetary unification and the integration process unfolded as follows.

- The renewed commitment to pegging exchange rates on the part of the member states of the European Community and the emergence of Germany as the European Monetary System's low-inflation anchor limited the freedom of European countries to use independent macroeconomic policies in pursuit of national objectives.
- Governments therefore turned when pursuing distributional objectives and social goals to microeconomic policies of wage compression, enhanced job security, and increasingly generous unemployment and other social benefits.

[48] I suggest below that the unemployment problem of the 1980s was in fact related to the advent of the EMS, but not for the reasons emphasized by policymakers at the time and echoed in most historical accounts.

These reduced the flexibility and efficiency of the labor market, leading to high and rising unemployment.[49]

- This problem, "Eurosclerosis," lent additional impetus to the integration process. The Single Market Program, embodied in the Single European Act of 1986, sought to bring down unemployment and end the European slump by simplifying regulatory structures, intensifying competition among EC member states, and facilitating European producers' exploitation of economies of scale and scope.
- The attempt to create a single European market in merchandise and factors of production accelerated the momentum of monetary integration. Eliminating currency conversion costs was the only way of removing hidden barriers to internal economic flows—of forging a truly integrated market. Abolishing the opportunity for countries to manipulate their exchange rates was necessary to defuse protectionist opposition to the liberalization of trade. Both arguments pointed to the need for a single currency as a concomitant of the single market. This vision found expression in the Delors Report of 1989 and the Maastricht Treaty adopted by the European Council in December 1991.
- Integral to the creation of the single market was the removal of capital controls. But the elimination of controls rendered the periodic realignments that had vented pressures and restored balance to the European Monetary System more difficult to effect. After the beginning of 1987 there were no more realignments of ERM currencies. This came to be known, for obvious reasons, as the period of the "hard EMS."[50]
- Thus, the same dynamic that heightened the desire for currency stability removed the safety valve that had permitted the members of the ERM to operate a system of relatively stable exchange rates. No sooner did this occur than, starting in 1990, a series of shocks intervened. A global recession elevated unemployment rates in Europe; the dollar's decline further undermined European competitiveness; and German unification raised interest rates throughout the European Community.
- At this point, national political leaders began to question the Maastricht blueprint for monetary union. The markets, in turn, began to question the

[49]I am suggesting, in other words, that the two popular explanations for high unemployment in Europe—which emphasize, respectively, the commitment to a strong exchange rate and social policies that introduced microeconomic rigidities into the labor market—are not incompatible with or even entirely distinct from each other. The policies that led to wage compression and increased hiring and firing costs were themselves a response to limits on the autonomous use of macroeconomic policy imposed by the EMS.

[50]The adjustment of the lira's band in 1990, when Italy moved from 6 to 2¼ percent margins, did not involve a change in the lira's lower limit.

commitment of political leaders to the defense of their EMS pegs. Ultimately, the pressures that mounted within the EMS could not be contained, and the whole structure came tumbling down.

Two milestones along this route were the Delors Report in 1989 and the Maastricht Treaty in 1991. Since the days of the Snake, French governments had bridled at their lack of input into Europe's common monetary policy. By the second half of the 1980s it had become clear that the EMS had not solved this problem. In a 1987 memo to the ECOFIN Council (a council of EC-member economics and finance ministers), French finance minister Edouard Balladur argued for a new system. "The discipline imposed by the exchange-rate mechanism," he wrote, "may, for its part, have good effects when it serves to put a constraint on economic and monetary policies which are insufficiently rigorous. [But] it produces an abnormal situation when its effect is to exempt any countries whose policies are too restrictive from the necessary adjustment."[51] A monetary union governed by a single central bank in whose policies all the member states had a say was one solution to this problem.

The presidency of the European Commission having been assumed by the former French economic affairs minister Jacques Delors, Balladur's appeal was received warmly in Brussels. More surprising was the German government's broadly sympathetic response. Revealingly, the critical reaction came not from the German Finance Ministry but from Foreign Minister Hans-Dietrich Genscher, who expressed a willingness to consider replacing the EMS with a monetary union in return for accelerating the process of European integration. Germany desired not just an integrated European market in which economies of scale and scope could be efficiently exploited, but also deeper political integration in the context of which the country might gain a foreign policy role. Monetary union was the quid pro quo.

The Delors Committee, consisting of the governors of the central banks of EC member states, a representative of the EC Commission, and three independent experts, met eight times in 1988 and 1989. Its report, like the Werner Report before it, supported the achievement of monetary union within a decade, although it did not set an explicit deadline for the conclusion of the process. Like its predecessor, the Delors Committee envisaged a gradual transition. But whereas the Werner Report had recommended removing capital controls at the end of the process, the Delors Report advocated removing them at the beginning, reflecting the linkage between monetary union and the single market. And the Delors Report, in a concession to political realities, did not propose ceding fiscal functions to the EC. Instead, it recommended

[51] Cited in Gros and Thygesen 1991, p. 312.

rules imposing ceilings on budget deficits and excluding governments' access to direct central bank credit and other forms of money financing.[52]

Most striking, the Delors Committee recommended the complete centralization of monetary authority. Whereas the Werner Report had described a system of national central banks joined together in a monetary federation, the Delors Report proposed the creation of a new entity, a European Central Bank (ECB), to execute the common monetary policy and to issue a single European currency. National central banks, like regional reserve banks in the United States, would become the central bank's operating arms.

In June 1989 the European Council accepted the Delors Report and agreed to convene an intergovernmental conference to negotiate the amendments to the Treaty of Rome required for its implementation. Again it is revealing that the intergovernmental conferences, which started in December 1990 and were completed at Maastricht one year later, took both EMU and political union as their charge.

Following the Delors Report, the Maastricht Treaty described a transition to be completed in stages. Stage I, which commenced in 1990, was to be marked by the removal of capital controls.[53] Member countries were to fortify the independence of their central banks and to otherwise bring their domestic laws into conformance with the treaty. Stage II, which began in 1994, was to be characterized by the further convergence of national policies and by the creation of a temporary entity, the European Monetary Institute (EMI), to encourage the coordination of macroeconomic policies and plan the transition to monetary union.[54] If the Council of Ministers decided during Stage II that a majority of countries met the preconditions, it could recommend the inauguration of Stage III, monetary union. But to prevent Stage II from continuing indefinitely, the treaty required the EU heads of state or government to meet no later than the end of 1996 to determine whether a majority of member states satisfied the conditions for monetary union and whether to specify a date for its commencement. If no date were set by the end of 1997, Stage III would

[52]Committee for the Study of Economic and Monetary Union 1989, p. 30.

[53]A few countries, Greece, Ireland, Portugal, and Spain among them, were permitted to retain their controls beyond this deadline. In addition, other countries were permitted during Stage I to reimpose controls for no more than six months in response to financial emergencies. As we shall see in the next section, these provisions were utilized in the 1992–93 EMS crisis.

[54]Creating a temporary entity, the European Monetary Institute, to carry out these functions in Stage II, the transitional phase, was a step back from the Delors Report, which had proposed establishing the European Central Bank at the start of Stage II and not merely at the start of Stage III, monetary union. This compromise was in deference to German opposition to any arrangement that entailed the delegation of significant national monetary autonomy before full monetary union was achieved.

commence on January 1, 1999, if even a minority of member states qualified. When Stage III began, the exchange rates of the participating countries would be irrevocably fixed. The EMI would be succeeded by the ECB, which would execute the common monetary policy.

Germany was reluctant to consent to these deadlines and did so only after obtaining safeguards to ensure that the monetary union would be limited to countries with a record of currency stability.[55] To that end, the treaty specified four "convergence criteria." These required a qualifying country to hold its currency within the normal ERM fluctuation bands without severe tensions for at least two years immediately preceding entry. They required it to run an inflation rate over the preceding twelve months that did not exceed the inflation rates of the three lowest-inflation member states by more than 1.5 percentage points. They required it to reduce its public debt and deficit toward reference values of 60 and 3 percent of GDP, respectively.[56] They required it to maintain for the preceding year a nominal long-term interest rate that did not exceed by more than two percentage points that of the three best-performing member states in terms of price stability.

In December 1991, when treaty negotiations were concluded, satisfying these conditions appeared to be within the reach of a majority of member states. Little did observers know how quickly the situation would change.

EUROPE'S CRISIS

The intergovernmental conference having been successfully concluded the previous December, the European Monetary System entered 1992 on a wave of optimism. It had been five years since the last realignment of ERM currencies. All the member states of the European Community but Greece and Portugal were participating, and Portugal was about to join.

The optimism with which the stewards of the European Monetary System were imbued had been fed by the system's success in surmounting a series of shocks. The collapse of the Soviet Union's trade dealt a blow to European economies (such as Finland) that depended on exports to the East. The end of the cold war called for an infusion of aid to the transforming economies of

[55]This reluctance was characteristic of the Bundesbank in particular, which expressed strong opposition to any blueprint for the transition that entailed binding deadlines. See Bini-Smaghi, Padoa-Schioppa, and Papadia 1994, p. 14.

[56]These last conditions were weakened by a number of qualifications. For example, debts and deficits may exceed their reference values if they are judged to do so for reasons that are exceptional and temporary or if they are declining toward those values at an acceptable pace.

Eastern Europe; this left fewer resources for the structural funds and the EC's other cohesion programs. German economic and monetary unification in 1990 spawned budget deficits, capital imports, and a surge of spending that placed upward pressure on interest rates continentwide. The dollar's decline against the deutsche mark and other ERM currencies further damaged Europe's international competitiveness. The continent then entered one of its deepest recessions in the postwar period. And with the conclusion of negotiations at Maastricht, the public debate over monetary union intensified. Yet despite these disturbances, the countries participating in the ERM were able to resist the pressure to alter their exchange rates. Countries outside the EC that shadowed the EMS—Austria, Norway, and Sweden—continued to do so successfully.[57]

Denmark's June 2 referendum on the Maastricht Treaty was the turning point. The Danish no raised questions about whether the Maastricht Treaty would come into effect. If the treaty were repudiated, the incentive for countries to hold their currencies within their ERM bands in order to qualify for monetary union would be weakened, and high-debt countries like Italy would have less reason to cut their deficits. The lira, which had been in the narrow band since 1990, plunged toward its lower limit. The three currencies of the wide band (sterling, the peseta, and the escudo) weakened. Pressure mounted with the approach of France's September 20 referendum on the treaty. On August 26 the pound fell to its ERM floor. The lira fell through its floor two days later. Other ERM member countries were forced to intervene in support of their currencies. The Bundesbank intervened extensively on their behalf (see Figure 5.9).

On September 8, the Finnish markka's unilateral ecu peg was abandoned. Currency traders, some of whom were said to have been unable to distinguish Sweden from Finland, turned their attention to the krona; over the subsequent week the Riksbank was forced to raise its marginal lending rate to triple digits. All the while, the lira remained below its ERM floor. A crisis meeting on September 13 led to a 3.5 percent devaluation of the lira and 3.5 percent revaluation of other ERM currencies.

But what European monetary officials hoped would end the crisis only marked its start. The first discontinuous realignment in five years reminded

[57]The one exception was Finland, which suffered the collapse of its Soviet trade and a banking crisis. In November 1991 the Bank of Finland, which pegged the markka to the ecu but, not being a member of the EMS, did not enjoy the support provided ERM countries through the Very-Short-Term Financing Facility, devalued by 12 percent. Despite this, the British pound remained firmly within its fluctuation band. The Portuguese escudo joined the wide band in April. Divergences between ERM exchange rates actually moderated, with the French franc moving up from the bottom of its band and the deutsche mark, Belgian franc, and Dutch guilder moving down.

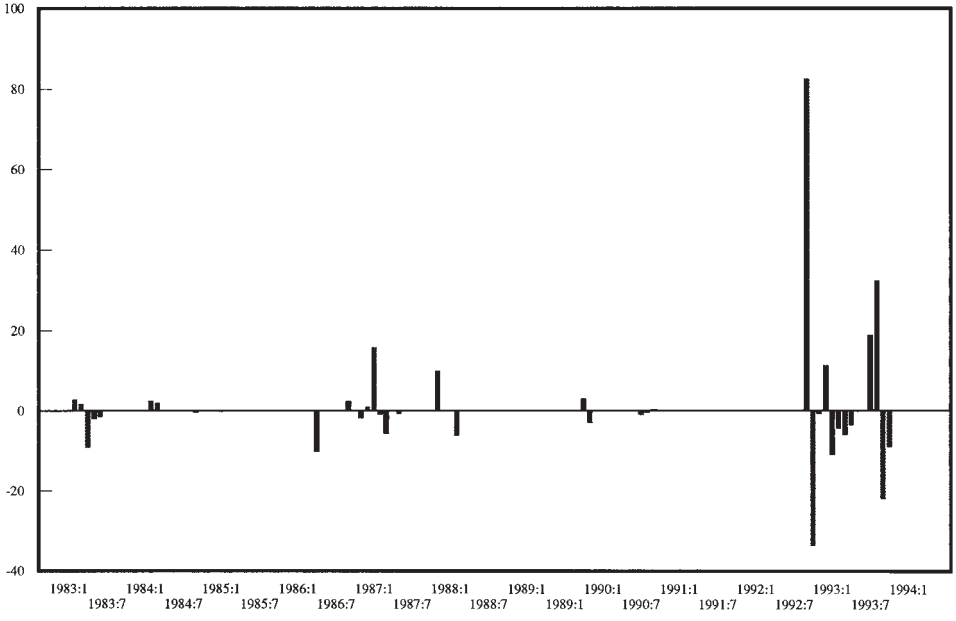

Figure 5.9. Bundesbank Operations in the European Monetary System, 1983–94 (billions of D-marks). *Source:* Deutsche Bundesbank, *Annual Reports*, various years. *Note:* Positive entries denote Bundesbank intervention on behalf of other EMS currencies.

observers that changes in EMS exchange rates were still possible. Pressure mounted on Britain, Spain, Portugal, and Italy (whose realignment, many observers believed, had been too small). Despite further interest-rate increases and intervention at the margins of the EMS bands, these countries suffered massive reserve losses. British ERM membership was suspended on September 16, and the two interest-rate increases taken earlier in the day were reversed. That evening Italy announced to the Monetary Committee that the inadequacy of its reserves in the face of speculative pressure forced it to float the lira.[58]

Following Italy and Britain's exit from the ERM, pressure was felt by the French franc, the Danish krone, and the Irish pound. The outcome of the French referendum, a narrow *oui*, failed to dispel it. The franc hovered just above the bottom of its band, requiring the Bank of France and the Bundesbank to undertake extensive interventions.[59] Pressure on Spain, Portugal, and Ireland led their governments to tighten capital controls.

[58]The committee also authorized a 5 percent devaluation of the peseta.

[59]In the week ending September 23, 160 billion French francs (about $32 billion) were reportedly spent on the currency's defense. Bank for International Settlements 1993, p. 188.

Six additional months of instability were inaugurated by Sweden's decision in November to abandon its unilateral ecu peg after the government failed to obtain all-party support for austerity measures. The Riksbank had suffered massive reserve losses in the course of defending the krona; in all, it spent a staggering $3,500 for each resident of Sweden![60] Spain was forced to devalue again, this time by 6 percent, as was its neighbor and trading partner, Portugal. Norway abandoned its ecu peg on December 10, and pressure spread to Ireland and France. While the franc was successfully defended, the punt was not. In the face of Ireland's removal of controls on January 1, 1993, increases in Irish market rates to triple-digit levels did not suffice.[61] The punt was devalued by 10 percent on January 30. In May, the uncertainty surrounding Spain's springtime elections forced yet another devaluation of the peseta and the escudo.

Once again there were reasons to hope that unsettled conditions had passed. In May the Danish electorate, perhaps chastened by the fallout from its earlier decision, endorsed the Maastricht Treaty in a second referendum. The Bundesbank lowered its discount and Lombard rates, moderating the pressure on its ERM partners. The French franc and other weak ERM currencies strengthened.

With French inflation running below that of Germany, French officials incautiously suggested that the franc had assumed the role of the anchor currency within the ERM. Oblivious to the fragility of the position, they encouraged the Bank of France to reduce interest rates in the hope of bringing down unemployment. The Bank of France lowered its discount rate, anticipating that the Bundesbank would follow. But when on July 1 the cut in German rates came, it was disappointingly small. The French economics minister then called for a Franco-German meeting to coordinate further interest-rate reductions, but the Germans canceled their plans to attend, leading the markets to infer that Germany lacked sympathy for France's potentially inflationary initiative. The franc quickly fell toward its ERM floor, requiring Bank of France and Bundesbank intervention. It was joined there by the Belgian franc and the Danish krone. A full-blown crisis was at hand.

The last weekend of July was the final chance to negotiate a concerted response. A range of alternatives is said to have been mooted, including

[60]Reserve losses incurred in the six days preceding the devaluation are reported to have amounted to $26 billion, or more than 10 percent of Sweden's GNP. Bank for International Settlements 1993, p. 188.

[61]Ireland's difficulties were aggravated by the descent of the pound sterling (fueled by further British interest-rate cuts). Between September 16 and the end of the calendar year, sterling declined by 13 percent against the deutsche mark.

devaluation of the franc (which France vetoed), a general realignment of ERM currencies (which other countries vetoed), floating the deutsche mark out of the ERM (which the Dutch vetoed), and imposing deposit requirements on banks' open positions in foreign currencies (suggested by Belgium but vetoed by the other countries). The diversity of these proposals indicated the lack of a common diagnosis of the problem. By Sunday evening the assembled ministers and central bankers were faced with the impending opening of financial markets in Tokyo. With no course on which they could agree, they opted to widen ERM bands from 2¼ percent to 15 percent. European currencies were set to float more freely than had ever been allowed in the age of par values, snakes, and central rates.

UNDERSTANDING THE CRISIS

Three explanations for the crisis can be distinguished: inadequate harmonization of past policies, inadequate harmonization of future policies, and speculative pressures themselves.

According to the first explanation, some countries, most notably Italy, Spain, and the United Kingdom, had not yet brought their inflation rates down to those of their ERM partners. Excessive inflation cumulated into overvaluation, aggravating deficits on current account. These problems were exacerbated by the weakness of the dollar and the yen. Currency traders, for their part, understood that substantial current-account deficits could not be financed indefinitely. In this view, the move to the hard EMS in 1987 was premature; countries should have continued to adjust their central rates as needed to eliminate competitive imbalances.[62]

Yet the data do not support this interpretation unambiguously.[63] Table 5.3 shows the EC's Committee of Governors of Central Banks' own estimates of

[62]Two clear expositions of this view are Branson 1994 and von Hagen 1994. Understandably, it has found its way into official accounts. See Bank for International Settlements 1993, Commission of the European Communities 1993, and Committee of Governors of the Central Banks of the Member States of the European Economic Community 1993a, 1993b.

[63]One reason that these data speak less than clearly is that Europe experienced a massive asymmetric shock: German unification. The increase in consumption and investment associated with unification raised the demand for German goods. In the short run this pushed up German prices relative to those prevailing in other ERM countries. The implication is that inflation rates elsewhere in Europe not only had to stay as low as Germany's; they had to lag behind. Unfortunately, it is impossible to know by precisely how much inflation rates in countries other than Germany had to fall. One way of going about this is to look at the "competitiveness outputs" to which relative prices are an input. Eichengreen and Wyplosz 1993 considered the current account of the

TABLE 5.3
Indicators of Cumulative Competitiveness Changes, 1987–August 1992 (in percent)

	Relative to Other EC Countries[a]		*Relative to Industrial Countries*	
Country	*Producer Prices*	*Unit Labor Costs*[b]	*Producer Prices*	*Unit Labor Costs*[b]
Belgium	4.0	5.6	1.3	2.7
Denmark	3.6	6.4	–0.5	3.8
Germany (western)	1.7	0.5	–3.8	–5.5
Greece	n.a.	n.a.	–10.2	–15.6
France	7.9	13.3	3.3	7.2
Ireland	6.4	35.7	1.3	27.9
Italy	–3.0	–7.0	–6.4	–9.8
Netherlands	1.5	5.2	–1.4	1.9
	From ERM Entry[c]–August 1992			
Spain	–2.1	–7.5	–8.1	–13.8
Portugal	n.a.	–4.6	n.a.	–6.9
United Kingdom	–1.7	–0.4	–4.0	8.3

Source: Eichengreen 1994b.
a. Excluding Greece.
b. Manufacturing sector.
c. Spain: June 1989; Portugal: April 1992; United Kingdom: October 1990.
n.a. = not available.

cumulative competitiveness changes on the eve of the 1992 crisis.[64] Of the countries that participated in the EMS from 1987, only Italy shows an obvious deterioration in competitiveness. Italian unit labor costs rose by 7 percent relative to other EC countries, by 10 percent relative to the industrial countries.[65] The only other country in this group whose labor costs rose at comparable rates is Germany, which did not suffer a speculative attack. In other words,

balance of payments and profitability in the manufacturing sector as two variables whose values would deteriorate in the event of inadequate adjustment to changing competitive conditions. Only for Italy do both measures deteriorate in the period leading up to the crisis. For Spain the current account deteriorates, but profitability does not; for the United Kingdom the opposite is true. Other countries whose currencies were attacked—Denmark, France, and Ireland, for example—experienced a significant deterioration in neither of these variables in the period preceding the crisis.

[64] It distinguishes two indicators, producer prices and unit labor costs, and two comparison groups, other EC countries and all industrial countries. The latter should pick up the effect of the depreciation of the dollar and the yen.

[65] While the second figure is higher for Greece, that country had not yet joined the ERM.

there is nothing in Table 5.3 that obviously justifies the attacks on the French franc, Belgian franc, Danish krone, and Irish punt.[66]

It is also not clear from the unit labor cost and producer price data in Table 5.3 that sterling was overvalued. One might object that the problem lay in the period before the country entered the ERM in October 1990.[67] It is unclear that this was the markets' perception, however: sterling's one-year-ahead forward rate also remained within its ERM band until only weeks before the September crisis. Indeed, this is the fundamental flaw of explanations that attribute the crisis to excessive inflation and overvaluation: if the attacks were prompted by the cumulative effects of excessive inflation and current-account deficits, the markets' doubts should have found reflection in the behavior of forward exchange rates and interest differentials. Because inflation and deficits are slowly evolving variables, their effects should have been mirrored in the gradual movement of forward rates to the edges of the ERM bands and the gradual widening of interest differentials. Yet little movement in these variables was apparent until they suddenly jumped up on the eve of the crisis.[68] Until then, they continued to imply expected future exchange rates well within the prevailing ERM bands. None of these measures suggests that the markets attached a significant probability to devaluation until just before the fact.[69]

The obvious complement to this emphasis on past policy imbalances is future policy shifts. Countries that had been pursuing policies of austerity in order to maintain external balance experienced mounting unemployment. (Table 5.4 tabulates their unemployment rates in the years leading up to the crisis.) The German unification shock required a rise in German prices relative to those prevailing elsewhere in Europe. As long as exchange rates remained

[66]The evidence for the three countries that entered the ERM between June 1989 and April 1992, Spain, Portugal, and the United Kingdom, is less clear-cut. Spain and Portugal experienced more inflation than their richer ERM partners, but this was to be expected of rapidly growing countries moving into the production of higher-value-added goods. See the discussion of the Balassa-Samuelson effect in the penultimate section of Chapter 4. Even though countries like Spain had more scope to run inflation than their more industrialized ERM partners, one can still argue that the Spanish government overdid it.

[67]See Williamson 1993.

[68]A careful study of the evidence is Rose and Svensson 1994.

[69]This skepticism should not be overstated. Even if the data fail to speak clearly, their muffled voices still suggest that ERM currencies were not attacked randomly. Italy is the one country for which the evidence of competitive imbalances is unambiguous, and the lira was the first ERM currency to be driven from the system. Some indicators do suggest problems in the United Kingdom, Spain, and Portugal; theirs were the next ERM currencies to be attacked and to be realigned or driven out of the system. Yet the fact that the evidence of competitive imbalances is far from overwhelming and that other currencies were attacked as well suggests that this is not the entire story.

TABLE 5.4
Unemployment Rates, 1987–92[a]

	Percentage of Civilian Labor Force			
Country	*1987–89 Average*	*1990*	*1991*	*1992*[b]
Belgium	10.0	7.6	7.5	8.2
Denmark	6.6	8.1	8.9	9.5
Germany (western)[c]	6.1	4.8	4.2	4.5
Greece	7.5	7.0	7.7	7.7
Spain	19.1	16.3	16.3	18.4
France	9.9	9.0	9.5	10.0
Ireland	17.0	14.5	16.2	17.8
Italy	10.9	10.0	10.0	10.1
Luxembourg	2.1	1.7	1.6	1.9
Netherlands	9.2	7.5	7.0	6.7
Portugal	5.9	4.6	4.1	4.8
United Kingdom	8.7	7.0	9.1	10.8
EEC				
Average	9.7	8.3	8.7	9.5
Dispersion[d]	2.7	2.6	3.3	3.7
ERM original narrow band				
Average	8.1	7.2	7.1	7.4
Dispersion[d]	2.2	2.2	2.8	2.9
United States[e]	5.7	5.5	6.7	7.3
Japan	2.5	2.1	2.1	2.2

Source: Eurostat.
a. Standardized definition.
b. Estimates.
c. For 1992, unemployment rates (national definition) are: 14.3 percent for eastern Germany and 7.7 percent for the whole of Germany.
d. Weighted standard deviation.
e. Percentage of total labor force.

pegged, this change in relative prices could be accomplished only by faster inflation in Germany or slower inflation abroad. Predictably, the Bundesbank preferred the second alternative. It raised interest rates to ensure that adjustment did not take place through German inflation. Hence, adjustment could occur only through disinflation abroad. With European labor markets slow to adjust, disinflation meant unemployment.

In turn, rising unemployment meant waning support for the policies of austerity needed to defend ERM pegs. There might come a time when a government dedicated to such policies would be thrown out of office by a

disaffected electorate or when, in order to head off this possibility, the authorities would choose to abandon their policies of restraint. Anticipating this eventuality, the markets attacked the currencies of the countries with the highest unemployment rates and weakest governments.[70] As predicted, there is a correlation between the incidence of the crisis and the countries with the most serious unemployment problems.

This explanation also provides a link between market behavior and the controversy over the Maastricht Treaty. If the treaty were not going to be ratified (which seemed possible in the interval between the Danish and French referendums), it would not pay to endure unemployment as a way of demonstrating one's commitment to participate in the monetary union. It is no coincidence, then, that exchange rate tensions surfaced when the Danes rejected the treaty in June or that they peaked immediately before France's September 20 referendum.

Yet this explanation also sits uneasily with the observed behavior of forward exchange rates. If observers attached a significant probability to an expansionary policy shift, why then did the one-year-ahead forward rates of the ERM currencies that were attacked in the second week of September not move outside their ERM bands in July or August? Aside from the Italian lira, the only ERM currency whose forward rate fell out of its band before September was the Danish krone—not surprisingly given Denmark's rejection of the treaty.[71]

This brings us to the third factor that could have been at work in 1992–93: self-fulfilling attacks.[72] The mechanism is best illustrated by example. Assume that the budget is balanced and that the external accounts are in equilibrium so that no balance-of-payments crisis looms. The authorities are happy to maintain current policies indefinitely, and those policies will support the exchange rate in the absence of an attack. Now imagine that speculators attack the currency. The authorities must allow domestic interest rates to rise to ensure its defense, since speculators must be rendered indifferent between holding domestic-currency-denominated assets, on which the rate of return is the domestic interest

[70]This process is formalized by Ozkan and Sutherland (1994).

[71]Again, this skepticism should not be overstated. A recession that raised European unemployment rates clearly lowered governments' comfort levels. There is no question that it raised public opposition to the policies of austerity required to maintain the exchange rate peg. Still, it is unclear whether policymakers became so uncomfortable that they were prepared to abandon their previous policies or that market sentiment, as measured by forward rates, attached a significant probability to this eventuality.

[72]The seminal contributions to this literature are Flood and Garber 1984 and Obstfeld 1986. The example that follows is drawn from Eichengreen 1994b. Readers will recognize the parallel with the interpretation of the 1931 sterling crisis developed in Chapter 3.

rate, and foreign-currency-denominated assets, the return on which is the foreign interest rate plus the expected rate of depreciation. But the requisite rise in interest rates may itself alter the government's assessment of the costs and benefits of defending the rate. The higher interest rates required to defend the currency will depress absorption and aggravate unemployment, also aggravating the pain of the prevailing policies. They will increase the burden of mortgage debt, especially in countries like the United Kingdom where mortgage rates are effectively indexed to market rates. They will induce loan defaults, undermining the stability of fragile banking systems. They will increase debt-servicing costs and require the imposition of additional distortionary taxes. Enduring austerity now in return for an enhanced reputation for defending the exchange rate later may become less appealing if a speculative attack increases the cost of running the first set of policies. Even a government that would have accepted this trade-off in the absence of an attack may choose to reject it when subjected to speculative pressure.

In such circumstances, a speculative attack can succeed even if, in its absence, the currency peg could and would have been maintained indefinitely. This is in contrast to standard models of balance-of-payments crises, where speculators prompted to act by inconsistent and unsustainable policies are only anticipating the inevitable, acting in advance of a devaluation that must occur anyway.[73] In this example, devaluation will not occur anyway; the attack provokes an outcome that would not obtain otherwise. It serves as a self-fulfilling prophecy.

There are reasons to think that models of self-fulfilling crises are applicable to the ERM in the 1990s.[74] Consider the choice confronting EU member states attempting to qualify for membership in Europe's monetary union. The Maastricht Treaty makes two previous years of exchange rate stability a condition for participation. Even if a country has its domestic financial house in order and its government is willing to trade austerity now for qualifying for monetary union later, an exchange-market crisis that forces it to devalue and abandon its ERM peg may still disqualify it from participation. And if it no longer qualifies for EMU, its government has no incentive to continue pursuing the policies required to gain entry. It will be inclined therefore to switch to a more accommodating monetary and fiscal stance. Even if in the absence of a speculative attack there is no problem with fundamentals, current or future, once an attack occurs the government has an incentive to modify policy in a

[73] See Krugman 1979.

[74] This is argued by Eichengreen and Wyplosz (1993), Rose and Svensson (1994), and Obstfeld (1996).

more accommodating direction, validating speculators' expectations. In other words, the Maastricht Treaty provided particularly fertile ground for self-fulfilling attacks.

THE EXPERIENCE OF DEVELOPING COUNTRIES

In much of the industrialized world, then, the two post–Bretton Woods decades were marked by movement toward more flexible exchange rates. This was true of the dollar/yen and dollar/deutsche mark rates; it was true of intra-European exchange rates after the EMS crisis of 1992. The trend was a response to the pressures imparted by the rise of international capital mobility.

The same trend was evident in the developing world, although it was slower in coming. Floating was challenging for countries with underdeveloped financial markets, where disturbances could result in high levels of exchange rate volatility. It was unappealing to very small, very open developing countries, where exchange rate fluctuations could severely disrupt resource allocation. The vast majority of developing countries therefore pegged their currencies behind the shelter of capital controls.

At the same time, pegging proved increasingly difficult to reconcile with the effort to liberalize financial markets. Developing countries had resorted to policies of import substitution and financial repression in the wake of World War II. In Latin America, for example, where countries suffered enormously from the depression of the 1930s, the lesson drawn was the need to insulate the economy from the vagaries of international markets. Tariffs and capital controls were employed to segregate domestic and international transactions. Price controls, marketing boards, and financial restrictions were used to guide domestic development.[75] The model worked well enough in the immediate aftermath of the war, when neither international trade nor international lending had yet recovered and a backlog of technology afforded ample opportunity for extensive growth. With time, however, interventionist policy was increasingly captured by special-interest groups. Trade and lending picked up, and the exhaustion of easy growth opportunities placed a premium on the flexibility afforded by the price system. As early as the 1960s, developing countries began to shift from import substitution and financial repression to export promotion and market liberalization.

[75]The strategy was articulated in the publications of the UN's Economic Commission for Latin America; for critical analyses of this doctrine see Fishlow 1971 and Ground 1988.

The consequences were not unlike those experienced by the industrialized countries: as domestic markets were liberalized, international financial flows became more difficult to control. Maintaining capital controls became more onerous and disruptive. And with the increase in the number of commercial banks lending to developing countries, international capital movements grew in magnitude, making their management more troublesome. It became increasingly difficult to resist the pressure to allow the currency to appreciate when capital surged in or to let the exchange rate depreciate to facilitate adjustment when capital flowed out.

Larger developing countries were most inclined to unpeg their exchange rates. Whereas 73 percent of large developing countries still pegged as late as 1982, by 1991 that proportion had fallen to 50 percent.[76] Comparable figures for small countries were 97 and 84 percent. Even there, startling transformations could take place: for example, Guatemala, whose currency was fixed to the U.S. dollar for sixty years, and Honduras, which fixed to the dollar for more than seventy years, broke those links in 1986 and 1990. Free floats remained rare; governments concerned about the volatility produced by thin markets managed their exchange rates heavily.

The diversity of developing-country experience spawned a debate about the efficacy of alternative policies. Countries that stayed with pegged-rate arrangements throughout the period enjoyed relatively low inflation rates, unlike countries that maintained flexible-rate arrangements throughout the period and those that shifted from fixed to floating rates.[77] Pegged exchange rates, it was consequently argued, imposed discipline on policymakers, forcing them to rein in inflationary tendencies. The obvious problem with the argument was that causality could run in the other direction: it was not that pegged exchange rates imposed anti-inflationary discipline but that governments able to pursue policies of price stability for independent reasons were in the best position to peg their currencies.

Sebastian Edwards considered this question in detail, analyzing the determinants of inflation in a cross section of developing countries and controlling for a wide variety of factors in addition to the exchange rate.[78] His results suggest that a pegged exchange rate provided additional anti-inflationary discipline even when other potential determinants of inflation are taken into account.

[76] A growing share of countries that continued to peg did so against a basket rather than to a single currency. See Kenen 1994, p. 528.

[77] See Kenen for data and further discussion.

[78] See Edwards 1993.

This evidence suggests that an exchange rate peg will be particularly appealing to governments seeking to bring high inflation under control. Pegging the currency can halt import-price inflation in its tracks and dramatically reduce the inflation rate. This allows order to be restored to the tax system and the adequacy of the government's fiscal and monetary measures to be evaluated. It is not surprising, then, that pegging the exchange rate has been an integral element of "heterodox" stabilization programs in Latin America, Eastern Europe, and elsewhere in the developing world.

But using a pegged exchange rate as a nominal anchor in a stabilization program is not without costs. Domestic inflation still takes time to decline, which can lead to real overvaluation. As the current-account deficit widens, the currency peg, and the stabilization program itself, can collapse in a heap. A currency peg effectively buttresses anti-inflationary credibility only if the government makes a significant commitment to its maintenance; hence, a peg that is intended only to accompany the transition to price stability may get locked in, heightening financial fragility and exposing the country to risk of a speculative crisis. Conversely, countries that announce their intention of moving away from their temporary peg may find that the latter provides little anti-inflationary credibility.

An extreme response to this dilemma is the establishment of a currency board. A country adopts a parliamentary statute or constitutional amendment requiring the central bank or government to peg the currency to that of a trading partner. This is accomplished by authorizing the monetary authority to issue currency only when it acquires foreign exchange of equal value. Since changing the law or constitution is a formidable political task, there is relatively little prospect that the peg will be abandoned. Knowledge of this fact should speed adjustment by producers and consumers to the new regime of price stability, halting inflation and minimizing the problems of overvaluation that typically afflict newly established currency pegs.

Currency boards have operated in small, open economies such as Hong Kong, Bermuda, and the Cayman Islands and in developing countries less open to trade such as Nigeria and British East Africa. They operated in Ireland from 1928 to 1943 and in Jordan from 1927 through 1964.[79] A currency-board-like arrangement was adopted by Argentina in 1991 as part of its effort to halt years of high inflation, by Estonia in 1992 to prevent the emergence of analogous problems, and by Lithuania in 1994.

[79]A comprehensive list of currency board episodes appears as Appendix C in Hanke, Jonung, and Schuler 1993.

The resemblance between currency boards and the gold standard is striking. Under the gold standard, statute permitted central banks to issue additional currency only upon acquiring gold or, sometimes, convertible foreign exchange; the rules are similar under a currency board except that no provision is usually made for gold. Under the gold standard, the maintenance of a fixed domestic price of gold resulted in a fixed rate of exchange; under a currency board, the domestic currency is pegged to the foreign currency directly.

The weakness of the currency-board system is also the same as under the gold standard: limited scope for lender-of-last-resort intervention. The monetary authority must stand by and watch banks fail—in the worst case scenario, watch the banking system collapse. Unless it possesses excess reserves, it is prevented from injecting liquidity into the domestic financial system. And even if it possesses excess reserves sufficient to permit lender-of-last-resort intervention, undertaking it may be counterproductive. Investors, seeing the currency board issue credit without acquiring foreign exchange, may infer that the political authorities attach a higher priority to the stability of the banking system than to the exchange rate peg. They will respond by shifting funds out of the country ahead of possible devaluation and nullification of the currency-board system, draining liquidity from the financial system faster than the authorities can replace it. In a currency-board country, as under the gold standard, there may be no effective response to financial crisis.[80]

In a sense, of course, this is the reason to have the currency board, which reflects a decision to sacrifice flexibility for credibility. But the rigidity that is the currency board's strength is also its weakness. A financial crisis that brings down the banking system can incite opposition to the currency board itself. Anticipating this, the government may abandon its currency board in fear that the banking system and economic activity are threatened.

This problem is more serious in some countries than in others. In a small country with a limited number of financial institutions and a concentrated banking system, it is possible to arrange lifeboat operations in which the stronger banks bail out their weaker counterparts. Where domestic banks are affiliated with financial institutions abroad, they can call on foreign support. It follows that currency boards have operated successfully for relatively long periods in Bermuda, the Cayman Islands, and Hong Kong. In Argentina, however, none of these conditions prevails. In 1995, when a financial crisis in Mexico interrupted capital flows to other Latin American countries, the Argentine financial system was threatened with collapse. Only an $8 billion

[80]This argument is elaborated by Zaragaza 1995.

international loan organized by the IMF, used in part to fund a deposit insurance scheme and recapitalize the banking system, helped tide it over.

Another response to the problem is for countries to peg collectively rather than unilaterally. The one notable instance of this approach is the CFA franc zone.[81] The thirteen member countries share two central banks: seven utilize the Central Bank for West African States, while six use the Bank for Central African States. The two central banks issue equivalent currencies, both known as the CFA franc, which are pegged to the French franc. That peg remained unchanged for forty-six years, before the currencies of the CFA franc zone were devalued against the French franc in 1994. Thus, not only have the members of these monetary unions enjoyed currency stability against one another, but they long maintained a stable exchange rate against the former colonial power.

The franc zone countries suffered sharp deteriorations in their terms of trade in the second half of the 1980s when the prices of cocoa and cotton declined. Yet they consistently enjoyed lower inflation than neighboring countries with independently floating currencies (Gambia, Ghana, Nigeria, Sierra Leone, and Zaire) and nearby countries with managed floats (Guinea-Bissau and Mauritania), while output performance in the CFA franc zone was not obviously inferior.

Two special circumstances played a role in the stability of the CFA franc-French franc rate. First, all member countries maintained restrictions on payments for capital-account transactions, and several maintained limited restrictions on payments for current-account transactions. Here as elsewhere, capital controls appear to have been associated with the viability of the currency peg. Second, the CFA franc countries received extensive support from the French government. In addition to foreign aid (France being the largest bilateral donor to its former colonies), they received essentially unlimited balance-of-payments financing. France guaranteed the convertibility of the CFA franc at its fixed parity by permitting the two regional central banks unlimited overdrafts on their accounts with the French Treasury.

The contrast with the EMS is worth noting. Where intra-European currency pegs have had to be changed every few years, the link between the French franc and CFA franc remained unchanged for nearly half a century. Where the unlimited support ostensibly offered under the EMS Act of Foundation has not exactly been extended, it has been provided by the French Treasury to the members of the CFA franc zone. The difference is attributable

[81] CFA stands for Communauté Financière Africaine. A basic reference to the economics of the CFA franc zone is Boughton 1993.

to the credibility of the franc zone countries' commitment to adjust, which assured France that its financial obligation would ultimately be limited. The two central banks were required to tighten monetary policy when making use of overdrafts. France could be confident that adjustment would take place because of the magnitude of the bilateral foreign aid it provided, which the recipient countries could not afford to jeopardize.

In the 1990s, the same factors that destabilized currency pegs elsewhere—the growing difficulty of containing international capital movements and the increasingly controversial nature of government policies—forced a devaluation of the CFA franc. Despite persistent deficits, the two African central banks hesitated to tighten monetary policies to the requisite extent. Tight credit conditions threatened to destabilize banking systems already weakened by the consequences of the collapse of commodity prices. This was too costly politically for the governments concerned, leaving them reluctant to tighten. And draconian wage cuts led to the outbreak of general strikes in Cameroon and other franc zone countries, causing the authorities to relent. In the absence of adjustment, the French government made clear that there were limits on the financial assistance it was prepared to extend. As a price for its continued support, it required adjustment, partly through a devaluation. Hence, the CFA franc was devalued by 50 percent against the French franc at the beginning of 1994.

CONCLUSIONS

The quarter-century since the collapse of the Bretton Woods System brought frustrated ambitions and uncomfortable compromises. Efforts to reconstruct a system of pegged but adjustable exchange rates failed repeatedly. At the root of that failure was the ineluctable rise in international capital mobility, which made currency pegs more fragile and periodic adjustments more difficult. Capital mobility increased the pressure on weak-currency countries seeking to defend their pegs. It heightened the reluctance of their strong-currency counterparts to provide support, given the unprecedented magnitude of the requisite intervention operations. Growing numbers of governments found themselves forced to float their currencies.

Many liked these circumstances not a bit. Developing economies with thin financial markets found it difficult to endure the effects of volatile exchange rate swings. Currency fluctuations disrupted the efforts of European Community members to forge an integrated European market. Even the United States, Germany, and Japan lost faith in the ability of the markets to drive their

bilateral exchange rates to appropriate levels in the absence of foreign-exchange-market intervention.

This dissatisfaction with freely floating exchange rates prompted a variety of partial measures to limit currency fluctuations. But if there was one common lesson of the Shultz-Volcker proposals to augment Bretton Woods with a system of reserve indicators, of the European Snake of the 1970s, of the European Monetary System, and of the Plaza-Louvre regime of coordinated intervention, it was that limited measures could not succeed in a world of unlimited capital mobility.