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Overview: The Euro's Success Within Limits

ADAM S. POSEN

New international reserve currencies do not come along every day, or even every century. The launch of the euro, the European Union's currency (at least for 12 of the 25 current members), on January 1, 1999, was a birth long foretold. From at least the 1992 Maastricht Treaty onward, its creation was at the forefront of the overall European integration agenda, and the meeting of criteria for eurozone entry dominated macroeconomic policymaking in Western Europe. The academic and policy discussion of European Monetary Unification's (EMU's) potential advantages and disadvantages began even earlier.[1]

The tendency for many American as well as internal observers of EMU had been to be skeptical—first of the virtues of the goal of monetary integration in Europe itself; then of the project's political viability; and then of its economic sustainability, in a turn asserting that the euro was a solely

Adam S. Posen is a senior fellow at the Institute for International Economics. *Daniel Gould provided multifaceted assistance in the preparation of this chapter. This overview has benefited from discussions with this volume's contributing authors, and with members of the Directorate General for Economic and Financial Affairs of the European Commission, and of the Directorates General for Monetary Policy and for Research of the European Central Bank. All views expressed here, and any errors or omissions, remain solely those of the author.*

1. See Canzoneri, Grilli, and Masson (1992), De Cecco and Giovannini (1989), De Grauwe (2000), and the references therein, as well as the seminal European Commission (1990) and the Cecchini report (Cecchini 1988). Most of these studies concern how best to make EMU work, taking the goal as a given, or assessing the optimality of the European Union as a currency area.

political project.[2] Though the euro certainly has had no shortage of champions—including, beyond Euroland's borders, the economists Bergsten (1997), Eichengreen (1998), Mundell (1998), and Portes and Alogoskoufis (1991)—until recently the weight of opinion on the American side of the Atlantic has emphasized the negative if not supposedly calamitous impact of the euro on Europe.[3] As a result, the potential global role of the euro and its relationship to the dollar have been largely ignored in the United States. Why think about the implications of a currency that is deemed at best doomed to second-tier status and at worst a cause of economic weakness for its issuing area?

Only recently—as the euro passed its fifth birthday in wide usage and without a technical hitch, and went well past parity with the dollar—has sentiment changed. Increasingly, the question is being raised whether the euro might appreciate against the dollar for an extended period, be the beneficiary of substantial international portfolio adjustments, or even begin to supplant the dollar as the dominant global reserve currency.[4] One might be troubled to think that capricious nominal exchange rate movements are what drive policy discussions, and therefore be dismissive of lagging movements in economists' sentiment. Yet the United States' persistent current account deficits and its more recent fiscal erosion, which are presumed to underlie the sustained decline of the dollar against the euro since January 2002 (see figure 1.1), have given new impetus to this discussion of the euro's global role.[5] As noted by several authors of chapters in this volume, the passing of international monetary leadership from the pound to the dollar in the mid-20th century was in part driven by a series of macroeconomic policy missteps that undermined the pound's reserve status. The euro's viability in its own large economic area may not be sufficient to set it on a path to monetary leadership, but its existence now presents an alternative to which capital markets could turn should the dollar's attractiveness diminish.

The recent increase in the estimation of the euro's global prospects, however, comes without a similar leap forward of faith in European—

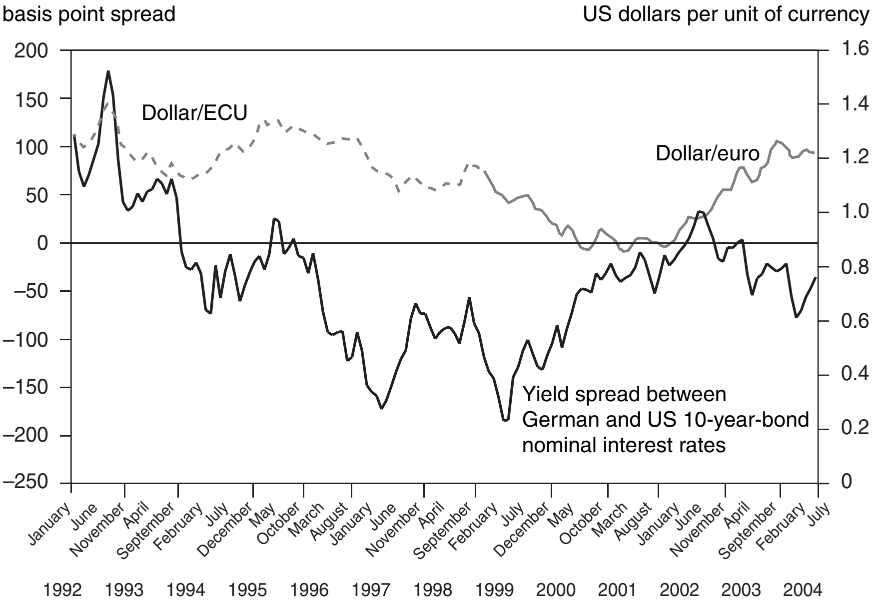
2. Notable examples of this skepticism include, on the political side, Currie, Levine, and Pearlman (1992), Walters (1990), and famously, Feldstein (1997); and on the economic side, Arestis and Sawyer (2000), De Grauwe (1996), Dornbusch (1989), Giavazzi and Spaventa (1990), and Weber (1991). Of course, there is also a well-developed, and heated, line of discussion, both political and economic, about whether or not the United Kingdom should join the eurozone, which is a separate issue.

3. See the recent essays by euroskeptics collected in Cato Institute (2004).

4. Recent examples include Chinn and Frankel (2004), Cooper (2004), Ferguson (2004), Obstfeld and Rogoff (2004), and Summers (2004).

5. The sources of and need for dollar adjustment are assessed in Bergsten and Williamson (2003, 2004).

Figure 1.1 Euro-dollar exchange rate and interest rate differential, 1992–2004



Source: International Monetary Fund, *International Financial Statistics*, November 2004.

particularly eurozone—economic performance. Most economic observers on both sides of the Atlantic are increasingly concerned about the persistent failure of the major continental economies to sustain growth and create employment.[6] Some macroeconomists caution that negative assessments of European performance should not be taken too far from the point of view of economic welfare, and that significant structural reforms are under way.[7] Even correcting for insufficient American and financial market recognition of European policy progress, however, there is little support for a marked appreciation of the euro against the dollar in the near term on the basis of productivity and growth differentials, with reforms likely to take some time to yield significant benefits. In fact, leaving American current account deficits aside (which is not entirely easy to do), the US economy retains the confidence of most economists and market participants as far stronger than most of Europe on the key measures of

6. See Baily and Kirkegaard (2004) and Sapir et al. (2004) for extensive summary assessments of the situation.

7. These would include Blanchard (2004), Gordon (2004), and Posen (forthcoming) on correcting the welfare assessment and Boyer (2003), Posen (2003), and Rogoff (2004) on the progress of reform.

growth in GDP, labor force, and productivity, and as likely to remain so in the coming decade or longer.[8]

This widespread feeling is not only a limit on the euro's rapid rise to a global role, whatever the weaknesses of the US external position, but also a critical commentary on the euro's importance to the eurozone in and of itself. When EMU was first proposed, a number of studies claimed that there would be significant direct benefits from monetary integration for the economic performance of member states. Emerson and colleagues (1992) estimated that the elimination of transaction costs from moving to a single European currency would yield direct benefits of up to 0.4 percent of the European Union's GDP; and European Commission (1996) later estimated cost savings of 1.0 percent of GDP simply from eliminating transaction costs. European Commission (1990) made the case that the reduction of nominal and real exchange rate uncertainty would lead to significant growth in intra-EU trade and investment. The International Monetary Fund (1996, 1997) explored the potential impact if the convergence programs of the EU member states to meet the criteria for euro entry, especially the reductions in general government deficits, were fulfilled, and the benefits if macroeconomic reforms and EMU served as a catalyst for further structural reform, and it came up with some very large numbers for the potential benefits.[9] Financial markets in particular were expected to benefit from the introduction of the euro; McCauley and White (1997) and the European Commission (1997) forecast a rapid deepening and liquidity increase in European bond and lending markets, and perhaps even a "decoupling" of European interest rates from those of the United States.

Although it would be difficult to determine whether these effects were realized, holding all else equal (and it would be beyond the scope of this overview chapter), there is no question that the real economic effects of EMU on the eurozone member countries have been something of a disappointment. On the one hand, though European financial markets and trade integration are far deeper today than they were before the adoption of the euro, it is doubtful how much this represents the effect of the euro on EU integration versus the broader international trends in this direction that benefited non-eurozone members as well (see the discussion in chapter 5 of this volume as well as in Mann and Meade 2002). And the eurozone's interest rates remain asymmetrically affected by US interest rates,

8. Atlantic Council (2004) and Posen (2004) are examples of such projections, although they emphasize the driving force of demographic differences between the European Union and United States.

9. A number of scenarios and conditions were presented in the IMF studies, but the main estimates were for a 0.9 percent higher annual GDP growth rate due to increased macroeconomic credibility, and an additional 3 percent higher GDP than the baseline by 2010 due to the knock-on reforms.

at least until recent times, as established by Chinn and Frankel (2003) (see the US-German interest rate differential plotted in figure 1.1).

On the other hand, the effect of EMU on price convergence and on macroeconomic discipline cannot be all that substantial, if on net there has been limited visible improvement in either of these areas (see the assessments of price convergence in Bradford and Lawrence [2004] and Rogers [2003], and of macroeconomic discipline in chapter 6 of this volume). Perhaps, EMU has proven "irrelevant" to the real growth performance of large euro zone economies, neither a harm nor a boon to them, as I forecast it would be (Posen 1998).

The euro therefore enters the second half of its first decade in something of a halfway house itself. On the purely technical functions as a currency, it has been a resounding success, with no problems in acceptance or in the payments system, as well as convergence in key eurozone interest rates. There has also been evidence indicative of stable low inflation expectations for the varied eurozone membership as a whole, and this remains an outstanding achievement of European central banking. None of the broader forecasts of economic doom or internal political conflict predicted by (mostly American) Cassandras have come to pass, and those predictions now look less credible than they ever did. European financial markets have significantly deepened and added liquidity since the euro's advent, particularly for fixed-income securities. The sheer size of the eurozone economy as well as the ongoing adjustment of the world economy to US current account deficits propel the euro toward a prominent global role.

At the same time, however, Europe's relative economic performance will fall short of the United States' for the foreseeable future, and the short-term gap is likely to be even larger. EMU and the associated convergence process have failed to induce, let alone produce, the needed transformation in European economic structures, policies, and performance. In most scenarios, a collapse in the dollar in the coming years, or even an ongoing orderly adjustment involving higher US long-term interest rates and lower net imports, will have at least as great a contractionary effect on the eurozone as it will on the US economy—even if the Asian currencies take on their share of the adjustment burden (in which case, reserve switches accruing to the euro, and their political benefits, will diminish along with the euro's share in the adjustment process). And as yet there has been little evidence of a change in global invoicing patterns from dollars to euros for traded goods transactions.

The question motivating this volume, whether the euro is ready for a global role, therefore might be better answered as the relative balance of two related assessments: What factors in the global sphere are creating opportunities and pressures for the euro to play a greater role in international financial policymaking? And does the eurozone have the internal economic wherewithal to support and take advantage of the global role about to be thrust upon its currency? To subvert an old expression regarding inflation, there are both cost-pull and demand-push factors determining the pace and extent of the euro's rise. The cost-pull factors regarding the need for international economic leadership from the eurozone, both in concert with and as a substitute for dollar-based leadership, given the costs of inaction, are discussed in chapters 3, 4, and 7 of this volume. The demand-push factors that would be driven by an increasing desire for and growth in euro-denominated assets and transactions—or rather the limitations on such an increase in demand to date—are analyzed in chapters 5, 6, and 8.

In short, the balance of assessment by the studies in this book is that the euro has been a success within limits at home, but that the eurozone economy remains sufficiently weak so that on its own merits the euro would be unlikely as yet or even for some time to challenge the dollar. The euro, however, is not judged solely on its own merits, either by markets or by the international community, but rather is judged also in relative terms against developments in the dollar zone. For the euro to avoid being thrust prematurely into a global role for which its internal structures and strengths are not yet sufficient, greater policy effort from and coordination between the eurozone and the United States are necessary. The alternative is a power vacuum in international economic leadership and increased uncertainty in global financial markets, especially in the period of internal and external adjustment that both the US and European economies face over the next several years.

The Opportunity and Need for Leadership from the Eurozone

Fred Bergsten observes (in chapter 3) that the existence of "a new global currency based on a European economy as large as that of the United States clearly indicates that the international monetary system will look very different in the 21st century" from the unipolar dollar-dominated system we have grown accustomed to in the second half of the 20th century. The eurozone has already made itself a successful role model for economic integration, attracting prospective members or peggers from throughout Eastern Europe and the Middle East and also imitators from Asia. The euro has also delivered monetary stability in the face of a long list of economic shocks, and a large initial decline against the dollar, only to rebound strongly of late.

The one concern, according to Bergsten, remains that "Europe has failed to follow up the creation of the euro with the complementary policy reforms that were widely expected and are needed to assure the [economic] success" of EMU and the EU member economies. This leaves an underlying tension between the constraints on national economic policy measures (e.g., those on fiscal policy in the Stability and Growth Pact, or SGP, discussed in chapter 6) and the national frustrations with poor economic performance—a tension that could over time put the sustainability of the euro itself at risk, despite its obvious virtues.

The potential tension of more urgent concern, according to Bergsten, is external to the eurozone and more systemic. This is the competition that the eurozone now presents to the dollar, should there be another period like the 1970s, when the United States suffered a prolonged period of very poor economic performance. This could lead to an erosion of the dollar's "global market share" given the existence of a viable alternative. The euro alternative is now viable because of the eurozone's large share of world output and trade, which is roughly comparable to that of the United States. Citing work by Barry Eichengreen and Jeffrey Frankel, Bergsten points out that size does matter for international currency purposes. The remaining constraints include the insufficient integration and depth of European financial markets (an evaluation assessed in more detail in chapter 5), as well as lagging economic performance. More important is the lack of coherent institutional representation for the eurozone in international monetary forums. Making a comparison with the emergence of the European Union "as a fully equal partner to the United States in the management of the global trading system for many years," Bergsten argues that given the eurozone's size, it will be able to mount a successful challenge to US monetary dominance only when it is able to speak with one voice on monetary issues, centralizing all decisions and negotiations in a single entity.

"Most important, US economic policy may have to foul up for the euro to . . . achieve rough parity with the dollar at the core of the international monetary system," notes Bergsten, citing the forces of inertia and incumbency (as illustrated by the lingering role of the British pound). The candidate for the cause of such a foul-up is currently all too obvious: the accumulation of international debt by the United States. An extended dollar depreciation, the natural reaction to a multiyear series of current account deficits, could "trigger important, indeed historic, systemic" changes in the current context, given the existence of the euro and the disproportionate share to date of the euro's role in dollar adjustment. A structural portfolio diversification into euros by private and official holders of dollars would mark the euro's arrival at bipolar status.

Bergsten advocates that coordination between the dollar and euro authorities, which is needed in the face of such major potential adjustments (and exchange rate swings), be extended to develop a "finance Group of Two" (G-2). The idea, first mooted in Bergsten and Koch-Weser (2003), is to get "a serious agreement on managing the floating exchange rate between the dollar and euro . . . [and] the ECB [European Central Bank] and [US Federal Reserve] could begin to collaborate more intensively on monetary policy."

Such a "finance G-2" would be informal and would not substitute for the Group of Seven (G-7) (or Group of Twenty, G-20) or for the IMF; it would provide a "steering committee" of the world's two most important currencies representing the world's two largest economic zones to make other international institutions and agenda setting work better, much as the United States and European Union lead the World Trade Organization's agenda setting. The creation of an effective finance G-2 "could play a central role in restoring harmony to overall transatlantic relations" as well.

Randal Quarles, commenting from the viewpoint of the US government, finds that "too much attention is being focused on exchange rate[s]. . . and too little on what seems. . . of far greater importance: namely, the more effective functioning of economies" with regard to growth in output and employment. Noting approvingly the European Commission's ambitious Lisbon Agenda for improved productivity and economic growth, as well as calls by national leaders for deregulation in Europe, Quarles emphasizes the G-7's role in setting an agenda for growth with specific reform goals and mutual surveillance. By implication, Quarles views both the short-term international adjustment process and the longer-term role of the euro vis-à-vis the dollar as driven by the gap in growth rates between the United States and Europe—with the burden on European economies to catch up by raising their growth rates.

Hervé Carré, speaking as a European supporter of EMU, acknowledges that he "thought that the adoption of the euro would act as a catalyst for structural reforms—and I am disappointed." Nonetheless, in Carré's estimation, the degree of monetary and capital market integration and of institutional coordination (albeit not consolidation) within the European Union—two key factors for the euro's rise to a global role cited by Bergsten—has been significant. He still views the emergence of the euro as a counterpart to the dollar as a longer-term rather than crisis-driven process, not least because of the absence of a single European public debt security (or yield curve) comparable with US Treasuries. Unlike Quarles, however, Carré does have sympathy for a finance G-2 "building on existing informal arrangements."

Edwin Truman (chapter 4) evaluates in more detail the case for improved policy coordination between the United States and the euro area, and he concludes that "a prima facie case can be made for improvement." He also offers several recommendations for how policy coordination "with and by the euro area might be improved." Under the heading of policy coordination, he considers primarily "the interaction of euro area officials with US officials but also encompasses the euro area's interaction in international forums." The current process of correction or at least temporary stabilization of the US external deficit motivates much of his case for coordination, but not all of it. EU enlargement, euro-dollar "peaceful coexistence," structural reform, and trade liberalization would all also benefit from increased coordination across the Atlantic and multilaterally with and by the euro area.

Whatever the size and speed of the US external adjustment that is under way, improved information exchange, mutual education, and analysis between the United States and the eurozone could play a constructive role in preparing for adjustments in economic policies. A sustained rebalancing of global growth will be challenging, given the contraction that almost certainly will accompany the adjustment of the US current account, both at home and abroad. Truman argues that "there is no neat separation between the short run and the longer run, nor between demand-side and supply-side policies and institutions," a separation some European officials too easily and doggedly make.

Thus, with due consideration for the uncertain effects of fiscal policy and foreign exchange market intervention on exchange rates, there will be opportunities for the G-7 to share analysis and at chosen moments take "joint action." In the background, the extended and, as Truman characterizes it, "unnatural" swing of the developing economies and the newly industrialized Asian economies into running current account surpluses has profound implications for capital flows and for the role of the IMF. A rise in US interest rates, as would be expected to accompany an adjustment of US external accounts, might well lead to new difficulties for emerging-market economies. In this area, the United States and European Union have to come to better agreement on the size and role of IMF financial assistance and crisis response.

Looking beyond the immediate adjustment process, Truman raises other potential areas for coordination. Provocatively, he asks "whether the euro area should consult with the rest of the world on the economic and financial conditions of euro area membership." The possibility of an external financial crisis is far from being ruled out for such major future euro members as Hungary and Poland, and thus the rest of the world (including the United States) has an interest in the eurozone's management of their entry process.

Given these reasons for increasing policy coordination, how can it best be achieved? Truman suggests substantive dialogue and preparation for joint action rather than the "theater" of long and vague summit communiqués, keeping such statements to verifiable commitments. He also suggests the adoption of inflation targeting by both the ECB and Federal Reserve to improve their communication about policy intentions with markets as well as with each other and their respective finance ministries. Crucially, Truman notes that "coordination with and by the euro area is an overly complicated game because often the right players are not playing." Like Bergsten, he calls for "the euro area to speak with one voice on macroeconomic matters." He adds that the European Union needs to settle its representation as either an international organization or a supranational authority, but not both (as it currently tries to have it). There are a number of steps that the United States can undertake to encourage the European Union along these lines, including how it deals with the European Union on economic matters and whom it supports in the G-7 and other similar forums. Finally, on the institutional side, Truman suggests an appropriate reorganization and consolidation of EU representation in the IMF and other international financial institutions, as well as replacing the G-7 with the G-20 for most purposes.

Richard Clarida questions whether "insufficient policy coordination to date materially contributed to the global imbalances [at present, and whether] . . . insufficient policy coordination complicate[s] the process of international adjustment that is already under way." Citing his research on the topic, Clarida argues that the US external deficits are a general equilibrium response to slower growth and relatively lacking growth prospects in Europe and elsewhere in the world—from that viewpoint, the structural and fiscal policies as well as demographic factors underlying the situation are not truly amenable to influence by policy coordination. Even on the monetary side, a common transatlantic framework for inflation targeting might lead to greater exchange rate instability, unless the required domestic commitments are made to anchor the price level.

Richard Cooper raises doubt about the need for increased euro-dollar coordination along a different line, by questioning whether the large current account deficit of the United States in fact needs to be reduced sharply. If not, many of the reasons Truman gives for coordination go away. Meanwhile, Cooper notes, there is a fundamental transatlantic divergence in views of how the world economy and macroeconomic policy work, and "it is difficult to coordinate fiscal [or exchange rate] policies when such radically different views prevail."

Cooper also observes that it is unclear—given the eurozone's strictures on macroeconomic policy and the ECB's statutory independence with regard to monetary and exchange rate policy—how policy can be coordinated, or with whom. He echoes Clarida's concern that inflation targeting without a common price-level target is likely to generate a random walk in exchange rates. Though Cooper sympathizes with Truman's call for a reallocation of European representation at the IMF, he is more doubtful of the utility and legitimacy of replacing the G-7 with the G-20, rather than updating the G-7 or going all the way to the International Monetary and Financial Committee, which "would command much greater legitimacy than the G-20."

Tommaso Padoa-Schioppa (chapter 7), a founding member of the Executive Board of the European Central Bank and long the ECB's "foreign minister," places the euro in its global context. "The end [of EMU] is to enhance economic prosperity in a stable and safe environment, and to do so both in Europe and worldwide. Indeed, in an increasingly globalized world, we cannot take a domestic perspective only." The three elements of the euro's success from this perspective, according to Padoa-Schioppa, are that, first, the euro "has brought monetary stability to an area that constitutes the world's largest trading partnership and had been for very long an area of instability"; second, the euro "has helped to anchor policies in its region, most particularly in Central and Eastern Europe"; and third, the euro contributes to global adjustment through active commitment to multilateral arrangements.

The "domestic" dimension of putting "an end to Europe as an area of monetary tensions, exchange rate crises, and macroeconomic imbalances" may be EMU's greatest achievement to date. Certainly, the experiences of intra-European depreciations upon countries exiting the Exchange Rate Mechanism, especially those of 1992–93, and their impact on economic performance and political outcomes in member states were in the forefront of European policymakers' minds in the late 1990s during the run-up to the euro's introduction. In fact, despite the divergence in the histories of eurozone members, "the eurosystem has been successful in keeping inflation and inflation expectations stable" and low. Regionally, Padoa-Schioppa reminds the American audience and others who might forget that the prospect of EU and eurozone membership has played a critical role in supporting the transition process in the former communist states to the EU's east. Though "the impressive progress in *nominal* convergence should not hide the enormous task of *real* convergence" that remains to be done, 75 million people joined the European Union in May 2004, and their economies have been integrated in trade and finance.

Turning to the global dimension, Padoa-Schioppa notes the partial progress of the euro "as the second international currency," with, for example, an explosion in the share of euro-denominated debt securities since 1999, but little change in the share of foreign exchange transactions denominated in euros from that previously denominated in deutsche marks. To enable the eurozone to play its full potential role in managing the adjustment of current large global imbalances, Padoa-Schioppa advocates that the zone pursue international cooperation through multilateral frameworks, "mainly through the Group of Seven and the IMF." While observing that the euro has borne a large appreciation since March 2002 not only against the dollar but also against the main Asian currencies, he points out that changes are required not only in exchange rates but also in growth rates. Europe has shown not only relatively low potential growth but also low actual growth falling short of that potential, and improvement on these fronts is the main contribution the Europe can make to adjustment (echoing Quarles and others from across the Atlantic). Padoa-Schioppa, however, also emphasizes the euro's role in "strengthen[ing] the multilateral character of international cooperation," and he sharply contrasts it with the persistence of unilateral dollar pegs in Asia as the global benefits of such pegs recede.

The Impact of the Euro on the Eurozone and Its Economic Performance

EMU was widely expected to transform two aspects of the eurozone economies: the integration and depth of their financial markets; and the conduct of their macroeconomic policies. On both counts, particularly the former, there has been beneficial change at least partly attributable to the euro's introduction and acceptance. The hoped-for impact remains to be achieved, however, and the state of eurozone financial markets and fiscal policy remains a hindrance to the euro's fulfilling the global role called for in chapters 3 and 4.[10]

In chapter 5, economists from both the United States and Europe, and spanning the official and academic sectors, present a multifaceted assessment of how far the eurozone's financial markets have come since 1999, and how far they still have to go to be globally competitive with those based in the United States and those based outside the zone such as the London markets. The general assessment is that factors in the nonfinancial economy—such as legal differences, obstacles to more rapid real growth, transaction costs, and institutional gaps in financial supervision—combine to keep the eurozone from achieving truly deep and integrated financial markets.

Vítor Gaspar and Philipp Hartmann of the European Central Bank bring together the results of several studies of, and a great deal of close monitoring of, the eurozone's "money market, which is the financial market closest to the implementation of monetary policy and therefore the most likely to be directly affected by the start of the single monetary policy." Money market integration is also critical to the implementation of a single monetary policy for the eurozone, given the need to transmit monetary policy in a decentralized fashion across the member economies. Assessing the degree of financial integration, Gaspar and Hartmann find that it took European money markets less than a month to "learn" how the new operational framework functioned and to eliminate most of the volatility and cross-border dispersion in overnight interest rates (despite real institutional differences and barriers between countries before EMU). The evidence of integration in the unsecured lending rates in the European money market is similarly striking—for the overnight rate, "the relevant standard deviation [of rates between lenders] was several hundred basis points in the mid-1990s . . . [declining] to somewhat above 100 basis points for most of 1998," and, by the time of the euro's launch, "converging to levels in the range of 1 to 4 basis points." Alternative measures give

10. One could argue that current US fiscal policy is reducing the gap in macroeconomic discipline between the United States and the eurozone by lowering US performance, but that is hardly an argument for the eurozone's capabilities or the impact of the euro itself.

similar indications of a high degree of integration of the cross-national money market in the eurozone.

Still, "the contrast between the repo [repurchase agreement] and unsecured markets [in degree of cross-national differences in interest rates] is striking"—outcomes in the important repo market are still "systematically different from those that would prevail if the network of relationships were independent of location or nationality." Gaspar and Hartmann attribute much of the difference in the repo market, as opposed to the overnight or unsecured money market, to the ongoing lack of harmonization in legal and procedural treatment of financial instruments in the eurozone countries, given the more complicated contracts and transactions involved in collateralized lending. They also note that there are still costs in the eurozone for making cross-border securities transfers that are more than tenfold what they are within countries. They conclude that "legal heterogeneity and fragmented market infrastructures provide obstacles . . . for security markets in general" and will continue to hinder the integration of bond and equity markets unless addressed.

Kristin Forbes analyzes the role of the euro's introduction in explaining the comovement of stock prices across national borders, a critical aspect of financial market integration. Given the recent surge in capital flows across borders worldwide, almost half of which were in the form of portfolio investment, one would expect a greater influence of market opinion about assets in a given currency or region upon the actual allocation of capital between regions. Forbes argues that prospects for economic growth drive the relative demand for a region's assets, mostly by determining where trade and investment expand, which in turn sets the pace for the stock market integration of that region with the rest of the world. "If investors believe that growth in Europe will recover and remain strong, earnings prospects for European companies should improve. Foreigners will seek to increase their investments in European stocks and bonds. Conversely, if growth in Europe lags that in other countries, foreign investors and Europeans will instead seek to increase investments in higher-growth regions." Given the near-term outlook for European growth, this appears to militate against an increase in investment and therefore in the integration (and influence) of European capital markets, which might be partially offset by some diversification incentives. In the long run, though, a slow growth rate in Europe would also be translated into a smaller share of global GDP and fewer incentives for central banks to hold euro-denominated reserves.

In this context, Forbes investigates "whether the introduction of the euro actually did increase stock market comovement" within the eurozone, indicating greater financial integration as a result of EMU. By examining the weekly correlation in stock market returns between France and each of the eurozone countries, both before and after the introduction of the euro, she uncovers substantial increases in the correlation after the start of 1999. Yet, repeating the same analysis for correlations between the eurozone stock markets and the US market, she finds that "for the 10 countries in the sample . . . stock market correlations with the United States increased by an average of 25 percent . . . after the introduction of the euro—greater than the 16 percent increase between the eurozone countries [market movements' correlations with those of] France." Forbes raises the possibility that relatively faster growth in the United States stimulated investment and trade across the Atlantic from Europe, while intra-European integration lagged behind.

Hélène Rey goes directly to the issue of the euro's usage internationally—the extent to which the global economy relies on euros to invoice transactions or to hold reserves. "When central banks are equally credible, market size and liquidity become very important factors in determining whether a currency is widely used by market participants around the world or not." Some researchers (including Rey) predicted before the inception of EMU that the sheer size of the eurozone would lead to more liquidity in European financial markets, thus increasing efficiency, attracting more capital inflows, and reducing the costs of portfolio substitution into the euro. Drawing on five years of data post-EMU, Rey argues that "the creation of the euro has led to spectacular developments in European financial markets, with the emergence of new markets and in most cases a significant increase in the liquidity and integration of existing markets." In particular, Rey finds that government bond markets have seen intra-eurozone interest rate spreads virtually disappear, and benchmark securities of different countries have begun to emerge. Corporate bond markets went from "almost nonexistent" prior to EMU to €150 billion of issuance in 2003, and the euro swap market has become the largest financial market in the world. Consistent with Forbes, she finds increased equity market integration as well, but not beyond the current trend in Europe and across the globe.

Yet, despite this increase in liquidity, Rey observes, "the increase in the use of the euro has been unequally distributed across markets and has been in general quite slow." Foreign exchange trading in euros has not increased post-EMU as a share of global trade, and "the share of the euro in reserves [though increasing] . . . only amounted to 18.7 percent of total reserves in 2002, compared with 64.5 percent for the dollar." Similarly, the use of the euro as an invoicing currency is somewhat higher than that for the eurozone home currencies before EMU, but it remains far from universal within Europe or comparable to the dollar's usage (with the regional exception of the new 10 members of the eurozone). The euro has "not displaced in any significant way the dollar as the currency of choice for most international transactions and as a reserve currency." Attributing this outcome to inertia in global currency arrangements and habits, Rey posits that adjustment by the United States "toward external solvency" via a substantial depreciation of the dollar could trigger lasting portfolio shifts out of the dollar into euros and other currencies.

To conclude the financial assessment, Garry Schinasi reminds readers of an often-overlooked concern: the challenges to be met by the euro zone's still evolving financial architecture. Financial infrastructure in the euro area—meaning the systems for clearing and settling transactions, exchanges for derivatives, and equities—"still has too many such systems based on national needs rather than European needs." The result, in Schinasi's characterization, is cumbersome transactions with unnecessary costs and strains on liquidity management. Similarly, financial regulation in Europe is beset by "a lack of uniformity and in fact a largely national orientation to securities regulation." Though the EU's Financial Services Action Plan, currently being implemented, is intended to achieve convergence in these regulations, it has too narrow a mandate and faces too much disagreement among national authorities to rapidly resolve the problems. Together, these divergences of infrastructure and regulation limits are "holding back market integration" in the eurozone.

Schinasi also points out significant remaining difficulties in the eurozone's approach and institutions for financial crisis prevention and resolution. Primary responsibility for banking supervision has stayed at the national level, with supervisors usually further split up by the type of financial institution covered. Though Schinasi acknowledges that US financial supervision is similarly decentralized and fragmented, and yet has performed well, he argues that there are two fundamental differences in how the eurozone and US supervision work in practice. First, "it is less obvious that national supervision in Europe would tend, as a first priority, to focus on European priorities," whereas American supervisors can be expected to show greater loyalty to the national interest than to the politics of their particular state. "In short, there is a strong risk that a propensity to protect national [financial] institutions will endure." Second, the US Federal Reserve System de facto is the "strong and unambiguous supervisor" for the core financial holding companies and the related key payment systems. Schinasi observes that "there is as yet no such supervisor in the eurozone overseeing the European equivalent of the major European financial institutions."

With regard to crisis resolution, Schinasi notes improvements in European crisis management mechanisms since the launch of the euro, "but they are still not clear enough to satisfy doubtful international market participants and other outsiders." Of particular concern is the uncertainty about how a financial crisis involving a pan-European bank, or occurring across European markets, would be handled. It is unclear who is responsible if a payments system problem originates outside the ECB-overseen TARGET system. Worse, it is ambiguous whether the ECB has the legal capacity to act as lender of last resort, whether this authority remains with the national central banks that are members of the European System of Central Banks, or whether this ambiguity opens up a spot for a European Community (i.e., elected governments') competence. Schinasi tellingly distinguishes between the useful ambiguity about the conditions under which lender-of-last-resort assistance would be appropriate and the potentially harmful ambiguity about who has the authority to decide whether to act as a lender of last resort. He is doubtful that there will be rapid progress on these issues of financial infrastructure, given the lack of a catalytic effect for the euro to date. As a result, the euro is unlikely to reach its potential as a vehicle for international finance.

Another constraint on the euro's rise to international prominence has been the underperformance of the major eurozone economies (France, Germany, and Italy), and their apparent lack of fiscal discipline, ignoring the Stability and Growth Pact in response to their recent recessions. In chapter 6, I ask "Can Rubinomics work in the eurozone?"—that is, whether Europe might experience the kind of virtuous cycle seen in the United States during the 1990s, whereby fiscal consolidation would lead to "movements toward public surplus, lower interest rates, increased private-sector investment, and economic growth—in turn further improving government balance sheets." If so, the ability of the major eurozone economies to catch up with the United States in growth, and of European monetary policy to deliver politically acceptable levels of output stabilization, would be enhanced, and so eventually would be the euro's global role. If not, the yielding of monetary sovereignty by national central banks to the ECB would make the loss of national fiscal discretion to the SGP more costly and could increase some member nations' output volatility. Larger swings of the business cycle would be expected to increase uncertainty and impede both capital inflows and economic integration. In fact, I find that the introduction of the euro (and attempts to enforce the SGP) have had no impact on the countercyclicality of eurozone members' fiscal policy compared with the pre-1999 responses of their budgets to the business cycle.

I interpret "the major eurozone economies' unwillingness to adhere to the SGP or to undertake major fiscal consolidation as more of a rational, if not optimal, response to economic realities." On the one hand, I argue that "these economies are not candidates for Rubinesque virtuous cycles, given their structural problems, as well as simply their structures." For expansionary consolidations to work, several factors are required. Interest rates must respond strongly to fiscal consolidation, which usually requires a high initial debt-to-GDP ratio and/or significant foreign-held debt. Business investment must respond strongly to interest rate reductions, which usually involve forward-looking and flexible corporations. Growth in productivity and employment must respond strongly to the increases in investment. "And, to complete the cycle, government revenue must respond strongly to the increase in growth." I argue that though these attributes did characterize the United States in the 1990s, they did not and do not characterize the large continental European economies, given their well-known structural problems. In a particularly telling example, Italy was unable to reap any structural gains in productivity or unemployment from the drop in interest rates that accompanied its entry into the eurozone. So the incentive to undertake expansionary consolidations was not there.

On the other hand, France, Germany, and Italy had the most to lose from giving up fiscal stabilization policy, because they were the places in which this policy would be most effective. I establish a strong positive correlation between a developed economy's size and its fiscal responsiveness to business cycles; I also find a strong negative correlation between developed countries' openness and their fiscal responsiveness. In short, the countries most likely to benefit from fiscal policy rather than see its impact spill abroad are the ones that use fiscal policy the most. And at least for Germany, "a eurozone–wide monetary policy is inherently less targeted toward Germany's business cycle than the Bundesbank's policy was . . . [and so] the relative worth to Germany of utilizing countercyclical fiscal policy has increased [since EMU]."

Thus, I conclude that the SGP and hopes of increased budgetary discipline more broadly will remain a dead letter for much of the euro zone membership. Need this result in a weakening of the euro, as some assert will occur, given the eroding credibility of the Maastricht commitments to bind member states and the potential increase in fiscal free riding by euro zone members? I suggest that this is unlikely. The outcome of the SGP and EMU has been no statistically significant reduction in member states' fiscal stabilization policy, not a massive increase in fiscal activism. Similarly, the members' debt levels have risen only by the deficit increases commensurate with offsetting an unusual recession of 2002–03, not by a debt issuance binge post-EMU. In any event, "because financial markets are relatively illiquid in the eurozone, the crowding-out effect [from public debt increases] should be larger than in the United States. Thus fiscal laxity in the form of ignoring the SGP should at the margin push up both interest rates and the euro. In the United States, where the economy is much more dependent upon forward-looking asset markets and flows of foreign capital, the [erosion of] confidence effect [from debt increases] is likely to dominate . . . [and] should lead to a currency weakening." The fact that a fiscal loosening arguably has opposing effects on the exchange rate on the opposite side of the Atlantic, however, is not an argument that the European fiscal-monetary mix is beneficial for eurozone members—it is instead a further example of how Euroland's structural problems have not been solved by the introduction of the euro.

Jürgen Kröger of the European Commission comments that it is difficult to compare fiscal policy effectiveness in the United States vis-à-vis Euroland. Larger European public-sector shares in GDP should mean larger automatic stabilization than in the United States, and they should also mean that fiscal activism tends to increase the size of the state and the debt. More important, "given the greater [labor market] rigidities in most

EU countries, the output costs of reducing inflation are higher . . . [and] each cycle has tended to raise the [natural] rate of unemployment, . . . [so] discretionary fiscal policy may have longer-term adverse effects on growth and employment." In any event, the reason for the European Community to have binding deficit rules, argues Kröger, is largely to forestall "the risk to the sound functioning of EMU, which would emerge if public debt in some (even small) member states became too high for their public finances to remain sustainable. Unsustainable public finances would likely impose hard choices on the European Central Bank's monetary policy, possibly threatening its prime objective of price stability."

Kröger acknowledges four "main shortcomings and weaknesses of the SGP." First, the SGP does not take into account country-specific medium-term characteristics, like differences in countries' potential growth rates, initial debt levels, size of the automatic stabilizers, and demographics. Second, "the SGP has worked asymmetrically over the cycle." Third, the impact of public finances on growth is not properly assessed. And fourth, "the enforcement of commonly agreed-on rules has become more uncertain." Still, Kröger argues, the implementation of more flexible fiscal rules, let alone the agreement on assessment methodology that must come first, would prove very difficult in a diverse Europe of member states. A more independent role for the European Commission in enforcing the fiscal rules would help.

In contrast, Jeffrey Frankel views the evidence (including my findings) as indicative that American economists were right in being pessimistic before 1999 about two aspects of EMU and fiscal policy. "First, a permanent 3 percent ceiling on deficits, without flexibility (e.g., for recessions) would not be fully enforceable. . . . [Second], discretionary fiscal policy would become more, not less, necessary now that monetary independence has been lost." Frankel, however, noting the relative size and lack of openness of the US economy, asks "Why, then, did the United States pursue and achieve fiscal discipline during the 1990s?" Citing Chinn and Frankel (2003), he argues that the channel from public debt to interest rates is increasingly operational in Europe, as in the United States—in fact, that the "effect of the expected future change in debt [on interest rates] is . . . actually stronger [in all four large countries of the eurozone] than in the United States." Meanwhile, he points out, the fiscal consolidation of the 1990s was an exception to US experience, not the rule, given the increases in public debt in the 1980s and 2000s.

Frankel suggests "that the key lies in the political economy regime that is adopted to achieve fiscal discipline." Of three regimes proposed to achieve discipline—"Starve the Beast," "Rigid Rules," and "Shared Sacrifice"—only the third has been successful. Rigid fiscal rules, like the SGP, break when the costs of fulfilling the mandated policy become so high that they are not credible. Starve the Beast has been demonstrated empirically not to work; in fact, there is a negative correlation in US data between tax revenue and spending. Frankel instead advocates "shared sacrifice mechanisms," such as PAYGO and spending caps, as the means to fiscal discipline; these mechanisms "have in common budget neutrality as a criterion for future changes relative to the baseline." For Europe, Frankel suggests a formalized version of a Chilean institution, whereby an independent fiscal authority pursues a cyclically adjusted budget deficit of zero, with "responsibility to say what constitutes deviations from potential output, to compute the cyclically adjusted budget, to make forecasts, and to announce whether this year's budget satisfies the rule." This could be considered a partial echo of Kröger's calls for SGP revisions to empower the European Commission for enforcement and for emphasis on medium-term fiscal criteria.

Ben Bernanke of the Federal Reserve (chapter 8) begins an overall assessment of the euro by observing that political more than economic factors—and certainly not arguments for an optimum currency area—motivated EMU. This leads him to treat "the introduction of the euro as representing to some degree a natural experiment in monetary economics," about which he advances a hypothesis: "The most significant effects of [European] monetary unification have been felt, and will continue to be felt, in the development of European financial markets and . . . the greatest economic benefits to Europe in the long run will accrue through the improved functioning of those markets." There has been little or no expansion in trade due to the euro's adoption—among other evidence, "the share of total euro area exports destined for other members of the eurozone did not increase with introduction of the currency, as would be likely if the common currency promoted trade." As shown in Rogers (2003), the bulk of convergence in traded goods prices within Euroland occurred between 1990 and 1994, in response to the creation of the single market, and not after 1999 and the introduction of the euro. Bernanke believes that "with respect to macroeconomic stability, the common currency appears to have had both positive and negative effects," with no net result obvious from the limited experience to date. With respect to the euro's international role, he echoes Rey's findings that the dollar remains the international vehicle currency and the dominant invoicing currency for raw materials and trade.

Turning to financial markets, however, Bernanke argues that the European "common currency, with its ongoing efforts to harmonize financial regulations and institutions, has significantly reduced [financial] transaction costs. Together with lower country-specific macro risks, . . . this reduction in transaction costs has greatly improved the breadth and efficiency of European financial markets." The benefits for the euro zone of such financial development extend far beyond the direct benefits to the financial industry itself. Fixed-income markets have been the primary beneficiaries, with a remarkable convergence of sovereign debt yields, deepening of government bond markets, and enhanced liquidity and risk sharing through cross-border holdings of euro-denominated debt.

The multiplicity of sovereign issuers, given the membership of the eurozone, Bernanke argues, puts some limit on the ability of the European government bond market to achieve the liquidity of the US Treasury market, with one sovereign issuer, but additional technical improvements—for example, developing a benchmark yield curve—could narrow the gap. "The rapid development of Europe's corporate bond market [following EMU], including a nascent high-yield market, should prove highly beneficial to European economic development." Less progress has been made in other securities markets and in banking than in fixed-income markets, but Bernanke notes that even there the single currency eliminates exchange risk, reduces transaction costs, and therefore "serves to moderate home bias in borrowing and lending, leading to larger, more liquid, and more diversified financial markets."

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