

European Monetary Unification: A Tour d'Horizon
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For European monetary unification, this is the point of maximum anticipation, as the audience falls silent, the actors hold their breath, and the curtain starts to rise. What is true for officials is true also for academics: they have not fallen silent, to be sure, but they have increasingly turned their attention to this stage. This would seem an opportune time to take stock of the literature and anticipate future directions.

In a number of areas, a reasonable degree of consensus now exists as the result of a decade of scholarship. My own stock-taking concentrates instead on areas where significant questions remain. I focus in Section 1 on labor mobility: on how mobile labor is in Europe, on how much mobility is required for monetary unification, and on how fast mobility is likely to rise. Section 2 considers the conduct of fiscal policy under the Excessive Deficit Procedure and the Stability Pact, asking how constrained automatic fiscal stabilizers and discretionary countercyclical fiscal stabilization will be. In Section 3 I ask how quickly the European Union is likely to develop an EU-wide system of fiscal federalism to accompany its monetary union.

Sections 4 through 6 turn from fiscal to monetary issues. Section 4 asks whether the European Central Bank will be as inflation adverse as the Bundesbank, Section 5 what exchange rate policy the ECB will pursue, and Section 6 whether the euro will be a leading reserve

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currency. Section 7 raises what may now be the most contentious issue of all, namely, whether Europe's monetary union could collapse after it begins.

To repeat, throughout this paper I concentrate on issues where significant disagreement remains. While it is not possible to offer definitive answers to all the questions raised, posing a series of open questions and offering tentative answers at least has the merit of pointing to an agenda for research.

1. Labor Mobility

Along with relative wage and price adjustments and interregional fiscal transfers, labor mobility is one of the basic mechanisms for accommodating disturbances that impinge asymmetrically across regions. For this reason, the fact that labor is less mobile in Europe than the United States is widely cited by skeptics of the advisability of Europe's monetary union project (see, *inter alia*, Feldstein 1997a). Migration has a path-dependent character: statutory barriers that have stifled it in the past will also discourage it in the future—and continue to do so even once they have been removed—insofar as they slow the development of expatriate networks and support greater cultural and linguistic diversity than is characteristic of monetary unions like the United States. Couple this with the fact that wage flexibility is less than in North America, and one is left with only one adjustment mechanism, namely, changes in intra-European exchange rates.

The idea that Europe needs to rely more on exchange rate flexibility because it lacks labor mobility rests, of course, on the assumption that exchange rate flexibility is effective. But if real wages are rigid—that is, money wages respond quickly to the change in the exchange rate—then

Europe's low level of labor mobility is not a compelling argument against giving up the exchange rate instrument. Indeed, the revealed preference of European countries not to use monetary-cum-exchange-rate policy as an instrument of adjustment suggests that they harbor doubts about its efficacy.

The counterargument is that policy makers' reluctance to actively utilize the exchange rate instrument reflects political rather than economic considerations, and in particular their strategy of using exchange-rate-stabilization agreements as a device for propelling forward the integration process. Europe's revealed preference, by this interpretation, is to avoid causing political disruptions through active use of the exchange rate; it is not an indication that exchange rate changes are ineffective for adjustment purposes.

Strikingly, this question, perhaps the most fundamental of all entries on the cost side of the EMU ledger, has yet to be definitively answered. How much stabilization capacity Europe is sacrificing remains uncertain even at this late date. Anecdotal evidence from the 1990s, when Italy and the United Kingdom withdrew from the ERM, is frequently invoked to suggest that exchange rate changes retain their power. However, Bergin and Moersch (1997) have cast doubt on this conclusion. While confirming that those countries which depreciated their currencies boosted their exports, they do not find that this relatively rapid export growth translated into faster overall economic growth.

Gordon (1998) offers a solution to this puzzle: that countries which depreciated their currencies after 1992, Italy, Spain, Finland and Sweden prominent among them, took the opportunity to also cut their budget deficits. Currency depreciation boosted exports and stimulated growth, other things equal, but insofar as governments took advantage of the incipient

acceleration of growth to cut their deficits, they further curtailed domestic demand. With little perceptible acceleration in inflation relative to countries with unchanged ERM parities, there was a shift in relative prices toward traded goods in countries which depreciated their currencies and a surge in exports, but no acceleration in growth due to the compensatory compression of the budget deficit. (The one country that does not fit this schema is the United Kingdom, where no dramatic Italian-style budgetary retrenchment was required, but there the business cycle was out of phase with that of Continental Europe: recovery had begun earlier and decelerated at roughly the same time when the other countries depreciating their currencies felt the export surge.) The implication is that intra-European exchange rates retain some capacity to stabilize the economies of the member states if governments only permit them to operate.

An objection to the skeptics' emphasis on Europe's low level of labor mobility is that mobility is low *within*, not just *between*, European countries. OECD (1990) notes that 3 per cent of Americans change their region of residence annually but that the same is true of only 0.6 per cent of Italians and 1.1 per cent of Britons and Germans. The same cultural and linguistic diversity that works to discourage cross-national migration would also appear to discourage intra-national migration. But this low level of mobility within European countries has not posed a threat to the viability of their national monetary unions. If mobility is low within France but the French monetary union still functions perfectly adequately, the question then becomes, why should the same not be true of Europe?

The answer, according to the EMU skeptics, is that the low level of mobility within European countries reflects an absence of region-specific shocks. Little migration is observed not because there are barriers to mobility but because there is little incentive to move. However, a

number of studies have cast doubt on this hypothesis. Viñals and Jimeno (1996) find that two-thirds of the conditional variance of regional unemployment rates within European countries is due to region-specific factors. Forni and Reichlin (1997) attribute less importance to region-specific disturbances but still conclude that the contribution of such shocks--and the incentive to migrate--is as great within European countries as within the United States. Structural models (Eichengreen 1993) and vector autoregressions (Obstfeld and Peri 1997) suggest that labor is simply less responsive to wage and unemployment differentials than in the United States.

Alternatively, Europe's low level of mobility may reflect not cultural and linguistic obstacles but an extensive system of interregional transfers which limits the incentive to move for residents of Europe's low-productivity, high-unemployment regions. North-South transfers within Italy are the most prominent example, but the phenomenon is general. The same tendency exists within North America: inter-regional redistribution is greater in Canada than in the United States (Bayoumi and Masson 1995), and inter-regional mobility is correspondingly lower (Obstfeld and Peri 1997). This is another channel for path dependence: the absence of expatriate networks has helped to sustain local cultures, leading voters to support inter-regional transfers in order to prevent their cultural distinctiveness from being diluted by immigration.

Persistence does not mean stasis. However low mobility may have been in the past, it should be higher in the future. This is obvious to the apostles of the Lucas Critique: once there no longer remains the option of exchange rate changes to facilitate adjustment, workers and unions will recognize the need to substitute greater labor market flexibility (Wijkander 1997). And authors like Alogoskoufis and Smith (1991), looking across exchange rate regimes, tend to confirm the existence of greater nominal wage flexibility when exchange rates are fixed than when

they are flexible. The need for greater wage flexibility is of course prominent in the policy debate, and baby steps have already been taken in this direction. The Schengen agreement to remove border controls and the portability of pensions will encourage mobility, however modestly, and promote the creation of expatriate networks. The homogenizing influence of the media and the spread of English-language skills should loosen the hold of cultural specificity. European economists will be aware of the tendency for their colleagues to respond to the lure of attractive positions in academia or the financial sector in countries other than their own. Such observations suggest that mobility is relatively high among skilled workers, even if union rules, apprenticeship programs, and training schemes limit it among the unskilled. Mauro and Spilimbergo (1998) confirm this directly: using data on migration between Spanish regions disaggregated by level of education, they find that migration is high for the high-school and college educated but low for the illiterate and primary-school educated, among whom unemployment and declining participation rates take up most of the slack in response to a negative employment shock.

The question is how soon we will observe further increases in labor market flexibility. Here too, the jury is still out. The authors of a number of country's case studies -- Hochreiter and Winckler (1995) on Austria, Kremers (1990) for Ireland, Gressani et al. (1988) for Italy, and Artus and Salomon (1996) for France, for example -- do find some evidence of greater wage and price flexibility with the hardening of the government's exchange rate commitment. Cross-country econometric analyses are less uniformly supportive of the existence of a significant exchange rate-wage flexibility link. Artus and Omerod (1991) estimate wage equations for the leading ERM countries but find only modest evidence of a structural break around the advent of the EMS. In a follow-up study (Artis and Omerod 1997) for a longer period, which can distinguish the less

credible pre-1988 EMS from the "New EMS" of the post-1988 years, they find limited evidence of an EMS effect, most notably for Belgium. Anderton and Barrell (1995) report the results of a statistical study of ten European countries, concluding that, with the exception of Italy, there is not much evidence of an EMS-related structural shift in the wage determination process. It remains to reconcile these findings.

2. Fiscal Policy Under the Excessive Deficit Procedure and the Stability Pact

Fiscal policy may be the aspect of monetary union on which consensus remains most elusive. On one side are those who argue that a European country which ties its monetary hand behind its back should keep its fiscal hand free. Having abandoned the exchange rate and an independent national monetary policy as instruments of adjustment, it is essential that it retain its fiscal flexibility.

On the other side are those who insist on the need for the close coordination of fiscal policies within the monetary union and, by implication, for restraints on fiscal autonomy. A popular justification for such restraints is as protection for the ECB from pressure to extend an inflationary debt bailout. If the government gets into fiscal trouble and neighboring EMU countries experience negative repercussions, this argument goes, the ECB may feel compelled to buy up the bonds of the government in distress, with inflationary consequences monetary-union wide.

What this thesis ignores is that when subcentral governments control their own tax instruments rather than relying for their revenues on transfers from the center, they possess a third possible response to debt problems (in addition to default and obtaining a central-bank bailout),

namely, raising their own taxes. Given the existence of this alternative, the central authorities should be able to commit to not extending a bailout. The fact that countries in which subcentral governments collect the bulk of their own revenues typically do not limit the fiscal freedom of the latter is consistent with this view (von Hagen and Eichengreen 1996). And absent the development of an EU-wide system of fiscal federalism (see Section 3), this is the vertical fiscal structure that will continue to prevail in Europe.

A second popular rationale for fiscal restraints is to neutralize inflationary pressure more generally. The ECB, concerned with the efficiency of the European economy, will in this view seek to balance the deadweight cost of inflation against the deadweight cost of other taxes. If governments participating in the monetary union run large deficits and accumulate large debts, the ECB will have an incentive to run more inflationary policies to minimize the efficiency losses associated with other taxes, undermining its commitment to price stability (De Grauwe 1996).

At the same time, there are reasons to question that the ECB will simply apply the one-period Ramsey Rule, raising the inflation tax in line with the other taxes. It will be engaged in a multi-period game in which it seeks to convince governments and the markets of its commitment to price stability, even if doing so entails short-term deadweight losses. If it refuses to inflate, governments will find the deadweight cost of taxation to be higher, and they will adapt their behavior accordingly (Chari and Kehoe 1997). It is not clear, in other words, that the ECB will play Stackelberg follower to the government's lead in a series of one-shot games.

A third rationale for fiscal restraints is to internalize cross-border interest rate spillovers. National policymakers, in this view, have inadequate incentive to take into account the impact of their borrowing on interest rates in other member states. Excessive borrowing in one country will

therefore drive up the level of interest rates monetary-union wide. The problem with this argument is that European countries borrow on world financial markets, not on European financial markets. Italy may be large relative to Europe, but it is small relative to global capital markets. It is hardly plausible that a single medium-sized country can drive up the level of interest rates world-wide. And as the globalization of financial markets proceeds, it will become still less likely that European capital markets will remain significantly segmented and that interest rate spillovers will be limited to one continent.

A final rationale for the fiscal restrictions of the Maastricht Treaty is to encourage policy coordination more generally. It is desirable that national fiscal policies be coordinated (for reasons like those given in the preceding paragraph) and that monetary and fiscal policies be harmonized (to prevent a bad policy mix of loose fiscal and tight monetary policies from leading to a chronically overvalued real exchange rate). Most empirical studies of policy coordination suggest, however, that the benefits are slight. Oudiz and Sachs (1984) reach this conclusion for the major industrial countries, Masson and Taylor (1993) for the European Union. Moreover, there is the danger that the Excessive Deficit Procedure and the Stability Pact, by limiting the flexibility of national fiscal policies, may actually impede the coordination of policies. Numerical deficit ceilings are a blunt instrument, in other words, for addressing this problem.

If these are the benefits of fiscal restrictions, the corresponding danger is that they will weaken the operation of automatic fiscal stabilizers and discretionary policy. In assessing the realism of this fear, it is important to be clear on what the Stability Pact entails. It consists of two Council regulations, one on the Excessive Deficit Procedure and one on surveillance, and a European Council resolution which provides guidance to the Council and member states on the

application of the pact. The Council regulations clarify the meaning of the Excessive Deficit Procedure, elaborating the clauses referring to exceptional and temporary circumstances under which the 3 per cent reference value for the general government budget deficit can be exceeded without a determination that the deficit is excessive. In addition, they commit participants in the monetary union to the medium-term objective of budgets that are balanced or close to balance.

A country can escape a determination that its deficit is excessive and avoid having to make nonremunerated deposits if its real GDP declines by at least 2 per cent in the year in question. A recession in which GDP declines by less than 2 per cent but more than 0.75 per cent may also qualify with the concurrence of the Council. The Commission will receive definitive data on a country's deficit in year t around March of year $t+1$. The government will then have to take corrective action to prevent the excess from persisting into year $t+2$. If no such action is taken by the end of year $t+1$, nonremunerated deposits will be required. But since it is the deficit in year $t+2$ that must conform to the requirements of the treaty, two successive years of excess can occur without penalty. Moreover, the passage in which it is stated that excessive deficits should be corrected no later than the year following the identification of the excess ends with the qualifying phrase "unless there are special circumstances." Presumably a country like Finland which suffered budgetary difficulties in the early 1990s due to the collapse of the Soviet Union would be allowed to invoke this clause.

How binding these provisions turn out to be will depend on countries' proximity to the 3 per cent ceiling when a slowdown strikes. If governments have balanced budgets or surpluses, they will have more room for maneuver. In the seven deepest recessions experienced in the OECD in the last 30 years, deficits widened by a bit over 6 per cent of GDP for two years (Eichengreen

and Wyplosz 1997). Thus, 3 per cent surpluses in normal times would be sufficient to accommodate even the largest recessions, although assuming 3 per cent surpluses involves an element of wishful thinking. In any case, the largest recessions will qualify as exceptional circumstances. This makes it more interesting to consider a deficit that may not so qualify, of say 1.75 per cent of GDP. OECD (1996) suggests that if growth declines by 1.75 percent for two years rather than rising by 2.25 per cent per annum (as needed to keep the deficit from growing), the four per cent swing will cause an increase in the budget deficit of a bit less than four per cent of GDP. Thus, a one per cent surplus will still suffice to accommodate this swing even if exceptional circumstances are not granted. European Commission (1997) makes the same point: it analyzes 24 severe recessions, defined as episodes of negative growth of GDP of 0.75 per cent or more, finding that output gaps widened on average by 5.5 percentage points, while actual budget deficits increased by 3.5 percentage points of GDP.

But if countries are already up against the 3 per cent limit when the recession strikes, they will not be able to increase their deficits so freely. How much difference would this make? Bayoumi and Eichengreen (1995) utilize the IMF's MULTIMOD model to show that automatic stabilizers reduce the first-year effect of a five per cent reduction in the marginal propensity to consume on real GDP by as much as half. With automatic stabilizers, output falls by 2.8 per cent; without them it falls by 3.2 to 4.6 per cent (depending on whether cuts in government consumption or increases in net taxes are used to close the budget gap). This conclusion is supported by Sorensen and Yosha (1997) who consider the impact on consumption rather than output. Although their point estimates of the stabilization effect are more modest, they find that between 40 and 50 per cent of shocks to output are smoothed by EU countries in the sense of not

showing up in consumption. Half of this smoothing takes place through changes in government saving and dissaving at the national level.

Simulations of a small structural model in Eichengreen and Wyplosz (1997) similarly suggest that less countercyclical fiscal action will mean larger output gaps and slower growth. The difference in any given year is small--a fraction of a percentage point of growth--but even small growth effects can cumulate into large changes in levels if they persist for decades. Simulations for the period 1974-95 suggest output losses of 5 to 9 per cent due to the imposition of stability-pact-like ceilings.

3. Fiscal Federalism

The debate over the need for fiscal federalism to accompany the monetary union has swung from one extreme to the other. The early view (as in the MacDougall Report, 1977) was that a smoothly functioning monetary union requires the stabilization provided by a federal fiscal system. Ingram (1959) had already documented the operation of this mechanism in the United States. Sala-i-Martin and Sachs (1992) lent econometric rigor to his case, estimating that changes in taxes and transfers paid to and received from the federal government by the states offset 30 to 40 per cent of declines in state incomes. The implication was that Europe would find it difficult to operate a monetary union so long as it failed to develop comparable mechanisms of fiscal federalism, especially insofar as other means of adjustment, notably wage flexibility and labor mobility, were absent.

Subsequent authors revised downward Sala-i-Martin and Sachs' estimates. They emphasized that these early results did not distinguish equalization (ongoing transfers from high-

to low-income regions) from stabilization (increases in transfers when one region suffers a decline in income relative to another). The first attempt to do so was von Hagen (1992), who examined year-to-year changes in incomes, taxes and transfers to get at the stabilization effect and long-period averages to get at the equalization effect. For the United States he estimated the extent of stabilization to be less than a third of that reported by Sala-i-Martin and Sachs, while his estimated redistribution effect was nearly 50 cents on the dollar. His approach was extended to Canada by Bayoumi and Masson (1995), who found a stabilization effect for the United States of 31 per cents, quite similar to Sala-i-Martin and Sachs' original estimate (but different from von Hagen's because these authors analyze personal income rather than gross state product), and a redistribution effect of 22 cents. For Canada, where regional equalization is a constitutional principle, the proportions are reversed: redistribution is 39 per cent, stabilization 17 per cent. Obstfeld and Peri (1997), using a VAR methodology, confirm Bayoumi and Masson's estimates of the magnitude of stabilization for Canada, but their estimates for the United States are closer to the more modest figures reported by von Hagen. Thus, the emerging consensus appears to be that the original Sala-i-Martin and Sachs estimates should be regarded as upper bounds.

This suggests that the automatic stabilization conducted by the member states of the European Union offsets roughly the same share of local income shocks as is neutralized by fiscal federalism within the United States. The implication is that there is no need for a European system of fiscal federalism so long as member states' automatic stabilizers are allowed to operate. But if these are disabled, there may arise pressure for fiscal federalism, as national governments plump for a union-wide system to provide the stabilization they are prevented from providing themselves (von Hagen and Eichengreen 1996).

Which alternative is preferable? Recent authors emphasizing the advantages of subsidiarity stress the drawbacks of EU-wide fiscal federalism. Méhitz and Vori (1992) note that shocks to real per-capita GDP are positively correlated across member states, limiting the potential for mutual insurance. Méhitz (1994) argues further that unemployment-based co-insurance would benefit only a small number of European workers. In addition, a program under which member states with high unemployment are rewarded by budgetary transfers from their EU partners will be a source of moral hazard. These transfers would have to come with strong conditions attached to prevent countries from succumbing to the incentive to pursue risky macroeconomic strategies that maximize growth in certain states of the world but aggravate unemployment in others. If some countries are particularly prone to this form of moral hazard, they may be ongoing recipients of intra-EU transfers. Unlike the Structural Funds, to which countries lose access when their incomes approach the EU average, there would arise the prospect of such transfers continuing indefinitely, which might threaten rather than bolster EU solidarity.

4. Will the ECB be as Price-Stability-Oriented as the Bundesbank?

Popular discussion continues to focus on whether the ECB will take to heart its mandate to pursue price stability. The statute of the European System of Central Banks singles out price stability as the paramount goal of policy. Yet it also makes the ECB responsible for the stability of the payments and financial systems. And the new central bank will surely come under pressure to reduce interest rates when growth slows even if doing so conflicts with the pursuit of low inflation. The politicization of the selection of the founding president of the central bank and the creation a Euro-X committee of finance ministers to serve as a political counterweight to the

monetary technocrats of the central bank board are two not-so-subtle reminders of this danger.

The stability orientation of the ECB is not something that can be predicted before the fact. But the outcome will provide evidence on the explanatory power of two views of monetary policy making. One view is that central banks are mere political sounding boards. The ECB will come under pressure to represent the interests of the participating countries, and since other countries are less price-stability-oriented than Germany, the ECB will focus less narrowly on this goal than the Bundesbank. The greater the aversion of constituents to instability in output and employment, the greater the pressure they will bring to bear on the central bank, and the less will be the credibility of the latter's commitment to price stability (Alesina and Grilli 1992, 1993). Hence, the larger the monetary union and the more lax the enforcement of the Excessive Deficit Procedure and the Stability Pact, the more inflationary monetary policy will be. In particular, because other EU countries will enter EMU with heavier debts than Germany and will not inherit the latter's culture of price stability, the ECB is likely to follow more inflationary policies than the Bundesbank.

The other view is that central bank policies are a function of institutional structure. In particular, institutional independence insulates a central bank from pressure to pursue goals other than price stability. Grilli, Masciandaro and Tabellini (1991) distinguish political and economic independence. Economic independence increases when the central bank is not authorized to provide monetary financing of the budget deficit, when it sets its own discount rate, and when there are no constraints on the composition of its asset portfolio. Political independence increases when new governments are not automatically entitled to appoint new central bank governors or board members, when the latter serve long terms in office, when the government does not

participate in or approve monetary policy decisions, and when the central bank statute gives priority to price stability. By the calculations of these authors, the Dutch and German central banks have been the most independent politically, while the Bundesbank is most independent economically. (Some statutory provisions have changed subsequently, since the Maastricht Treaty requires countries preparing for EMU to buttress in the independence of their national central banks). Alesina and Grilli estimate that the ECB will be as independent as the Bundesbank, not surprisingly since its statute is patterned after that of the German central bank.

Two qualifications should be noted. One is that the Euro-X committee may inject political considerations into monetary policy making in ways that are yet to be seen. Euro-X may be nothing but a coffee klatch of finance ministers, but their ability to pressure the ECB will presumably be greater when they speak with a single voice. Working in the other direction is the fact that calculations of political independence do not take into account the central bank's political accountability (Cooper 1992). The German Bundesbank may have the independence to choose its monetary tactics, but if these are viewed as fundamentally incompatible with the priorities of its political constituency, the government can threaten to revoke or scale back its independence. The European Central Bank is subject to no analogous threat, since its statute is embedded in an international treaty which can be changed only with the consent of all 15 national signatories. Kenen (1997) attaches rather more importance to the fact that the President of the Council of Ministers and a member of the Commission will participate (but not vote) in the meetings of the Governing Council of the ECB, and to the fact that the President of the ECB must present an annual report to the parliament, which will then debate it, as well as to the Council.

Thus, Stage III will provide a test of whether the institutional or the pressure-group model

has more explanatory power.

5. What Exchange Rate Policy for the ECB?

There is some confusion about how the ECB will manage the exchange rate of the euro against other major currencies. Article 109 of the Maastricht Treaty empowers the Council of Ministers, acting by qualified majority, to adopt general orientations for exchange rate policy vis-à-vis non-EU currencies. It does not stipulate how general those orientations must be, however, or how regularly they might be issued. Nor does Article 109 provide a mechanism that would make the Council's orientations binding on the ECB. It only specifies that those orientations must not jeopardize price stability without indicating who will decide whether jeopardy exists.

In contrast, the power to decide whether the euro will be part of a system of pegged exchange rates for the industrial countries, as suggested by Volcker (1995), or a global system of target zones, à la Williamson (1985), resides not with the ECB but with the Council of Ministers. The Council must act unanimously after consulting with the ECB and attempting to reach a consensus on the compatibility of its decision with price stability. In this case the Council's decision will bind the ECB.

What kind of exchange rate policy will the ECB be inclined to pursue? With the creation of an economic and monetary union, the EU will become more of a large, relatively closed economy like the United States. The bulk of member-state commercial and financial transactions already take place with other member states. Theories suggesting a further expansion of transactions within the integrated economic zone imply that this will be even more true in the future. Exchange rate fluctuations vis-à-vis the rest of the world will then become less disruptive.

According to the theory of optimum currency areas and the associated evidence (Bayoumi and Eichengreen 1997), such a relatively large, closed economy should be inclined to float its currency.

Moreover, the ECB in its early years will be reluctant to commit to concerted foreign exchange market intervention given the need to establish the credibility of its commitment to price stability. Excessive interest in other targets, including the exchange rate, might be seen as calling that commitment into doubt (European Monetary Institute 1997). This implies that the Governing Board will be inclined toward a stringent interpretation of Article 109, rejecting the Council's general orientations when these seem incompatible with price stability. This point applies with even greater force to schemes for pegged exchange rates or G-3 target zones. While the ECB would be bound by the Council's decision to participate in such a system, the possibility that its Board might object in a way that damaged the Council's reputation for financial probity, not to mention the viability of the exchange rate agreement itself, would give the ECB at least potential veto power (akin to the Bundesbank's sway over the German chancellor).

These are the standard arguments for why the ECB will be inclined to follow policies of benign neglect toward the euro-dollar and euro-yen exchange rates. What they leave out is the exchange rate as a gauge of monetary policy. At the beginning of Stage III, the value of alternative measures of the stance of policy will not be clear. There will be shifts in the demand for various monetary aggregates, loosening further the already-loose link between the growth of the money supply and the rate of inflation (Begg, Giavazzi and Wyplosz 1997). Such shifts are part and parcel with the inauguration of a new monetary regime, and what is Stage III but a new regime? Similarly, insofar as monetary unification is accompanied by changes in financial structure

(as banks and other intermediaries capitalize on the opportunities afforded by integration), the links between interest rates, inflation and other variables are likely to shift (Ramaswamy and Sloek 1997). Uncertainty about these links may force the ECB to attach less weight to intermediate targets and more to indicators of the ultimate objectives of policy.

Insofar as any newly-created index of inflation for the euro zone will be subject to more than the usual degree of imprecision, this may mean attaching greater weight to fluctuations in the exchange rate. Market participants as well as members of the ECB's Governing Board could be so inclined. A significant depreciation of the euro could then be seen as casting doubt over the credibility of monetary policy. The argument should not be pushed too far, for the exchange rate will be only one of several useful indicators. But neither is it likely to be disregarded.

The more volatile the exchange rate, the more inclined will be the ECB to intervene in the foreign exchange market. Some have expressed concern that Europe's exchange rates vis-à-vis the rest of the world will grow more volatile with the advent of EMU (viz Benassy-Quere et al. 1997). Prevent European exchange rates from moving, in this view, and the same shocks to global markets will have to be vented through movements in the exchange rates between the euro and other currencies. In the worst-case scenario, the dollar-euro rate will behave as erratically as the yen-dollar rate.

This argument ignores the fact that policymakers themselves create many of the shocks that disturb foreign exchange markets. The dollar-yen rate has been erratic because policy in the U.S. and Japan has been erratic. Most recently, Japanese policy created an asset-price bubble which, upon bursting, left behind a banking crisis. To cope with the consequences, the Japanese authorities reduced interest rates to zero but did not use fiscal policy in a consistently

expansionary way. It is hardly surprising that this series of policy steps and missteps has resulted in wide fluctuations of the yen-dollar exchange rate.

Thus, how erratically the dollar-euro rate behaves will depend first and foremost on whether the Federal Reserve System and the European Central Bank commit similar mistakes. There being no a priori reason for pessimism, there is no reason to anticipate euro exchange rates as volatile as the historical yen-dollar rate.

6. The Euro as a Reserve Currency

When the European Central Bank comes into operation in 1999 and the single currency is issued in 2002, shifts will occur in the reserve portfolios of central banks. While the euro will loom larger in foreign exchange reserves than what is currently Europe's dominant reserve currency, the deutsche mark, how much more important it will become and how quickly it will become more important remain to be seen. Bergsten (1997) for one argues that since Emu will create an integrated monetary and financial zone larger than the United States, the euro will quickly rival and perhaps even surpass the dollar as the leading reserve asset in central bank portfolios.

Other arguments suggest more caution regarding the euro's prospects. In particular, history suggests that an incumbent international currency, like an incumbent politician running for reelection, has a built-in advantage (Ilzkovitz 1996, Eichengreen 1997). It pays for central banks to hold their foreign exchange reserves in a currency that is widely used for settling international financial transactions, that is, in a currency the markets in which are liquid and stable. It follows that it will pay for them to hold their reserves in the same currencies held by other central banks

and international investors. This network externality lends inertia and path dependence to the development of reserve-currency status. The point is illustrated by the continued importance of the pound sterling as a reserve, vehicle and invoicing currency well after Great Britain's dominance of international financial and commodity markets had passed.

If the attractions of the euro as a reserve currency will turn on how widely it is used in international transactions more generally, the latter will depend on whether Europe comes to rival the United States as a financial center. And this may itself hinge on the scope of the responsibilities assumed by the European Central Bank. It is assumed, in line with Bundesbank practice, that the ECB will engage in relatively limited day-to-day liquidity management (Folkerts-Landau and Garber, 1992). Following the Bundesbank, it will provide refinancing to the private sector perhaps once a week, using reverse transactions (repos). While such periodic transactions are appropriate for bank-based financial systems in which the interbank market can be relied on to match financial institutions with excess demands and supplies of liquidity, securitized financial systems are characterized by more generalized excess supplies and demands. The consequent volatility of overnight rates will greatly widen bid-ask spreads and reduce the attractiveness of transacting in the European market (Schnadt 1994). Preventing such spikes in overnight rates requires continuous liquidity management by the central bank, not just periodic intervention.

In addition, the depth, breadth and stability of the market will depend on the extent of last-resort lending by the central bank. The Maastricht Treaty does not make provision for last-resort lending and bank supervision by the ECB. It adopts the Continental European model in which the responsibility for bank supervision and support is separated from monetary policy and assigned to an agency under the control of the Ministry of Finance.

To quote Article 25, “the ECB **may offer advice and be consulted by** the Council, the Commission, and the competent authorities of the EU countries on the scope and implementation of Community legislation relating to the prudential supervision of credit institutions and the stability of the financial system” (emphasis added). But while the ECB will propose, the national authorities will dispose. It is they who will design and implement supervisory and regulatory policies.

In bank-based financial systems like those of Continental Europe, there is a logic to separating monetary policy from bank supervision. Doing so insulates the central bank from lobbying by influential financial institutions. And where finance is bank based, there is less need for the central bank to inject liquidity to prevent financial markets from seizing up. To be sure, it may still be necessary to prevent problems in individual banks from setting off system-wide panics, but there exist a variety of instruments for containing the impact of isolated banking problems, notably lifeboat operations by the banks themselves and recapitalization by the fiscal or supervisory authorities.

In countries with highly securitized financial markets, in contrast, the central bank has repeatedly acted as lender of last resort. The implication is that securitized financial systems, to be stable in the face of sudden movements in asset prices, need a governmental authority with the ability to backstop the market. This is the case in the both U.S. and the UK, where securitized finance is well advanced. But the Maastricht Treaty says little about the ECB’s responsibilities in this connection. Admittedly, it gives the ECB responsibility for promoting the “smooth operation” of the payments system. But how will problems in that system be detected if the ECB lacks supervisory responsibility? Will the ECB be prepared to provide liquidity to financial institutions if

it lacks timely information on whether they are facing liquidity or solvency problems and has no basis on which to value their collateral?

European policymakers are aware of these issues. The question is whether, once Stage III begins, the ECB will become more responsive to the needs of Europe's capital markets. One answer is yes -- that political imperatives to model the ECB's operating procedures on those of the Bundesbank will become less powerful once monetary union is a *fait accompli*. Once German participation in the monetary union is no longer at issue, it may be possible for central banks and officials to make known their preference for a different model.

But another answer is no, that the ECB will not move over time toward more active liquidity management and backstopping operations, because its initial approach to monetary policy and the structure of European financial markets will become locked in. The dominance of bank-based finance will encourage the ECB to cater to the needs of a bank-based financial system, which do not include the liquidity-management and backstopping functions required by securities markets. As a result, bank-based finance will retain a comparative advantage relative to securitized finance, and the consequent persistence of the bank-based system will encourage the ECB to stick to its initial approach, in a classic case of a positive feedback loop. If so, the convergence of the Anglo-American and Continental Europe financial systems could turn out to be much less dramatic than sometimes supposed.

Given these uncertainties, reserve holders will wait and see. In the words of Joseph Yam of the Hong Kong Monetary Authority (quoted by Reuters on 19 January, 1998), "It will take time for the Euro to become a liquid currency...We need to see whether the market develops in line with our expectations. At that time, it should not be too late for us to decide how we should

manage our reserves.”

7. The Collapse of EMU

Until recently, the prospects for creating a European monetary union were sufficiently remote that discussion focused on the prospects for it starting, not that it might collapse once it began. Now that Stage III seems a certainty, discussion has turned to the latter question. In fact, there is no shortage of monetary unions which have disintegrated: these include the successor states of the Austro-Hungarian Empire (Dornbusch 1991), the successor states of the former Soviet Union (Bofinger and Gros 1992), and the successor states of the former Czechoslovakia.

These are all cases where the decision to file for a political divorce led to the decision to go for a monetary divorce. In each case the successor states of a political union sought to reassert their policy autonomy. Different political and economic objectives than their former partners implied the desire for different monetary policies. And given the destruction of the political institutions that had bound them together, there existed neither mechanisms for reconciling those divergent views nor means for extending compensatory side payments.

Feldstein (1997b) has raised the specter of similar problems in Stage III. EU member states with very different preferences will be shackled to one another by a single monetary policy. There will be no political union at the outset. National leaders will continue to plump for policies that reflect the preferences of their national constituencies. Inevitably, some will be disappointed. And since Europeans are unlikely to accede to large-scale cross-border transfers prior to the creation of a real political union (Eichengreen 1996), there will be no way of compensating the losers. Disagreement over the stance of monetary policy could then mean serious dispute.

Technically, it is straightforward to exit a monetary union: a government need only start up the presses and resume printing its national currency. (It would also have to take a number of bookkeeping steps, such as authorizing its banks to offer domestic-currency-denominated deposits, requiring the payment of taxes in domestic currency, and so forth. This means that it may be slightly easier to exit during Stage IIIA, when national currencies continue to circulate, domestic-currency-denominated bank deposits continue to exist, and tax returns in at least some countries, like Germany, are calculated in domestic-currency units.) If a country left the monetary union because it felt that the ECB was following excessively inflationary policies, its “good” domestic currency would drive out the “bad” European currency. If that country instead left the monetary union because it felt that the ECB’s overly restrictive policies were aggravating unemployment, it would have to declare that the euro would no longer be accepted as legal tender within its borders.

And of course, the markets will anticipate governments’ actions. Imagine that Germany is contemplating leaving Stage IIIA out of dissatisfaction with the inflationary policies of the ECB. Imagine further that investors expect all deutsche marks still circulating in the monetary union to become liabilities of a newly reconstituted Bundesbank and that the deutsche mark will appreciate against the EMU currencies once Germany exits. Investors then have an incentive to hold deutsche marks rather than, say, French francs. (Note, however, that until 2002 national currencies will retain their legal tender status within the national boundaries of the existing issuers, which may limit the extent of the switch.) As agents sell francs for marks, the ECB will instruct the Bundesbank, its German operating arm, to sell marks for francs at par. While settlement terms have yet to be specified, one presumes that the Bundesbank would request settlement in a certain

amount of euros, which the Banque de France would provide in the form of the corresponding number of francs. The Banque de France's balance sheet would shrink, while the Bundesbank's would expand.

So long as both countries remain committed to participation in the monetary union, nothing can disrupt this process, as authors like Dooley (1997) and Buitert and Sibert (1997) have emphasized. But if Germany is contemplating whether to leave the monetary union, the Bundesbank may be reluctant to accept franc-denominated assets on which it stands to suffer a capital loss (Goldman Sachs 1998). If it hesitates to exchange francs for marks at par, a premium on the latter could arise. That premium could convince the markets that breakup is imminent, accelerating the movement into marks.

In Stage IIIB, only euros will circulate, but there will still be a distinction between French and German bank deposits and the possibility that bank deposits payable in France will trade at a discount relative to bank deposits payable in Germany when the monetary union breaks apart. The transfer of funds between French and German banks will be facilitated by the TARGET payment system that will come into operation at the beginning of the monetary union. Garber (1997a, b) observes that this will give speculators the opportunity to take very large positions. Imagine that international investors and domestic residents sell euro bank deposits payable in France for euro bank deposits payable in Germany, anticipating that the latter will be redenominated in deutsche marks which will then appreciate against the euro. The French payment system will deduct euros from the French bank's account at the Banque de France and, using TARGET, pass those euros to the Bundesbank, which will add them to the German bank's account. Critically, the ability of French depositors to transfer funds at par to German banks will not be limited by the French

banking system's deposits at the Banque de France. Under TARGET, the Banque de France is entitled to daytime overdraft privileges; if the payments it is asked to make to Germany exceed the euros it has on hand, it receives credit from the Bundesbank limited only by the acceptable collateral (liquid euro securities) of its clients. Given the large volume of such liquid securities, essentially all French bank deposits could be quickly and costlessly converted into German bank deposits.

Once again, if Germany and the Bundesbank stand ready to defend the monetary union, this unlimited extension of credit by the Bundesbank to the Banque de France means that there is no way for EMU to collapse. Effectively, intervention by the Bundesbank on behalf of the Banque de France will permanently fix the relative price of French and German bank deposits. (Insofar as the TARGET's daytime overdraft privileges cause the deutsche mark-denominated money supply to expand even faster than the franc-denominated money supply contracts, this could be sterilized by further intervention by the ECB.) But if there are doubts about the depth of that commitment, this same arrangement means that investors betting on a change in the relative price of French and German deposits can take even larger positions than under a normal fixed rate system, in which the amount of credit that one central bank will extend to another is limited (as emphasized by Eichengreen and Wyplosz 1993), and in which the peg will collapse once positions exceed the reserves of the central bank under attack plus the limited credits it receives from its foreign counterparts.

This raises the prospect of a self-fulfilling attack on Stage III. Assume that the likelihood of Germany abandoning its EMU commitment is an increasing function of the capital losses it will suffer on the Bundesbank's holdings of French securities once the monetary union dissolves.

Assume further that its capital losses are strictly increasing in the level of Bundesbank holdings of French securities. Then transfers of French bank deposits to Germany in anticipation of this possibility, by increasing the Bundesbank's French security holdings, can precipitate the very event motivating investors.

This assumes, of course, that calculations of marginal costs and benefits could really tip the balance between a country supporting and abandoning the monetary union. The counterargument is that abandoning the monetary union will violate an international treaty signed by 15 European countries. It will cast into doubt the entire European construction back to the Treaty of Rome. A country abandoning the monetary union would thus incur a high fixed cost, which represents a considerable barrier to exit. This idea that countries will hesitate to abandon EMU because doing so will place at risk the entire European project underlies the belief that the monetary union, once started, is doomed to succeed.

A more plausible scenario for a Stage III crisis is not, then, that participating countries will experience mild disagreements over the stance of their common monetary policy but that a full-fledged banking and financial crisis in one member state will require a massive bailout by the others. Imagine a run on the Italian banking system in which depositors rush to withdraw their funds from Italian banks and transfer them over TARGET to German financial institutions. The Bank of Italy will then discount eligible paper on behalf of domestic banks while obtaining daytime overdrafts via TARGET. At some point, other national central banks -- the German Bundesbank in the present example -- might decide that they do not wish to finance a bailout of the Italian banking system, because, for example, they do not feel that the Italian authorities are taking the requisite steps to distinguish insolvent from illiquid institutions and to close down the

former. (Note that this problem could be aggravated by the fact that the ECB and other national central banks under its umbrella have no direct supervisory authority over commercial banks; even for information they must rely on national regulatory authorities and governments.) The Bundesbank could then halt the provision of credits to the Bank of Italy via TARGET, and a premium on German deposits relative to Italian deposits would emerge. The Italian authorities might then decide to resume printing their own currency in an effort to reliquify the banking system.

All this might seem far-fetched. But a precedent from the early years of the Federal Reserve System suggests that it cannot be ruled out (Eichengreen 1992). The U.S. central bank was established as a federal system (note its name) that assigned considerable independence to the regional reserve banks. Only in 1935 was authority over the discounting and monetary policy operations of the regional reserve banks centralized in the hands of the Board of Governors in Washington, D.C. That change was prompted by the problems that arose in handling the 1933 banking crisis. By March of 1933, bank runs had spread to virtually every state of the union. The question is why the central bank did not do more to stabilize the system. A simple answer (Wigmore 1987) is that the Fed was constrained by the gold cover provisions of the Gold Standard Act. Gold losses were borne unevenly by reserve banks, with New York, from whose banks foreign deposit withdrawals were greatest, experiencing the most intense pressure. On March 4th, when U.S. monetary gold reserves were 44 per cent of the note and deposit liabilities of the system, the gold backing of the notes of the New York Fed had fallen to the 40 per cent statutory minimum. In contrast, the Chicago Fed's gold reserve ratio was still 65 per cent. On March 1st, the Chicago Fed lent \$105 million to the New York Fed on the collateral of a

matching amount of the latter's government securities and acceptances. Two days later, however, Chicago withdrew its cooperation. Policymakers at the Chicago Fed had several concerns: that a bank bailout would create moral hazard and that their own financial position might be weakened. The New York Fed was forced to curtail its lender-of-last-resort intervention. The New York Stock Exchange and New York banks suspended operations the same day.

This crisis did not result in a premium on Chicago deposits over New York deposits or break-up the U.S. monetary union because President Roosevelt immediately declared a nationwide bank holiday, and because the Federal Reserve Board then compelled Chicago and other reserve banks to resume interdistrict rediscounting on behalf of the New York Fed. But given similarities in the structure of the early Fed and the European System of Central Banks, this cautionary tale should not be ignored.

8. Conclusion

While there is now wide consensus on a range of EMU-related issues, that consensus remains less than complete. To illustrate this, I allude in closing to three further issues, each of which is currently a subject of active debate.

One active area of research and discussion concerns the instruments of monetary policy (Enoch, Hilbers and Kovanen 1997). As noted in Section 6, the presumption is that the ECB, in implementing its monetary policy, will rely on repurchase agreements but that for fine-tuning and signaling it may also use open market operations, foreign exchange market intervention, and the collection of fixed-term deposits. But the central bank's relative reliance on these instruments and its choice of counterparties remain to be determined. And it is unclear whether the central bank

will also use reserve requirements. If so, it will have to decide how to trade off the additional reporting burden on banks against the excessive window dressing that occurs in countries relying on, *inter alia*, end-month data (Remsperger 1997).

A second issue is exchange-rate relations between the “ins” and “outs.” European officials foresee an ERM-II in which the currencies of member states that are not founding members of the monetary union are connected to the euro by bands. This will be a hub-and-spoke system in which each bilateral rate will have its own band, in contrast to the old ERM’s multilateral grid. But it remains to be seen how widely subscribed the ERM-II turns out to be since countries like the U.K. and Sweden have already made clear their reluctance to commit to exchange rate targets. Presumably participation will depend on how anxious the remaining member states are to gain entry to the monetary union, and how quickly the population of such states is augmented by enlargement of the European Union. And ultimately, how much support the ECB extends to the currencies of the outsiders will determine how stable the system proves.

A final issue concerns the euro’s introduction at the beginning of 1999 and strategies for ensuring that the bilateral conversion rates preferred by governments equal the rates actually delivered by the markets at the close of business on December 31, 1998. The Maastricht Treaty requirement ruling out jumps in the external value of the ecu implies that the conversion of national currencies into euro must occur at the bilateral rates prevailing at the end of 1998 (De Grauwe 1997). Options for steering actual rates toward desired levels include continuous foreign-exchange intervention in the spot and forward markets in the period between the announcement of desired conversion rates and the end of 1998 (Obstfeld 1997) and massive last-minute intervention (Begg et al. 1997). One presumes that flexibly-minded European central banks will

use a combination of these strategies.

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