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EMU: Why and How It Might Happen

Charles Wyplosz

The adoption of a single currency has long been a holy grail for Europe. Since the late 1950s, various plans had been devised and shelved, as Mundell (1993) describes in a brief and insightful history. But in a few sharp steps between 1988 and 1991, bewildered Europeans saw their governments agree to what is now known as the Maastricht Treaty.

The story begins auspiciously in 1986. The European Community emerges from a decade-long period of little institutional progress, high inflation and rising unemployment following the oil shocks. This is the year when three new countries (Greece, Spain and Portugal) join the European Community and when the Single European Act (frequently dubbed “1992,” the year when it came into effect) is adopted as an extension of the founding Treaty of Rome. The aim of the Single Act is to plug the loopholes which limited the full mobility of people, goods and capital within Europe. In the process, all restrictions to capital movements were eliminated.¹

This last innocuous-seeming step made a move to monetary union unavoidable. The reason is a straightforward implication of the Mundell-Fleming textbook model of an open economy, known in Europe as the “impossible trilogy” principle.² This

¹ Oddly, the implementation date for this part of the act was set on July 1, 1990, a year and a half ahead of the other provisions. Recent European Community members—Greece, Ireland, Portugal and Spain — were given grace periods.

² The implications for Europe of this general principle, also known in Europe as the inconsistent trinity, were first articulated by Padoa-Schioppa (1985). For a textbook presentation of the Mundell-Fleming model, see, for example, Burda and Wyplosz (1997).

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principle asserts that only two of the three following features are mutually compatible: full capital mobility, independence of monetary policy, and a fixed exchange rate. The problem arises because, under full capital mobility, a nation's domestic interest rate is tied to the world interest rate (at least for a country too small to influence worldwide financial conditions). More precisely, any difference between the domestic and world interest rate is equal to the expected rate of depreciation of the exchange rate; that is, if interest rates are 5 percent in the domestic market and 3 percent in global markets, this must reflect that global currency markets expect the currency to depreciate by 2 percent this year. This is known as the interest parity condition: it implies that integrated financial markets equalize expected asset returns, and so assets denominated in a currency expected to depreciate must offer an exactly compensating higher yield.

A country that wants to conduct an independent monetary policy, raising or lowering interest rates for the purpose of its domestic economy, must allow its exchange rate to fluctuate in the market. Conversely, a country confronted with full capital mobility that wants to fix its exchange rate must set its domestic interest rate to be exactly equal to the rate in the country to which it pegs its currency; since monetary policy is now determined abroad, the country has effectively lost monetary policy independence.³ The alternative option of letting exchange rates float was never acceptable to Europeans. The perception is that markets are too integrated to allow for sizable relative price changes. The exchange rate and trade wars from before World War II are still remembered as an example of a jack that must absolutely be kept in the box.

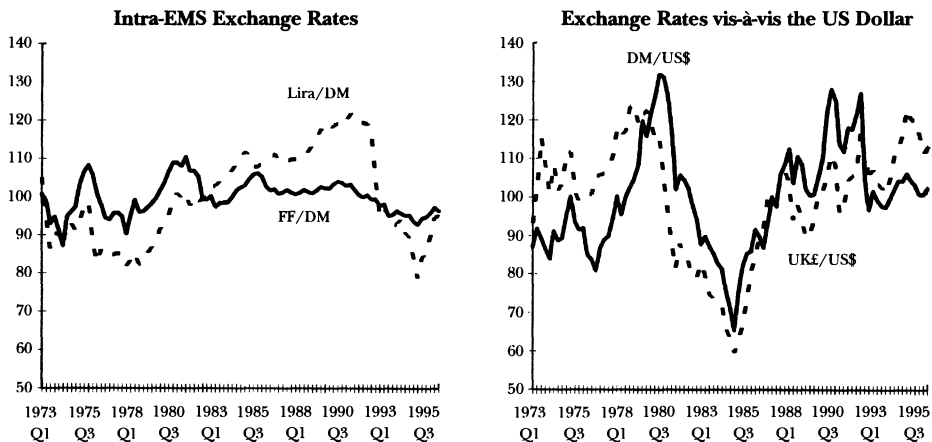
By the time it was decided to free capital flows, the European Monetary System (EMS) had been in place for nearly ten years. Most European Community members had agreed in early 1979 to set up a system of fixed bilateral exchange rates with fluctuation bands of ± 2.25 percent around the declared central parity (± 6 percent for Italy and, briefly, the United Kingdom). Member central banks were committed to intervene jointly to defend the parities, in principle with no limit. When it was felt that existing parities had to be changed, the decision had to be taken by consensus. By the late 1980s, the EMS was commonly hailed as a major success, credited with the relative stability of intra-European real exchange rates during the turbulent post-Bretton Woods period (Begg and Wyplosz, 1993). This is illustrated in

³ In algebraic terms, the interest parity condition, where i is the domestic interest rate, i^* is the global rate, e is the expected rate of depreciation of the exchange rate (in logs), and t is an index of time periods, is:

$$i_t - i_t^* = E_t(e_{t+1}) - e_t.$$

A small country which pegs its exchange rate $E_t(e_{t+1}) = e_t = e_0$, where e_0 is the peg, can no longer choose the level of its own interest rate. Only by letting the exchange rate fluctuate can it control the interest rate, and then e_t becomes endogenous in the interest parity equation. This reasoning ignores risk aversion which gives rise to a risk premium term. Among developed countries the risk premium is known to be small and volatile.

Figure 1
Bilateral Exchange Rates



Source: International Financial Statistics

Notes: 100 = average over sample period. EMS started in March 1979. Italian Lira operated under a margin of fluctuation of $\pm 6\%$ until January 1990 and left EMS in September 1992. Sterling was in the system from October 1990 to September 1992, with a $\pm 6\%$ margin of fluctuation.

Figure 1 which presents bilateral exchange rates deflated by consumer price indices (the following conclusions emerge irrespective of the choice of country pairs and price indices). Contrast the left panel which shows intra-European real exchange rates with the right panel which shows real exchange rates vis-à-vis the U.S. dollar. Currencies with normal allowed fluctuations, like the French franc and the deutsche mark, displayed remarkably low volatility in comparison to floating exchange rates. Even where larger margins were allowed, like in Italy, quarter-to-quarter real exchange rates are still less volatile than with floating rates. There is no economic reason for the real exchange rate to be constant in the long-term, of course. However, among the OECD countries, multi-year fluctuations around the long-term trend suggest that most of the observed changes are temporary and do not correspond to structural shifts.

Perhaps blinded by the success of the EMS, leading European policymakers did not perceive that the freeing of capital flows meant the end of monetary policy independence in all but one EMS country. By the late 1980s it had become obvious that the Bundesbank, Germany's central bank, was setting monetary policy for Europe as a whole. One reason for this evolution was relative economic size (further increased by unification following the fall of the Berlin Wall in late 1989). In addition, the Bundesbank had acquired a strong reputation for fighting inflation and keeping its currency strong. For countries where inflation was the number one target, adopting tough monetary conditions under the Bundesbank leadership was in fact welcomed. Small countries, like the Netherlands, had already given up mon-

etary independence. Among the larger ones, the United Kingdom was outside the fixed exchange rate mechanism and therefore could retain monetary policy independence.

However, other larger European nations like France, Italy, and Spain, gradually realized that they had lost control of their domestic monetary policy. They concluded that the only way through which they could regain some influence over their monetary policies was to create a broader European monetary institution which would supersede the Bundesbank, and in which they would have a voice. Naturally, since Germany was being asked to sacrifice one of its most valued institutions for the sake of Europe, it was going to ask a lot in return. In particular, Germany was bound to require that this new European monetary institution offer strong guarantees of price stability. From the very beginning, Europe's future currency would have to be as strong as the deutsche mark. This would mean explicit institutional safeguards and exacting startup conditions. The negotiations leading to the Maastricht Treaty would bear the birthmark of this situation: what Germany asks, Germany gets, provided that it gives up the Bundesbank.

The Maastricht Treaty

The Maastricht Treaty updates and incorporates the 1957 Treaty of Rome, the founding act of the European Community, and incorporates the Single European Act implemented in 1992 (free movement of goods, people, and capital). The treaty has been formally ratified by all member countries. With the Maastricht Treaty, Europe ceases to be called the European Economic Community and becomes instead the European Union or EU, which involves both economic and political union. The economic component of the treaty mainly involves the adoption of a single currency. The political component has been left rather vague, hinting at an evolution towards joint defense and foreign affairs.

The treaty includes a detailed timetable for the adoption of a single currency. It sets in motion a gradual convergence process, espousing the view that the adoption of a common currency is just the cherry on the sundae, the last step in a process through which national currencies become indistinguishable from the deutsche mark. It is formally structured around three stages (Thygesen, 1993). The first stage began in 1992 with the formal ratification of the treaty. During the second stage, started in January 1994, national central banks must be given formal independence and cease to grant direct loans to their nation's treasuries. The shift to the second stage also coincides with the establishment of the European Monetary Institute (EMI), with two main functions. One is to prepare the creation of the European Central Bank, whose statutes and mission are actually laid out in the Maastricht Treaty. The other function of the EMI is to oversee the "convergence criteria" which will be used to decide which countries are ready to enter the monetary union, marking the beginning of Stage III. This may happen as soon as a sufficient number of countries meet the convergence criteria, and must happen by January 1, 1999.

The first formal review which took place in December 1996 concluded that a majority of countries did not satisfy the criteria.

What are these criteria? The underlying notion is that unless countries enter the single currency with similar inflation rates and fiscal positions, the single currency will be unsustainable. Three conditions deal with monetary convergence. First, the inflation rate of any country joining the single currency must be within 1.5 percentage points of the average of the three lowest rates in Europe. Second, the long-term interest rate in a country joining the single currency must not exceed by more than 2 percentage points the interest rates observed in the three countries with the lowest inflation rates, on the grounds that high long-term rates reflect high expected inflation. Third, the exchange rate must have remained within the normal bands of the existing EMS “without severe tensions” for at least two years. Two other criteria concern fiscal policy. They set ceilings on the ratios of debt/GDP (60 percent) and deficit/GDP (3 percent) ratios. At the time of the signing of the Maastricht Treaty in 1991, only Luxembourg—which does not have a currency of its own—could meet the five criteria.

Yet the wording of the treaty leaves some room for flexibility. For example, the 60 percent ceiling can be interpreted as a target if “the ratio is sufficiently diminishing and approaching the reference value at a satisfactory pace” (art. 104c, b). In addition, compliance will be decided by the heads of state upon receiving reports from the European Commission and the EMI, and a recommendation (not a decision) by the Commission, which is notoriously supportive of economic and monetary union.

The Maastricht Treaty had left a number of issues pending. Most of them concern the political side, but some also concern the actual operation of the monetary union. The “excessive deficit procedure” issue has been settled in June 1997. This procedure makes permanent one of the entry convergence criteria, the 3 percent deficit/GDP ceiling. It defines the “exceptional conditions” under which a country may be temporarily allowed to breach the ceiling, and it specifies how noncompliant countries will face first private, and then public reprimands, before being fined. Progress has also been made on symbolic matters: the new currency’s name will be “euro” and the European Central Bank will be established in Frankfurt, Germany.

On all of these issues, the German view has prevailed. The excessive deficit procedure is the one presented by Germany, and initially rejected by a vast majority of countries as excessively restrictive. The name of the currency itself reflects the German rejection of ECU, acronym for European Currency Unit and the name of an ancient French currency, although it is explicitly referred to in the Maastricht Treaty. German influence has not only affected the currency name and location; it is also Germany that insisted on the long transition process and the controversial convergence criteria. Moreover, the statutes and objectives of the European Central Bank remarkably resemble those of the Bundesbank: strong independence from government, responsibility clearly limited to price stability, no explicit involvement in bank supervision, and no lender-of-last-resort function.

Germany will again prevail when it comes to selecting the countries which qualify for membership in the single currency. That decision will be taken by the heads of state in spring 1998, with voting weights determined by country size (a combination of population and GDP). Once chosen as fit, a country must join the Economic and Monetary Union (EMU), even if it does not wish to, with the exception of Denmark and the United Kingdom who made opting out a condition of ratifying the treaty. Thus the Maastricht Treaty envisions a “two-speed” Europe, with a “core” of EMU members and a “periphery” of countries either rejected or opting out. Much of the debate revolves around the initial list of members. Will EMU start as a narrow deutsche mark zone (Germany, France, Belgium, Luxembourg, the Netherlands, Austria, Ireland)? Will the “Club Med” countries (Italy, Spain, Portugal) also join, despite a reputation for tolerating inflation and deficits? Will the Nordic countries (Sweden, Denmark, Finland) want to join? The UK has already let it be known that it will stay out and Greece is not really trying.

Is Europe an Optimal Currency Area?

The decision to adopt a single currency is the outcome of constrained optimization. The constraint is the impossible trinity: given the freedom of capital flows, the choice is between freely floating exchange rates and monetary union. The assessment is that monetary union dominates a free float. This assessment is based on the experience with floating exchange rates since 1973: wide and long-lasting fluctuations (20 to 50 percent over three to five years) are just not compatible with fully open markets and the complete removal of border posts. While that assessment is open to debate (but seldom challenged so far), the discussion on the intrinsic desirability of the monetary union is moot as long as it ignores the constraint.

Yet, it is probably unavoidable that the question be asked whether EMU is welfare-increasing *per se*.⁴ This question has led to a revival of the literature on optimum currency areas following seminal works by Mundell (1961), McKinnon (1963) and Kenen (1969). Recent efforts have gone into providing formal models which confirmed the early insights (Bayoumi, 1994; Ricci, 1996). However, most of the work has attempted to size Europe up against the Mundell-McKinnon-Kenen criteria. By these particular standards, the case for Europe as an optimal currency area is lukewarm at best.

The (unconstrained) optimum currency area literature establishes the conditions under which two or more countries could share the same currency without seriously adverse consequences. It assumes that the nominal exchange rate has real effects; otherwise, there is no cost in a nation's giving up its own currency. In

⁴ Some studies have attempted to measure directly the costs and benefits from EMU. Bean (1992) concludes that these attempts have failed to come up with tangible answers. The recent report by the Swedish Government Commission on the EMU (1997) provides an excellent and exhaustive review; it concurs that current knowledge prevents any sharp conclusion one way or the other.

particular, the exchange rate is a policy instrument which can affect relative prices such as the real wage paid by producers, the ratio of traded to nontraded goods prices, or the ratio of export to import goods prices. As one example of where this tool could be useful, consider the case where some exogenous shock requires that relative domestic to foreign prices change. Such an adjustment can plausibly be made easier and faster through the exchange rate, rather than by changing nominal prices throughout the economy or through migration of the factors of production from one sector to another.

The three criteria proposed in the literature are those features which make adjustment through exchange rates less effective or less compelling. One criterion is openness to mutual trade; greater openness means that most prices are being determined on markets at the area level, which reduces the ability of the exchange rate to alter significant relative prices. A second criterion is diversification of individual economies; a more diversified economy is less likely to suffer country-specific shocks, which makes its own exchange rate a less useful tool. Finally, the third criterion is mobility of inputs across the area, especially labor. Greater mobility allows an economy to deal with asymmetric shocks through migration, lessening the need for adjustment through exchange rate changes.

On the openness criterion, Europe scores rather well. Measuring openness by looking at exports as a share of GDP, the United States and Japan score 11 percent and 9 percent, respectively. Larger European economies like Germany, Italy, France, and the United Kingdom all have export/GDP ratios above 20 percent, and smaller EU economies like Ireland and Belgium have export/GDP ratios above 70 percent. It makes sense that the smallest European countries are traditionally warm supporters of monetary union. Because of their extreme openness to foreign trade, relative prices in their economy are set on world markets, and the exchange rate is a less useful policy tool.

As to the second criterion, European economies are found usually to be well-diversified. Countries with important endowments in natural resources, like the Netherlands and the United Kingdom with their oil and gas resources, stand apart, but only slightly so. A wide body of research looks at the risk of country-specific (asymmetric) shocks. One set of studies investigates co-movements of key macroeconomic variables like GDP, unemployment, inflation, or the current account balance across European countries (Cohen and Wyplosz, 1989; Weber, 1990). Other studies compare shocks across regions with shocks across countries (de Grauwe and Vanhaverbeke, 1993; von Hagen and Neumann, 1994). The general message is that there is more co-movement in macroeconomic variables among European countries than between individual European countries and the United States or Japan. Further studies attempt to separate out domestic from external shocks, and demand from supply shocks. The underlying argument is that demand shocks are at least partly due to divergence in monetary policy which will be less prevalent in EMU—so attention should focus on supply shocks. Bayoumi and Eichengreen (1993), for example, find more asymmetric supply shocks across Europe than across the United States, although they identify a more coherent group of

core countries around Germany. They suggest that Europe is less-suited to be an optimum currency area than the United States.

Work on the labor mobility criterion clearly suggests that Europe is not an optimum currency area. For example, looking at the United States as a prototype monetary union, Blanchard and Katz (1992) find that when a particular region is hit by an adverse shock, a large proportion of the subsequent drop in employment is matched by labor migration. Applying the same approach to European regions, Decressin and Fatas (1995) find less labor mobility and longer-term effect on regional unemployment, confirming a similar finding by Eichengreen (1991). Two caveats are in order, however. First, the evidence is that the lack of labor mobility is not a national but a regional phenomenon in Europe (Eichengreen, 1993). It affects regions within existing nations of Europe, and there is no reason why monetary union would make things worse. Second, both the occurrence of shocks and labor mobility may change as economic integration proceeds. Krugman (1993) conjectures that economic integration leads to increased regional specialization. In that case, the situation will worsen as the incidence of asymmetric shocks will increase. Frankel and Rose (1996) empirically reject Krugman's conjecture as they find that integration leads to more diversification. In that case, the criteria for an optimum currency area are endogenous. It then comes as no surprise that the United States, which has shared the same currency for a century, appears better suited for a single currency than does Europe.

In the end, we need not be impressed by the result that Europe is not as much an (unconstrained) optimum currency area as the United States. The choice is not between EMU and heaven. It is between EMU and freely-floating exchange rates, with possibly poorly coordinated monetary policies, within an area gradually becoming as tightly integrated as the United States. Would the United States have passed the currency area tests a century ago? And had it failed, all things considered, was it a mistake for the country to adopt a single currency?

Convergence: Will Tough Criteria Backfire?

One striking feature of the Maastricht Treaty is that it anticipates a long eight-year phase from the passage of the treaty in 1991 to the deadline for a single currency by 1999. This long phase-in was the result of a conflict between two competing views.

One view argued that monetary union would be sustainable only if those countries that joined had first achieved a low level of inflation and had resolved fiscal imbalances. This position is commonly referred to as the "economist's view," although it does not seem to have been fully articulated in the professional literature. However, it was popular among the monetary authorities; for example, the Bundesbank championed it under the name of "coronation approach," seeing the shift to monetary union as the last step of successful efforts to eradicate inflationary

behavior. Economic and monetary union was to be born in a land dedicated to a culture of price stability.

The opposing view, generally referred to as the “monetarists’ view,” had the favor of most academic economists.⁵ Their argument was that the creation of a new currency with its own independent central bank would radically alter the wage and price mechanisms, inflation trends, and the incentives of national governments when they decide on fiscal policies. In this view, which is rooted in the Lucas critique, pre-monetary union behavior of both the public and private sectors is a bad predictor of their behavior once the single central bank is in place. Instead, what is needed in the monetarist view are solid institutions, chiefly central bank independence. Other convergence criteria create pain with no assured gain.

Predictably, the “economist” view favored by central bankers won out over the “monetarist” views of academic economists. It is impossible to say what would have happened if EMU had started fairly promptly after ratification of the Maastricht Treaty in 1991. However, what is known is that the period dedicated to convergence has been especially agitated. Even before the Maastricht Treaty could be ratified, a series of exchange rate crises forced Italy and the United Kingdom out of the EMS. After severe currency realignments, the “normal” ± 2.25 percent bands of fluctuation were widened to ± 15 percent, effectively marking the end of the system as initially designed and intended. By mid-1997, about one year before the scheduled selection of the countries which will start EMU, there is considerable pressure to postpone the starting date. The surrounding debate well illustrates the view that there is never likely to be a time when all countries can meet the exacting convergence criteria.

Of the criteria set in Maastricht, those mandating inflation convergence have proven relatively easy to achieve.⁶ However, the budgetary criteria—that the debt/GDP must not be above 60 percent nor the deficit/GDP exceed 3 percent—are more challenging, as Table 1 documents. Why after such a long period of convergence are the budget criteria still some way off? Part of the problem is that the tight monetary policies aimed at meeting the inflation criteria have helped create a slow-growth climate for Europe in the 1990s, with double-digit unemployment rates and no net job creation since the beginning of the decade. While this effort has made it possible to achieve inflation convergence, it has also reduced tax revenues, causing deficits that will not go away and forcing governments to adopt

⁵ For a statement of the “monetarist” view, see Begg et al. (1991). The rationale of the terminology of “economists” versus “monetarists” is unclear. It goes back to earlier debates on economic and monetary union in the 1970s, well summarized in Mundell (1993).

⁶ However, the jury is still out for the criterion concerning the long-run interest rate, which is not to exceed the average of the three lowest-inflation countries by more than 2 percentage points. Since long rates incorporate market expectations of inflation, they are affected by the probability of joining the monetary union. This opens up the possibility of multiple equilibrium: if the markets believe that a country will not join, they may expect monetary policy relaxation and rising inflation, and set high interest rates which indeed rule out EMU membership. Conversely, an expectation that a country will join may bring down long-term rates, thus allowing the country to meet this criteria for convergence.

Table 1
The Maastricht Budget Criteria as of Mid-1997
(percent of GDP)

| | <i>Budget Deficit</i> <i>(Limit = 3 percent)</i> | <i>Public Debt</i> <i>(Limit = 60 percent)</i> |
|----------------|---|---|
| Austria | 3.0* | 71.3 |
| Belgium | 2.8* | 127.2 |
| Denmark | 0.0* | 66.8 |
| Finland | 2.0* | 58.1* |
| France | 3.2 | 57.8* |
| Germany | 3.2 | 61.8 |
| Greece | 5.2 | 106.9 |
| Ireland | 1.2* | 69.0 |
| Italy | 3.2 | 123.3 |
| Luxembourg | N.A. | N.A. |
| Netherlands | 2.3* | 74.5 |
| Portugal | 2.9* | 66.3 |
| Spain | 3.0* | 69.8 |
| Sweden | 2.1* | 77.3 |
| United Kingdom | 2.8* | 54.1* |

Source: OECD Economic Outlook, June 1997.

*Note: * denotes compliance.*

further policies of fiscal contraction. This vicious cycle is jeopardizing monetary union both by making the fiscal targets more difficult to achieve and by undermining public support. The situation is now a gamble: either a country reaches EMU and is able to relax after having indeed put its fiscal house in order, or it fails entry (or EMU does not take place at all) because excessively restrictive economic policies have deepened the budget deficit.

Monetary Union and Fiscal Discipline

The inclusion of restrictions on fiscal policy in a treaty which, after all, aims at monetary union, is a source of considerable debate. Before the Maastricht Treaty, most academic analyses emphasized that national fiscal policy would have to become more active to compensate for the loss of the exchange rate instrument.⁷ The opposite approach, that monetary union requires fiscal policy restraint, is grounded in the view that excessive budget deficits may lead to eventual monetization of the debt (Sargent and Wallace, 1981). Monetary authorities were clearly concerned by

⁷ For example, see the papers by Begg, Masson and Melitz, and Wyplosz in *European Economy*, Special Edition No.1, 1991.

high debts in some countries, especially in Italy, whose public debt represents some 18 percent of Europe's GDP. They feared that an explicit or implicit lender-of-last-resort function might force the European Central Bank to step in and indirectly monetize a country's public debt if banks faced a financial crisis in the wake of a default. This concern is reflected in the budgetary criteria for EMU membership and in the "excessive deficit" procedures designed to enforce fiscal rectitude once in the monetary union.

While it is difficult to disagree with the view that fiscal policy ought not to jeopardize monetary and financial stability, how to provide the incentives for appropriate fiscal policy is open to debate. The debate implicitly revolves around one's view of the ability of fiscal policy to play a macroeconomic stabilizing role. It also hinges on the ability to define at the time a deficit is enacted that it is "excessive." In principle, the proper answer must be in terms of "sustainability," since by definition, unsustainable debt buildup will eventually have to be reversed. Fiscal policy sustainability is often associated with stationarity of the debt, usually defined as a stable debt/GDP ratio. In fact, the proper definition of sustainability would hold only that the state will remain solvent, a definition that emphasizes the future behavior of fiscal authorities. By emphasizing future behavior, this view of sustainability also implies that information from the past does not reveal what a country will do after it is inside EMU, and that rules for fiscal rectitude must affect future fiscal policies. A workable definition of sustainability along these lines is a tall order.

The Maastricht approach, relying on arbitrary quantitative limits, is quite unsophisticated.⁸ The 3 percent annual debt/GDP rule corresponds to what is called the "golden rule" in Germany: governments may only borrow to pay for investment spending, and it turns out that governments usually dedicate about 3 percent of GDP to such spending. Even if one ignores doubts about the 3 percent estimate itself, the rule is naïve at best; it ignores socially productive spending like education which is classified as consumption, while it may include ill-designed investment spending. The 60 percent debt/GDP rule was chosen because it was the average of EU countries when the Maastricht Treaty was being negotiated, with not even the pretense of any deeper economic justification.

Yet Europe is not alone in adopting quantitative limits for fiscal policy. How does it work elsewhere, where a unique central bank coexists along with several fiscal authorities? In the United States, for example, states must operate under balanced budgets, borrowing money only by issuing bonds for explicit capital projects. But the comparison must be handled quite carefully. In true federations, the central government is as large as the lower-level governments, and is in charge of macroeconomic stabilization. In Europe, in contrast, the equivalent of a central government is the European Commission, which is not allowed to run deficits and whose spending represents a mere 2 percent of the Europe Union's gross domestic product.

⁸ For a critique of the entry criteria ceilings, see Begg et al. (1991) and Buiters et al. (1993).

The size and role of a powerful central government matters for two main reasons. First, several studies have shown that in federal states, the center smooths out income fluctuations through redistribution from regions in good economic shape to regions undergoing a recession. This function operates automatically through the federal budget, the result of a combination of welfare support and income taxes (Sachs and Sala-i-Martin, 1992; Bayoumi and Masson, 1995; Pisani-Ferry et al., 1995). In this setup, it can make sense to limit the stabilization role of sub-central authorities. Second, quantitative fiscal restraints at some levels of government can actually encourage the buildup of debts at other levels, according to evidence from von Hagen and Eichengreen (1996). The problem occurs when fiscally irresponsible lower-level governments refuse to borrow and can bait the federal authorities into rescuing them. In Europe, a central government with powerful redistribution and stabilization authority is not likely within the foreseeable future. Consequently, Europe needs national-level stabilization policies much more than individual U.S. states do, and there is no risk that national governments will conduct irresponsible fiscal policies in an attempt to extract transfers from a penniless center.

Are there less coarse methods than quantitative limits of providing governments with effective incentives against fiscal irresponsibility? One attractive approach would be to rely on financial markets to impose discipline. In a single currency area, interest rates no longer reflect a country's sovereign risk. Instead, they reflect the risk category of borrowers, be they fiscal authorities (a municipality in the United States, a province in Canada, or a government in Europe) or private borrowers. To the extent that markets price risk correctly, the demand for public debt of various governments could act as both a barometer and a constraint. If a country lets its debt grow and there is an enhanced risk of default, markets should react by downgrading their evaluation and by increasing the interest rate at which new debt is being financed, until fiscal authorities see it to be in their best interest to curtail the deficit.

However, history suggests skepticism about the ability of markets to impose discipline in this way. For one, markets tend to throw good money after bad for a time (Eichengreen and Portes, 1987). When markets do react, it is often too late and too violently. They abruptly cut financing, making it impossible for the government to borrow further and bankrupting large bondholders, among them commercial banks and other financial institutions. This leads to a scenario where central banks may feel compelled to monetize (part of) the debt.⁹

This is presumably why the Maastricht Treaty includes a no-bailout clause which explicitly forbids the rescue of one government either by its fellow members or by community institutions, including the European Central Bank. In this way, fiscal misbehavior becomes a strictly national issue with no union-wide implication and fiscal restraint is unnecessary. Yet Germany has argued that the no-bailout clause cannot be fully credible, that any rule can always be circumvented.

⁹ That this mechanism bears strong resemblance to the events that provoked hyperinflation in Germany in 1922–23 is not irrelevant for an understanding of the Maastricht Treaty.

In the end, the explicit fiscal restraints embodied in the excessive deficit procedure can be seen as insurance against a remote risk that European institutions would be compelled to monetize some nation's out-of-control debts. This insurance scheme may turn out to be very costly in terms of the ability to run countercyclical policies.

EMU and the Rest of the World

The potential for the euro to replace the U.S. dollar as the world's premier currency is one of the understated motivations of EMU. In part, the desire is a symbolic one; it is the belief that "great powers have great currencies" (Mundell, 1993, p. 9). In part, it is a hope to reap seigniorage, although U.S. benefits from seigniorage are worth only about 0.2 percent of GDP (Alogoskoufis and Portes, 1992). The usual criteria for becoming the world's lead currency are measures like size (GDP or the share of world trade). By these measures, the prospects for the euro to challenge the dollar are favorable but not overwhelming. For example, Europe's international trade with non-European nations will not exceed by much Germany's current level of foreign trade—once intra-European trade is netted out (Hartmann, 1996). Also, history teaches that it takes time for a reserve currency to change (Eichengreen, 1989; Mundell, 1993). To overcome its handicap relative to the incumbent U.S. dollar, the euro must discover some absolute advantage.

One potential advantage is likely to be greater price stability. As a currency expected to follow a long-run trend of appreciation, the euro will be a currency that stores value better than the alternatives. This prediction derives from the constitution of the European Central Bank, which makes it more independent and more focused on price stability than the U.S. Federal Reserve. If anything, the constitution is even stricter than that of the Bundesbank, so that Europe's economy will be more stable than Germany's (Masson and Turtelboom, 1997). A counterargument is based on politico-economic considerations. The board of the European Central Bank will be composed of representatives of all member countries. With the one-man one-vote principle, Germany's weight will be no larger than that of Belgium or Italy. The constituencies of the European Central Bank will not share the German allergy to even moderate inflation.¹⁰ In theory the outcome may differ from the wishes of the median European voter, and the bias can go in either direction (Alesina and Grilli, 1992). Ultimately, this counterargument is not fully convincing.

¹⁰ This is another reason why the Bundesbank has advocated a long convergence process: to provide for a period of deep conversion to a "stability culture." In a perceptive comment on Buiter et al. (1993, p. 97), Frankel interprets the Maastricht convergence process as a "test of will," referring to Buddhist traditions: "A meditating neophyte is supposed to learn to refrain from responding to a flea by scratching it, just as a political region is supposed to learn to refrain from responding to a local downtick in demand by lowering interest rates."

A second potential advantage for the euro could be the depth and cost-efficiency of financial markets. The market for the euro and euro-denominated assets could be the world's largest, depending on whether the city of London shifts to the euro. Yet the location and prominence of markets relies increasingly less on regional considerations and more on the regulatory environment. Europe will have to fight its own heavy-handed approach and powerful lobbies if it wants the euro to become the world's currency.

Thus, the best bet is that, for a long while at least, the dollar's supremacy will remain. Still, the creation of the euro is bound to affect international monetary relations. Will it lead to more or less instability on exchange markets? Two arguments suggest more instability. First, if the U.S. dollar has been acting as a market leader on exchange rate markets, the shift to a situation of bargaining between more equal partners is likely to create greater volatility. Second, while the fairly open economies of Europe are now keenly interested in stabilizing world currencies, a euro zone would join the United States and Japan as giant economies less inclined to give up domestic policy objectives for the sake of exchange rate coordination. However, the opposite view is that moving from G-7 to G-3 should make it easier to negotiate methods for reducing volatility in exchange rates (Alogoskoufis and Portes, 1992; Goodhart, 1993; Kenen, 1996). In the end, little should change when the European Central Bank steps in the shoes of the Bundesbank as the master of the EMS exchange rate.

Finally, what will be the impact of economic and monetary union on the International Monetary Fund? One view is: nothing much. Each country will retain its existing role. In its annual review exercise, the IMF will have to take account of the fact that monetary policy is no longer a national responsibility, but that is already the case for other monetary unions in Africa and the Caribbean. However, a more entertaining scenario, if unlikely, envisions EMU countries merging as a single IMF member. Not only would Europe cast the largest number of votes and challenge U.S. dominance, but it could invoke the agreements' article that states "the principal office of the Fund shall be in the territory of the member having the largest quota" and request that the IMF move from Washington to Madrid, Frankfurt, Paris or Amsterdam.

The Early Steps: What to Watch For

The Treaty of Maastricht sets a clear timetable: a single currency will come into being no later than 1999. It may seem that all that remains is to watch the countdown before lift-off. Nothing is further from the truth. Power in the boosters is not assured; last minute checks reveal a number of blinking red lights; and politico-economic pressures are building up to dangerous levels. Public support for the euro is lukewarm at best. It is largely incomprehensible. As a symbol of national belonging, it is desirable to some and threatening to others. As the time to launch

draws near, popular anxiety is tending to rise. In virtually every country, politicians are making capital out of their opposition to monetary union.

Must EMU start by January 1999? Several loopholes exist for sidestepping the deadline. First, it is understood that monetary union will not exist without both Germany and France. This gives each of these countries veto power that they can exercise by missing the convergence target. In fact, it appears that both are likely to miss the targets narrowly, which will inevitably lead to negotiations about their situation. Second, certain provisions of the treaty could be twisted to postpone startup beyond 1999, although it would be a farfetched interpretation of the treaty.

By June 1998, Europe's heads of state must agree on the list of the passengers of the first mission. Many countries will not fulfill the formal criteria, so the decision will have a degree of arbitrariness relying on flexibility in the precise wording of the treaty. In anticipation, adversaries of economic and monetary union are calling for a postponement. In fact, any delay would feed doubts that convergence can be achieved and reduce chances of success. In that case, speculators could well unleash new attacks on exchange rates, which might make any transition to a single currency even more difficult to achieve.¹¹

Immediately after the list of members is drawn up, final preparations will start. At least one unresolved issue has been identified. Legal restrictions imply that the rate at which currencies will be converted into euro on January 1, 1999, must be those observed at the closing of markets on December 31, 1998. This creates the risk of major exchange market instability in the time leading up to that date, as traders will need to form a view of what the authorities are trying to achieve. Moreover, at a time of high unemployment and with policy settings driven by the need to meet contractionary convergence criteria, some countries may be tempted to secure a temporary competitive advantage by entering monetary union with an undervalued currency. Solutions for tying down the issue ahead of time still remain to be adopted (Begg et al., 1997; Obstfeld, 1997).

According to the Maastricht Treaty, the European Central Bank will come into existence soon after July 1998. It will have to coexist for six months with national central banks due to become its subsidiaries. From January 1999, the European Central Bank will operate only in euros, as will the financial markets. At the retail level, national currencies will continue to circulate and remain sole legal tender until July 2002, but will be legally considered as (horrendous six-digit) fractions of the euro. The euro itself will be finally introduced for retail transactions in January 2002 (probably), opening up a switchover period of six months. Thereafter national currencies will be redeemed in euros for periods to be set by national legislation. The three-year overlap is bound to raise endless practical issues, not the least of which is that it may be difficult for governments and citizens to realize that the

¹¹ In any case, speculative attacks are expected against those countries which are not admitted to the single currency. Such attacks could be minimized if information is gradually leaked to the markets well in advance and if new dates for entry are clearly set along with a clear signal that the next decision will be positive.

European Central Bank is solely in charge after 1999, and all surviving currencies are mere subdivisions of the euro with a fixed and irrevocably set conversion rate.

Conclusion

Currencies and nations normally coincide. Europe is set to attempt an original experiment. Is it going to work? Is it even going to happen? The fact that a year before lift-off, doubts remain about the likelihood that EMU will start, or will start on time, is testimony to the fact that there can be no firm answers to these questions. Yet some simple observations can take us a long way.

The Maastricht Treaty is the fundamental act on which Europe rests. It is an international treaty, formally ratified by all European Union countries, and it supersedes national legislation. Giving up EMU would throw up more than just monetary union. It would create a situation of deep political crisis with unpredictable consequences. For that reason alone, the bet is that EMU will be on, on time.

Is the logic behind monetary union only political? Quite the contrary. The political aim of a single currency has been pursued relentlessly by its advocates since the late 1950s; several explicit attempts failed because economic conditions were not ripe. The Maastricht Treaty only came about because the lifting of capital controls had reduced the alternate options to just two unpalatable extremes: either allow exchange rates to float freely or accept the complete domination of Germany's Bundesbank over Europe's monetary policy.

Freely floating exchange rates are not compatible with a completely borderless economic area. They carry the germs of protectionist pressure and financial instability which threaten economic integration. As for dominance by the Bundesbank, it has been largely beneficial over the last decade, chiefly because inflation has been eliminated. Yet there have been costs: lasting double-digit unemployment, major policy mistakes that led to the currency crises of 1992–93, and continuing disagreements over the objectives of the Bundesbank. The current situation is not sustainable because it entails a fundamental contradiction. On one hand, the Bundesbank derives its leadership from a reputation of undeterred commitment to price stability in Germany. On the other hand, long-lasting leadership requires that all of Europe's economic conditions be taken into account, which is against the Bundesbank's constitutional duty to Germany. Tinkering with the Bundesbank's constitution is not only politically impossible, but doing so would also undermine its credibility and its ability to lead. In this setting, EMU emerges as the best possible economic solution.

Assessing the costs and benefits of monetary union quantitatively is both frustrating and useless. It is frustrating because, frankly, as economists we are unable to compute them with any precision, and we owe it to the profession to admit so in public. Our understanding of monetary and exchange rate policy is regrettably limited, and the lack of a precedent leaves us with more conjectures than certainties. Moreover, quantitative estimates are useless unless they are sized up against the

costs and benefits of the relevant alternatives, which is equally beyond our current ability. The best that can be done in this situation is to gain an understanding of where the costs and benefits are likely to reside.

The direct benefits come in the form of reduced transaction costs and reduced uncertainty, possibly including additional transparency in competition. Such effects are likely to be small, but not trivial. Direct benefits also include lower real interest rates for countries where a sizable currency risk premium exists. Indirect benefits come from the institutional arrangements that accompany EMU. The broadening of central bank independence from political control would not have happened without EMU, and with it comes the realization that international competition is not achieved through lobbying for exchange rate manipulation.

More ambiguous is the role of the fiscal restraints, both the entry conditions and the excess deficit procedure. In most countries, these restraints have promoted long-needed efforts at coming to grip with unsustainable deficits. At the same time, the insistence on price stability along with the adoption of rigid and arbitrary criteria of fiscal rectitude have already played a role in deepening and lengthening Europe's phase of slow growth, with huge costs in terms of unemployment and social suffering. The risk now is of more of the same in the early EMU years. As already noted, these costs are the consequence of EMU's parenthood: Germany could not be expected to give up its famed deutsche mark without extensive guarantees. These demands could not be turned down and have probably become excessive. However, once monetary union exists, many arrangements can be changed. Right now, Europeans are biting the bullet and looking beyond the 1999 horizon.

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