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## EMU and the Developing countries

Benjamin J. Cohen

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# **EMU and the Developing Countries**

**Benjamin J. Cohen**

March 2000

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# CONTENTS

ABSTRACT	iv
1. INTRODUCTION	1
2. TRADE AND GROWTH	2
2.1 Income effects	2
2.2 Substitution effects	4
2.3 Other trade-related effects	5
2.4 Summary	8
3. FINANCE	9
3.1 Private level	9
3.2 Official level	11
3.3 Summary	14
4. THE POLITICAL DIMENSION	14
4.1 Dollar-euro rivalry	14
4.2 The range of choice	16
4.3 Alternative strategies	18
5. CONCLUSIONS	21
NOTES	21
REFERENCES	23

## **ABSTRACT**

The purpose of this paper is to explore economic and political implications of Europe's Economic and Monetary Union (EMU) for developing countries. In strictly economic terms, influences will be communicated through both trade and financial channels. Economies in the developing world will be affected by changes in European growth rates as well as by EMU's impact on transactions costs and enterprise competitiveness within Europe; they will also be impacted by changes in the structure and efficiency of Europe's capital markets. Modifications may be anticipated in borrowing and investment practices at the private level as well as in reserve and debt-management policies at the official level. In political terms, developing countries will be most directly influenced by the anticipated rivalry between Europe's new single currency, the euro, and the dollar, which will compel developing countries to reconsider their own national currency strategies. Three conclusions stand out. First, except for selected groups of countries with particularly close ties to the EU, most economic linkages appear marginal at best. It is much easier to enumerate possible channels of transmission than to find many that appear quantitatively significant. Second, among economic effects of EMU, financial channels seem to matter more than trade channels. And third, across the full range of possible linkages, the most lasting influences for developing countries may well turn out, notably, to be political rather than either trade or financial. Significant changes are likely in exchange-rate regimes in many parts of the developing world.

# 1. INTRODUCTION

What are the implications of Economic and Monetary Union (EMU) for developing countries? Possible external impacts of EMU have received surprisingly little attention in the formal literature, despite the European Union's manifest weight and influence in the world economy. The purpose of this paper is to help point the way to a new generation of research addressing this relatively neglected topic.<sup>1</sup>

Implications for developing countries (developing countries) are political as well as economic. In strictly economic terms, influences will be communicated through both trade and financial channels. Economies in the developing world will be affected by changes in European growth rates as well as by EMU's impact on transactions costs and enterprise competitiveness within Europe; they will also be impacted by changes in the structure and efficiency of Europe's capital markets. Modifications may be anticipated in borrowing and investment practices at the private level as well as in reserve and debt-management policies at the official level. In political terms, developing countries will be most directly influenced by the anticipated rivalry between Europe's new single money, the euro, and the dollar, which will compel developing countries to reconsider their own national currency strategies.

The aim of this paper is to offer a preliminary assessment of each of these potential channels of influence—and in so doing to provide a template for more detailed future research. Although judgements at this point can only be tentative, three conclusions stand out. First, except for selected groups of countries with particularly close ties to the EU, most economic linkages appear marginal at best. It is much easier to enumerate possible channels of transmission than to find many that appear quantitatively significant. Second, among economic effects of EMU, financial channels seem to matter more than trade channels. And third, across the full range of possible linkages, the most lasting influences for developing countries may well turn out, notably, to be political rather than either trade or financial. Significant changes are likely in exchange-rate regimes in many parts of the developing world.

For the purposes of this paper, developing countries are defined to encompass all nations of the Western Hemisphere other than the United States and Canada; the Asia-Pacific region other than Japan, Australia, and New Zealand (all economically advanced); the transition economies of



Central Asia; and Africa (including the Mediterranean island-states of Cyprus and Malta). For Central and Eastern European countries, see Begg (2000). The perspective of the paper is medium-term, looking beyond EMU's initial transition period to the day when national currencies in Europe will be fully replaced by the euro. Participation in the euro zone—familiarily known as Euroland—is eventually expected to include all present members of the European Union.

## 2. TRADE AND GROWTH

Trade provides perhaps the most obvious, albeit indirect, link between Euroland and developing countries. EMU is widely expected to have a significant impact on real economic activity in Europe; trade, in turn, provides a direct channel for the transmission of any consequent effects to outside economies. Main influences can be divided between *income* effects, reflecting EMU's impact on overall growth rates in Europe; and *substitution* effects, reflecting possible changes in European transactions costs and enterprise competitiveness. In addition, developing countries could conceivably feel the effect of any influence of EMU on the volatility of exchange rates, synchronization of business cycles in Europe, or the volume of foreign direct investment flows.

### 2.1 Income effects

Income in the developing world is directly influenced by changes in European growth rates, which alter Europe's demand for developing country exports. The overall magnitude of the income effect for outside countries will depend in particular on three variables: (a) the impact of EMU on European growth; (b) the income elasticity of European demand for imports; and (c) the relative sensitivity of each outside economy to variations of European import demand. The net result of the three variables can be expected to vary widely from country to country.

The first question is: How will EMU affect European growth? No one doubts that EMU should promote trade within Euroland, perhaps quite substantially.<sup>2</sup> But what of European income? Most observers, reflecting the optimism of the European Commission's early analysis in *One Market, One Money* (1990) appear to assume that EMU's net growth impact should

be positive, perhaps substantially so, for two principal reasons. At the microeconomic level, considerable efficiency gains are expected from the elimination of exchange rate related transactions costs within Euroland, which should stimulate intra-EU competition and lead to sustained increases of productivity and output. At the macroeconomic level, considerable stability effects are expected from the suppression of exchange-rate uncertainty, which should lower the risk premia built into interest rates and lead to higher investment levels.

Much depends, however, on what happens at the policy level in Europe. Monetary policy, we know, is unlikely to be overly relaxed, given the legal mandate of the European Central Bank (ECB) to concentrate solely on the goal of price stability. Euroland interest rates on balance might well rise rather than fall as national currencies are replaced by the euro. Hence real growth, on balance, could in fact be restrained rather than stimulated unless complemented by continued budget consolidation (which would lower interest rates) and, most critically, by significant product-market liberalization and reform of Europe's relatively rigid labour markets. Two scenarios along these lines have been projected by the International Monetary Fund (1997: 75-77)—one incorporating favourable changes in European fiscal and structural policies, the other a more pessimistic 'reform fatigue' scenario. In the first scenario, where EMU successfully acts as a catalyst for accelerated reform, interest rates fall and the level of output in Euroland is estimated to rise by nearly 3 per cent by the year 2010. In the second scenario, by contrast, rates rise and output falls by 2 ½ per cent (i.e., by more than 5 per cent as compared with the first scenario). The problem is that nothing in recent European experience gives reason for expecting the first scenario to dominate the second. More likely, the ultimate outcome will be some kind of 'muddling through' of partial reform falling between the two scenarios. The net impact on European growth, therefore, could turn out to be something of a wash. That is, any change in steady-state output directly attributable to EMU is apt in the end to be marginal at best.

The second question is: How will European growth, whatever its magnitude, affect developing-country income? The general expectation here too is optimistic. Higher income in Europe should create new export opportunities for outsiders, including developing countries. Once more, though, the IMF projections are informative. In the Fund's more favourable scenario, the demand-pull of Europe's 3-per cent increase of output by 2010 is estimated to result in a positive income effect of no more than 0.3 per cent of GDP in developing countries—hardly a major boost to development. In the reform-fatigue scenario, real GDP of developing

countries declines by a narrow 0.2 per cent. And of course more marginal changes in European output, falling somewhere between the two scenarios, would mean even more marginal spillovers to developing countries.

The third question is: How will these effects be distributed among developing countries? Clearly, some economies are far more sensitive than others to variations of European import demand, depending on the product composition of their exports and the share of European sales in their total exports and GDP. The most sensitive will be countries that rely heavily on sales of processed or manufactured goods (rather than primary commodities, for which income elasticity of demand tends to be relatively low) and that depend most on Europe as an export market (rather than the US or Japan). Most prominently, these include many of the developing countries located around the Mediterranean basin, from Morocco and Algeria in the west to Lebanon and Syria in the east (including also Cyprus and Malta). They include as well the CFA franc zone and other countries of Sub-Saharan Africa, which trade overwhelmingly with Europe. Another IMF study (Feldman *et al.* 1998: 8) suggests that for every one-per cent increase (decrease) in Euroland GDP, there will be an increase (decrease) of income of some 0.3 per cent in Mediterranean countries and some 0.2 per cent in CFA countries.<sup>3</sup> The least sensitive economies are those farther afield, in Latin America and East Asia, where trade ties with Europe are correspondingly weaker.<sup>4</sup>

## **2.2 Substitution effects**

Consider now the supply side. Whatever the impact of EMU on European demand (a trade-creation effect), there will also be an influence on the pricing of European supply that could generate offsetting substitution (trade-diversion) effects. As indicated, there is good reason to anticipate that the introduction of the euro will reduce costs of intra-EMU transactions, enhancing the relative competitiveness of Euroland enterprises (both exporters and producers of import substitutes). The result could be lost revenues for producers elsewhere, including developing countries. Even if EMU's income effect on European demand is positive and large, outsiders will benefit less to the extent that purchases at home or abroad are simultaneously diverted to now lower-cost European sources.

Counterbalancing that possibility, however, is the fact that outsiders too will gain in some degree from expected improvements of market efficiency inside Euroland. EMU offers foreign producers a more predictable and

transparent environment to help exploit comparative advantages in their European trade. Their costs too will be reduced by being able to export to one sizeable market with a single currency rather than to a number of smaller economies each with its own money and exchange rate. Information savings will be realized from the decrease in the number of price quotations required to do business in Europe. Even more importantly, conversion and hedging savings will be realized from the increase in the number of transactions that can be contracted and settled in one currency rather than several. An increase in the euro's share of trade invoicing (as compared with the pre-EMU share of the Deutsche mark and other European currencies) is widely predicted, particularly in developing countries like those around the Mediterranean basin with the closest commercial ties to Europe (Hartmann 1998: 97-114). Savings for outsider producers may not be as great as for Euroland enterprises, but any cost reductions at all will act to narrow the new competitive differential favouring Europeans.

The net effect of these cross-cutting influences is difficult to estimate, but once again the magnitudes involved do not seem likely to be particularly big. According to the IMF (Feldman *et al.* 1998: 11), European costs and prices could be reduced by something like one per cent on average, suggesting a small amount of trade diversion at best. The Fund's conclusion is carefully phrased. For most developing countries substitution effects on balance, while 'not entirely negligible,' are unlikely to exceed broader income effects. Given that income effects themselves are unlikely to be substantial, this seems to translate into substitution effects of minimal proportion. The main exceptions would seem to be developing countries that are heavily dependent on exports to Europe of low value-added manufactures, such as those along the Mediterranean littoral.<sup>5</sup>

### **2.3 Other trade-related effects**

Three other possible trade-related effects have been mentioned by analysts, stemming from a potential for greater volatility of exchange rates, from the impact of EMU on the timing of business cycles in Europe, or from changes in the volume of foreign direct investment flows. None of these effects are likely to be big, either.

### *2.3.1 Exchange-rate volatility*

Many specialists suspect that even as exchange rates—and therefore exchange-rate fluctuations—are eliminated within Euroland, volatility between the euro and currencies elsewhere will be increased, adversely affecting Europe's trading partners (including developing countries).<sup>6</sup>

Greater volatility is forecast for two main reasons. First, in purely market terms, there could be a transfer of variability from intra-European exchange rates to the exchange rate between the euro and other currencies. EMU by definition locks together the eleven currencies involved, eliminating the capacity of intra-European exchange rates to play a buffer role in the event of demand or supply shocks. This in turn could increase pressure on the European Central Bank to make more frequent policy adjustments, in effect shifting disturbances to European interest rates and thus ultimately, through impacts on capital flows, to the euro's external exchange rate. Second, at the policy level, there could be a decline of attention paid to the euro's exchange rate. The euro zone is also by definition larger and less open than any of its individual members. Policymakers, as a result, may attach correspondingly less importance to exchange-rate stability as a policy target—particularly in the light of relevant provisions of the Maastricht Treaty that explicitly subordinate external objectives to the overriding goal of price stability. The same 'benign neglect' that the United States has long practised in relation to the dollar could become the basis of European exchange-rate policy as well.

Neither influence is certain, however. The volatility-transfer argument, for example, has been challenged by Flood and Rose (1995), who show that fixing exchange rates need not increase the instability of other macroeconomic variables at all. Likewise, the benign-neglect argument has been challenged by Masson and Turtelboom (1997), who point out that it will be some time before Europe-wide monetary aggregates or inflation targets can become fully reliable guides for ECB policy. Neither monetary transmission mechanisms nor the demand for money are apt to conform closely to historical relationships in the radically new environment created by EMU. Precisely for that reason, the ECB has explicitly decided to give some weight to the exchange rate as a more reliable policy indicator. Hence in practice future exchange-rate behaviour could turn out to be little different from the past, in which case exchange-rate effects on outsiders will be little different as well.

### *2.3.2 Business-cycle timing*

Some analysts also predict that EMU will increase the synchronization of business cycles within Europe, producing wider swings of demand that will in turn magnify the impact of European cyclical developments on the rest of the world.<sup>7</sup> Developing countries, as a result, could face greater volatility in the prices of the primary commodities on which so many rely for the bulk of their export revenues.

The reasoning for greater business-cycle synchronization is straightforward. Monetary union promotes trade integration, and closer trade integration facilitates the transmission of shocks between countries. The reasoning is also backed by empirical evidence—most notably, by a well known study by Frankel and Rose (1997) showing, for a large sample of countries, a strong positive relationship between bilateral trade intensity and the correlation of cycles.<sup>8</sup> But what then of a country like the United States—a monetary union that has existed for more than two hundred years and still exhibits sharp regional variations in business-cycle activity? As even Frankel and Rose admit, closer trade ties promote conjectural convergence only if demand shocks predominate or if intra-industry trade accounts for a large share of exports and imports. The reverse will be true if integration results in member-countries becoming more specialized along lines of comparative advantage, thus making them more sensitive to industry-specific shocks (as still seems the case for the diverse regions of the United States). Brülhart (1999) reports some evidence of such specialization taking place. Moreover, there is also empirical evidence to suggest that stabilization of intra-European exchange rates may actually decrease, rather than increase, the price volatility of many key commodities (Cuddington and Liang 2000). Hence here too there is little certainty, which means that here too future experience could turn out less different from the past than many expect.

### *2.3.3 Foreign direct investment (FDI)*

Finally, a few sources raise the possibility that EMU, insofar as it helps to consolidate the EU's large and affluent single market, might have an impact on the volume of foreign direct investment flows either into or out of Europe.<sup>9</sup> In principle, European firms could be stimulated to shift some production to developing countries in order to service Europe's consumers from lower-cost export platforms abroad. Conversely, producers elsewhere could be induced to increase investment inside Europe in order to guarantee

access to the rich EU market. Evidence exists to suggest that FDI flows are indeed encouraged by a reduction of exchange-rate volatility.<sup>10</sup> But a wide range of empirical studies demonstrate the importance of many other factors as well in the locational decisions of corporations, including *inter alia* wage costs, infrastructure, tax and regulatory regimes, political stability, and even language and culture (Caves 1996: ch. 2)—all of which could swamp any effect attributable to currency union alone. In practice, any impact on FDI flows in either direction is apt to be marginal at best, even if EMU were to increase European income significantly (which, as indicated, seems doubtful).

## 2.4 Summary

With so many uncertainties, few firm conclusions are possible regarding impacts of EMU through the trade link. Just one observation stands out clearly. It is that the only developing countries that are likely to experience any significant impact at all, positive or negative, are those with a particularly high level of dependence on exports to Europe—and even for them, effects will most probably be measured in fractions of one per cent of GDP at most. Others with more diversified trade ties are apt to feel little or nothing noticeable on balance.

Otherwise, all forecasts are contingent on a number of cross-cutting influences. At any level of trade dependence, a developing economy will benefit from EMU under the following conditions:

- (1) the impact on European growth is strong and positive;
- (2) the improvement of European enterprise competitiveness, in relative terms, is small;
- (3) there is no significant increase of exchange-rate volatility;
- (4) there is no significant increase in the synchronization of European business cycles; and
- (5) there is a significant increase of outward FDI from the EU.

Reversal of any of these conditions will reduce the benefits of EMU for developing countries and could even turn them negative.

### 3. FINANCE

What, then, of finance, which also provides a link between Euroland and developing countries? Even apart from any indirect influence via EMU's impact on real economic activity, the euro is expected to have a significant effect on the structure and efficiency of Europe's capital markets, which in turn will also provide channels for transmission of effects to outside economies. Changes could occur at two levels—at the *private* level, involving international borrowing and investment practices; and at the *official* level, involving reserve and debt-management policies. At both levels, particularly the official, prospective linkages for developing countries appear stronger than in the trade area.

#### 3.1 Private level

Few observers doubt that EMU will have a profound impact on the structure and efficiency of Europe's capital markets. To begin, introduction of the euro will eventually create the largest single-currency financial market in the world. The aggregate value of EU financial claims (bonds, equities, and bank loans) is already substantially greater than that of either the United States or Japan<sup>11</sup> and is likely to continue growing in the future. Beyond that, there are bound to be major qualitative improvements in market depth and liquidity as previously segmented national markets are gradually knitted together into one integrated whole. The elimination of exchange risk inside Euroland will intensify competition between financial institutions, particularly in such hotly contested activities as bond underwriting and syndicated bank lending, thus encouraging cost-cutting and innovation. Likewise, the harmonization of laws and conventions and the development of new cross-border payments systems will amplify economies of scale and enhance the marketability of assets of all kinds. Progress is expected to be swiftest in the markets for securities and bank loans but slower in the area of equities, where structural barriers between Europe's relatively small national markets have traditionally been greatest.<sup>12</sup>

There also seems little doubt that these improvements will affect international investment practice. Three main types of change can be anticipated. First, more offshore borrowing will be done in euros, as compared with amounts raised in DM or other European currencies in the past. Bond sales and bank loans will be facilitated by lower transactions



costs and the ability to tap broader pools of savings. Foreign equity issues too are likely to increase once European stock markets are successfully upgraded and consolidated.

Second, more offshore savings will be placed in euros, again as compared with investments in European currencies in the past. The world private portfolio of international financial assets, excluding intra-EU claims, has been estimated at some \$6.1 billion at end-1995 (Henning 1997: 22), of which little more than a quarter was accounted for by assets denominated in European currencies (compared with a US dollar share of more than half). Holdings previously lodged outside the EU will be attracted by the new depth and liquidity on offer in the European market. Knowledgeable sources estimate that foreign demand for euro-denominated assets could rise by anywhere from \$400 billion to \$800 billion.<sup>13</sup>

Third, going the other way, there could also be a significant shift outward to non-euro claims in search of higher yields and diversification opportunities. Within Europe, the merger of national currencies will alter significantly the risk-return characteristics of existing portfolios. Historically, European investors have been able to balance risk and return by mixing assets in a variety of local currencies, whose diverse values and price movements could be assumed to be less than perfectly correlated. Monetary union, however, by promoting increased convergence of returns, changes all that. In order to maintain customary portfolio targets—desired degrees of risk diversification—many investment managers could thus be motivated to reallocate a portion of holdings to qualified assets elsewhere.

The question is: How much will developing countries be affected by these developments? The answer, quite evidently, is some—but probably not a whole lot. Some increase of developing country borrowing, for example, will undoubtedly occur. But a low ceiling will be set by the fact that relatively few enterprises in the developing world have the necessary market standing to attract investor interest in their liabilities. Most new euro debt will be created by borrowers from industrial countries, including Europe itself. Likewise, some shift of developing country savings to euro-denominated assets will certainly take place, but in absolute terms the amounts involved are likely to be limited. Though difficult to document, it is clear that developing countries still account overall for only a small fraction of global financial wealth. The main players in the international capital markets come from Europe, North America, and Japan. Principal beneficiaries in the developing world are apt to be rich individuals in such places as East Asia or the oil kingdoms of the Gulf.

Most promising for developing countries is the prospect of portfolio shifts in the opposite direction, from Europe outward—though even here amounts should not be exaggerated. Despite the persistence of a 'home bias' in investor behaviour, a global trend toward greater international diversification of institutional and personal portfolios has been evident for at least a decade, including investments in a widening array of so-called emerging markets.<sup>14</sup> In the United States, for example, the share of foreign stocks in total equity holdings is estimated to have risen from 3.8 per cent in 1987 to as high as 10 per cent ten years later; likewise, the share of foreign bonds grew from 1.8 per cent to 3.4 per cent (Tesar and Werner 1998). Parallel increases have been observed in Canada and Europe as well (Tesar and Werner 1995). Recent crises notwithstanding, this is a trend that is likely to continue and will possibly even accelerate as a result of the freezing of exchange rates inside Euroland. As an outside limit, suppose that ten per cent of all cross-border holdings of European currency claims within Europe were to be redirected to developing country economies in order to rebalance portfolio risk and return. Based on a recent estimate for such holdings in the vicinity of \$1.35 trillion at end-1995 (Henning 1997: 22), this would come to \$135 billion, by no means a negligible sum but not enormous either. In practice, flows to the developing world are apt to be considerably less than that<sup>15</sup> and to be concentrated primarily in the larger middle-income economies of East Asia and Latin America where capital markets offer the greatest liquidity and investment opportunities. Developing countries with more rudimentary financial structures or closed capital accounts are unlikely to attract much attention.

### **3.2 Official level**

At the official level, the euro is widely expected to emerge quickly as a global reserve currency, second in importance only to the ubiquitous US dollar. Two factors are cited. One is the sheer size of the European Union, which outranks even America's economy when taken as a whole. The present fifteen members of the EU together account for some 31 per cent of world output (as against a US share of 27 per cent) and some 20 per cent of global trade, excluding intra-EU transactions (as against a US share of 18 per cent). The other factor, stressed especially by Richard Portes and Hélène Rey (1998), is the prospective restructuring of Europe's capital markets, which will lower the euro's transactions costs to levels more competitive with those of the hitherto predominant greenback.

In practical terms, what the euro offers is an opportunity for central banks to adjust the composition of their foreign-exchange reserves to more closely approximate individual national circumstances—in particular, the direction and denomination of trade flows and external debt. Recent decades have seen a considerable decline in the proportion of global business conducted in the dollar. More and more traded goods are being invoiced in the exporter's or importer's own currency. According to one study, the share of America's greenback in world trade declined from 56 per cent in 1980 to no more than 48 per cent in 1992 (ECU Institute 1995: 70). Likewise, more and more international lending is being done in European currencies or the Japanese yen. By the mid-1990s, the proportion of cross-border financial claims denominated in the dollar had dropped to little more than half, from some two-thirds in the early 1980s. Yet the greenback's share in global currency reserves has declined only modestly, from 76 per cent in 1973 to a still substantial 60 per cent as recently as 1998 (Eichengreen and Mathieson 2000)—well above what many countries might consider optimal. Most of the erosion of the dollar's dominance occurred back in the 1970s; in the 1990s, the dollar's share of global reserves actually increased substantially.

The reason for the dollar's persistent dominance as a reserve currency obviously has to do, first and foremost, with the lack until now of a satisfactory alternative. Neither the yen nor any European money, not even the mighty Deutsche mark, could offer the same economies of scale as a vehicle currency or the same degree of liquidity as a store of value. But what no single money could do on its own, a merger of currencies now might. The attraction of the euro is precisely that it offers a prospect of network externalities and market depth more akin to those traditionally associated with the greenback. Developing countries, no less than other non-EU states, will have an incentive to seize the opportunity to move toward a more comfortable diversification of reserve holdings. Moreover, the magnitudes involved could be considerable. Estimates of possible shifts by developing country central banks range from as low as \$50 billion to as high as \$200.<sup>16</sup>

Standard theory suggests that the optimal currency composition of reserves reflects three core considerations: a country's exchange-rate arrangements, the direction and currency composition of its trade flows, and the denomination of its external debt (Dooley, Lizondo and Mathieson 1989). For industrial countries, where reserves are held mainly for intervention purposes, exchange-rate arrangements tend to be the major influence determining the mix of central bank holdings. A high dollar share thus

seems natural given the greenback's central role as a vehicle currency in the global foreign-exchange market. Latest survey data from the Bank for International Settlements (1999) suggest that the dollar still appears on one side or the other of some 87 per cent of all currency transactions, down only marginally from 90 per cent a decade earlier. The greenback's high share of industrial country reserves is unlikely to change significantly unless, as Portes and Rey (1998) suggest, the vehicle role of the euro begins to expand dramatically.

In developing countries, by contrast, where financial markets are generally less evolved, reserves must be relied upon correspondingly more for the direct financing of trade and/or debt service. Both elements suggest a motive for augmenting the euro's share in reserves as compared with low proportions previously held in DM or other European currencies. This will be especially true of developing countries that trade heavily with the EU—again, most prominently those in the Mediterranean basin and Sub-Saharan Africa—but will be not unimportant even elsewhere. In Latin America, for example, excluding Mexico, trade with Europe falls only a few per centage points short of the US share of both regional exports and imports.<sup>17</sup>

The motive will also exist for those developing countries fortunate enough to have sufficient creditworthiness—or local enterprises with sufficient market standing—to borrow successfully in euros. Currently, European currencies account for a surprisingly low share of the external debts of developing countries: in 1996, no more than 12 per cent of Latin American liabilities and less than 10 per cent of Asia's (McCauley and White 1997: 360). From the standpoint of optimal debt-management strategy, a country's debt portfolio should ideally mirror the composition of its trade flows. It makes sense, therefore, for developing countries able to do so, to take advantage of the greater size and liquidity of Europe's newly integrated capital market to more accurately match expected export proceeds and debt-service payments in each currency. The more a country trades with the EU, the greater will be the incentive to borrow in the EU as well. Heightened borrowing in euros would also offer the added benefit of reducing dependence on US interest rates.

In turn, augmenting the euro's share in a country's debt profile will dictate an increased share in central bank reserves too. For developing countries that are particularly active in financial markets, the impact on reserve composition as well as debt management could be particularly marked. As Eichengreen and Mathieson (2000) caution, however, the process of

reallocation is apt to be evolutionary at best, reflecting the conservatism of central bankers whose habits typically are slow to change.

### **3.3 Summary**

Again, with so many uncertainties, few firm conclusions are possible. Clearest is the fact that financial linkages, for most developing countries, would appear to outweigh prospective trade effects. At the private level, increased capital flows can be expected both into and out of the developing world, especially the middle-income emerging markets in East Asia and Latin America. At the official level, increased interest in the euro for both reserves and borrowing purposes can also be anticipated. Though the amounts involved at either level should not be exaggerated, neither are they likely to be trivial. Changes should be greatest in reserve holdings, which Rudi Dornbusch (1999: 5) declares will be 'surely the central effect' of EMU for developing countries. Whereas the euro's real economic impacts are by their nature indirect and thus apt to be marginal, its financial effects will be direct and for some could be substantial.

## **4. THE POLITICAL DIMENSION**

Finally, it is necessary to consider the political dimension. Emergence of the euro as a global rival to the dollar represents the most significant structural change in the global monetary system since the breakdown of Bretton Woods and could well lead to enhanced policy competition between the United States and Europe (and ultimately Japan as well). Like it or not, therefore, developing countries will be compelled to reconsider their own currency strategies in this new and potentially more contentious monetary environment. Though not unrelated to economic considerations, the choice of an exchange-rate regime is ultimately political and will in the end be decided largely on a political basis.

### **4.1 Dollar-euro rivalry**

That the anticipated rivalry between the dollar and the euro holds a potential for enhanced policy competition across the Atlantic is taken for granted by most observers. At issue is the distribution of the benefits to be

accrued from cross-border currency use. Though minimized by some (e.g., Wyplosz 1999: 97-100), benefits may in fact be considerable. Most analyses tend to focus primarily on seigniorage: the implicit transfer, equivalent to a subsidized or interest-free loan, that goes to a country when its money is widely used and held abroad. Seigniorage income, on its own, is unlikely to be large enough to spark policy conflict. But this ignores two other gains that, while less easily quantified, are apt to be much more important. One is the increased flexibility of macroeconomic policy that is afforded by the privilege of being able to rely on domestic currency to help finance external deficits. The other is the political power that derives from the monetary dependence of others. Not only is the issuing country better insulated from outside influence or coercion in the domestic policy arena, it is also better positioned to pursue foreign objectives without constraint or even to exercise a degree of influence or coercion internationally. In conjunction with seigniorage, these are advantages surely worth battling for.

Indeed, there is evidence that the battle has already begun. Consider, for example, the ECB's controversial decision to plan issues of euro notes in denominations as high as 100, 200, and 500 euros—sums far greater than most Eurolanders are likely to find useful for everyday transactions when euro bills and coins begin to circulate in 2002. Why do it? Informed sources suggest that it was done largely to reassure the German public, fearful of losing their beloved Deutsche mark, that notes comparable to existing high-denomination DM bills would be readily available. But that is hardly the whole story. As Wyplosz (1999) observes, it is also likely that the decision had something to do with the familiar phenomenon of dollarization: the already widespread circulation of large denomination dollar notes in various parts of the world, especially of the \$100 variety.<sup>18</sup> Dollarization translates conservatively into an interest saving for the US government of at least \$15 billion a year<sup>19</sup>—not a huge profit but nonetheless enough, apparently, to persuade EMU's authorities to plan on offering a potentially attractive alternative. Why should we not expect Washington then to respond in kind? Already a proposal to offer a \$500 denomination note in response has been circulated in the US Congress (Makinen 1998: 5). Legislation has even been introduced to encourage developing countries to adopt the dollar formally as a replacement for their own national currencies—*official* dollarization, as the idea has come to be known. As an incentive Washington would offer a specified share of the resulting increase in US seigniorage earnings.

More generally, given the considerable advantages involved in international use, there seems every reason to expect the two sides to compete vigorously to preserve or promote demand for their respective currencies. In the contest for market share, the dollar starts with the natural advantages of incumbency: low transactions costs, high network externalities, and a solid reputation for value and political stability. Initially, therefore, many market agents might quite reasonably be expected to prefer the tried-and-true to the experimental unless given positive inducements to switch. What can the Europeans do? Apart from issuing high denomination notes, cross-border use of the euro might be encouraged by, for example, subsidizing the development of debt markets in the new currency or by underwriting the euro's use as a vehicle for third-country trade. In so doing, however, Euroland will also put itself on track for open confrontation with the United States. Predatory policy initiatives from one side of the Atlantic will almost certainly provoke more retaliatory countermeasures from the other. In addition, discord could be further exacerbated by Japan, which has given every indication that it too intends to join the fray, actively promoting internationalization of the yen and a currency area of its own.<sup>20</sup> Though not yet in the same class as the greenback or even Europe's new euro, the yen in time could prove a potent challenger to both, at least in its own neighbourhood in East Asia.

In short, the risks of policy competition are real and will force countries throughout the developing world to rethink their choice of exchange-rate regime.

## **4.2 The range of choice**

In principle, the range of choice available to governments is remarkably wide, stretching from absolutely free floating at one extreme to monetary union, a currency board, or official dollarization at the other. In between are various contingent exchange-rate rules, such as a single-currency or basket peg, a crawling peg, or target zones of one kind or another.

Opinions differ on whether the full range of choice is actually available in practice. According to some, neither free floating nor irrevocably fixed rates can be regarded as truly viable options. Fixed rates, we are told, are too rigid, risking prolonged misalignments and payments disequilibria, while flexible rates are too volatile and prone to speculative pressures. The only real choices are intermediate regimes that promise a degree of adaptability without generating undue uncertainty—in other words 'stable

but adjustable rates,' to borrow a phrase from an earlier era. Quite the contrary, retort others, who insist that in fact it is the intermediate choices that are discredited, not the extreme 'corner solutions,' owing to the great increase of international capital mobility in recent decades. The middle ground of contingent rules has in effect been 'hollowed out,' as Barry Eichengreen (1994) memorably put it.

In practice, of course, neither corner solutions nor contingent rules are discredited, for the simple reason that in an imperfect world there is no perfect solution. All such views rest on implicit—and questionable—political judgements about what trade-offs may or may not be tolerable to policymakers. Eichengreen's hollowing-out hypothesis, for example, clearly assumes that governments will be unwilling to pay the price of coping with occasional speculative crises. Defenders of contingent rules, conversely, assume that governments will naturally prefer to avoid absolute commitments of any kind—whether to a monetary union (or equivalent) or to market determination of currency values—whatever the cost. The reality is that such trade-offs are made all the time when exchange-rate regimes are decided. No option is ruled out *a priori*.

The political dimension of exchange-rate choice tends to be discounted in conventional economic models, where policymakers are assumed to be concerned more or less exclusively with maximizing output and minimizing inflation in the context of an open economy subject to potentially adverse shocks. In fact, political factors enter in two ways. First, the calculus is obviously affected by domestic politics: the tug and pull of organized interest groups of every kind. The critical issue is the familiar one of whose ox is gored. Who wins and who loses? The material interests of specific constituencies are systematically influenced by what a government decides to do with its money. Policy design and implementation are bound to be sensitive to the interplay among domestic political forces.

Second, the utility function of policymakers obviously includes more than just macroeconomic performance. As a practical matter, sovereign governments also worry about other things—not least, about their own policy autonomy: their scope for discretion to pursue diverse objectives in the event of unforeseen developments, up to and including war. Key here is the seigniorage privilege—what one source calls a state's 'revenue of last resort' (Goodhart 1995: 452). The more tightly a currency is pegged, the less room policymakers have to resort at will to inflationary money creation to augment public spending when deemed necessary. Monetary firmness is



gained, but at a loss of fiscal flexibility. Certainly it is not wrong to attach importance to a reduction of exchange-rate uncertainty, which can promote trade and investment and compress risk premia in interest rates. But in an insecure world, governments may be forgiven for attaching importance to currency flexibility too, as a defence against *political* uncertainty. Policy design and implementation are bound to be sensitive to the interplay among such considerations as well.<sup>21</sup>

### 4.3 Alternative strategies

In the end, then, what can we expect? Within the wide range of available choice, how will developing countries respond to the new environment created by EMU?

Ultimately, the decision will be more political than economic—a matter of foreign policy and diplomatic strategy, not just technical economic analysis. Basically, three broad strategies are possible. These are:

- (1) *Currency neutrality*: a policy of avoidance, intended to keep a safe distance from the coming rivalry between the dollar and euro (and yen);
- (2) *Currency subordination*: a policy of acquiescence, subordinating national monetary sovereignty to the leadership of one or another global currency; or
- (3) *Currency coalition*: a policy of alliance, designed to share monetary sovereignty as a defence against foreign financial dominance.

Currency neutrality will be most attractive to countries with the most diversified external relations, political as well as economic—states like those in East Asia, which trade as much with Japan, and nearly as much with Europe, as they do with the United States; and which prefer to maintain equally cordial ties with all three centres of the industrial world. Such countries are best placed to take advantage of the coming dollar-euro (and yen) competition to play off one reserve centre against another, bargaining for the best possible terms on new debt issues or for a formal share of international seigniorage revenues.

Neutrality in exchange-regime choice can take the form of a floating rate, the current policy in a number of Asian economies; or it could be implemented as a basket peg, with appropriate weights assigned to each of

the three major currencies as well as possibly others. Floating offers the obvious advantage of adaptability to changing circumstances. Stung by the financial crisis that erupted in 1997, which most analysts attribute at least in part to the dollar-dominated pegs that countries had tried in vain to defend against unrelenting speculation, many governments are presently attracted by the alternative of no peg at all—a kind of default strategy that relieves them of any formal obligation to intervene in currency markets. But floating is hardly an all-purpose panacea either, as many observers are now beginning to acknowledge (Cooper 1999; Hausmann *et al.* 1999). In countries where financial markets are still much thinner than in the advanced industrial nations, even small movements into or out of a currency can spell massive exchange-rate volatility. Not all governments may be prepared to live forever with persistent and often arbitrary currency swings. For many, an appropriately weighted basket might not look so bad after all.

Basket pegging, preserving a degree of currency neutrality as well as stability, is widely advocated for the Asia-Pacific region as an alternative to floating (e.g., Williamson 1999). But then all the usual technical problems must be faced. Should the basket be defined in nominal or real terms? How wide should margins be? And under what conditions, if ever, should pegs be adjusted? Most important of all—and most political in nature—what currencies should be included, and how much importance should be given to each? The dollar and euro are both obvious candidates, of course. But so too is the yen and perhaps even the renminbi of China, a regional power that is widely expected one day to challenge Japan's historical leading role in the East Asian political economy. Strategic considerations here obviously extend well beyond the strictly economic.

Currency subordination will be more attractive to countries with closer economic or political ties to just one of the dominant financial powers—like many of the states of Latin America, ever in the shadow of the United States; or many of the economies around the Mediterranean basin or in Sub-Saharan Africa, with their close trade ties to Europe. (There is no country at present with sufficiently close relations with Japan to consider an exclusive link to the yen.) Subordination can take the form of a single-currency peg, a common species of contingent exchange-rate rule; or it could be something considerably more radical—an ostensibly irrevocable currency board or even official dollarization (or 'euroization').

Single-currency pegs offer the advantage of stable relations with a dominant trading partner while yet leaving some room for manoeuvre in

the event of unanticipated circumstances—a tolerable compromise, in other words, between a desire to reduce exchange-rate uncertainty and a determination to guard against political uncertainty. The dollar already serves as nominal anchor for a number of smaller countries in the Caribbean and Pacific, as well as in scattered locations elsewhere; the euro does the same for the CFA Franc Zone, having seamlessly taken over the role previously played by the French franc. Honohan and Lane (2000) suggest that more African currencies will soon be tied to the euro. Other sources confidently predict that pegs to the euro will soon be adopted by many Mediterranean countries as well.<sup>22</sup> In turn, the debate has been reopened in Latin America over the possible merits of closer ties to the greenback.<sup>23</sup> The key question is whether the central trade-off inherent in a contingent peg—the preservation of a degree of policy autonomy at the risk of yet more speculative attacks—would be sustainable in practical terms. For those who are persuaded that exchange-rate choices have indeed been hollowed out by growing capital mobility, a commitment to the euro or dollar, if it is to survive for long, will have to be correspondingly firmer: nothing less than a currency board or official dollarization.

In the past, such ideas might have been dismissed as politically naive. All kinds of problems could be cited, from the loss of a lender of last resort under a currency board to the loss of seigniorage with dollarization. But that was before Argentina which, despite a well known history of the most intense nationalism, successfully opted for a dollar-based currency board in 1991—and whose former president, in his last year in office, even proposed replacing Argentina's peso altogether with the greenback. In the new environment created by the euro, the Argentine case is now considered instructive. A strategy of irrevocable currency subordination no longer seems outside the realm of possibility. As Dornbusch puts the point, with characteristic flair: 'The lesson is obvious: Europe's periphery should adopt the Euro on a currency board basis or fully. And in the same spirit, Latin America should follow the Argentine example of a currency board on the US dollar or outright dollarization' (1999: 8). The result, in time, could be the emergence of two giant blocs dominating the monetary world, one centred on the US and the other on Europe (Beddoes 1999).

But what if developing countries prefer *not* to be dominated, whether by the US or Europe? EMU itself offers a model for a third option: currency coalition, taking the form of monetary unions based on local currencies, subordinate to neither the euro nor the dollar. The possibility of regional currency unification in Asia or Latin America, though ardently advocated by some,<sup>24</sup> has been dismissed by others as impractical on economic

grounds.<sup>25</sup> Neither Asians nor Latin Americans, we are told, come even close to approximating an optimum currency area. Until more of the criteria of OCA theory are satisfied, governments are unlikely to take the plunge.

Such arguments, however, once again discount the political dimension, which in the history of monetary unions is central (B. Cohen 1993, 1998). In fact, among all cases of currency unification in the last two centuries, it is impossible to find a single example that was motivated exclusively, or even predominantly, by the concerns highlighted in OCA theory. Political objectives have always predominated. Today, one relevant political objective could well be to emulate EMU. Indeed, assuming Europe's monetary experiment is seen as a success, the most powerful impact of the euro ironically could turn out to be a demonstration effect, encouraging consideration of similar initiatives elsewhere. Economics notwithstanding, the plausibility of the currency-coalition option thus should not be underestimated.

## **5. CONCLUSIONS**

The main conclusion of this paper is that much work remains to be done on all the possible implications of EMU for developing countries. Future research by economists is needed on income and substitution effects working through the trade channel as well as on financial links at both the private and official levels. Political scientists need to address the strategic issues involved in future exchange-rate regime choices. The euro's impact on the developing world may be uncertain, but it is hardly uninteresting.

## **NOTES**

<sup>1</sup> In a sense, this paper may be regarded as a sequel to an earlier paper of mine (B. Cohen 1987) that surveyed implications for developing countries of EMU's immediate precursor, the European Monetary System. The conclusions of that paper, as here, were generally cautious. While EMS held both attractions and risks for developing countries, I suggested, there seemed little reason to expect major economic impacts either way.

<sup>2</sup> See e.g., Flam and Jansson (2000). Estimates by Andrew Rose (2000) suggest that countries sharing a common currency trade three times as much as they would with countries using different currencies.

<sup>3</sup> More detailed estimates for Mediterranean countries are contained elsewhere in Feldman *et al.* (1998: chs. 2, 3) and in Ruhashyankiko (1999). The general results for Mediterranean and CFA countries are confirmed by Bekx (1998: 5) and by Chauffour and Stemitsiotis (1998: 13).

<sup>4</sup> On Latin America, see Dornbusch (1999); Verner (1999); Yeyati and Sturzenegger (1999a); Zahler (1999). On Asia, see Rajan (1999). On Africa, see D. Cohen, Kristense and Verner (1999). None of these sources foresee any significant trade-related impact from EMU.

<sup>5</sup> Indeed, according to Ruhashyankiko (1999), the negative substitution effect in the manufacturing sector will actually dominate favourable income effects in most Mediterranean economies. But even in his calculations, net losses of GDP are small—on the order of one-quarter of one per cent in North Africa and perhaps one-tenth of one per cent in the eastern Mediterranean. See also Feldman *et al.* (1998: 72-4) for similar results.

<sup>6</sup> See e.g., Kenen (1995); Bénassy-Quéré, Mojon and Pisani-Ferry (1997); D. Cohen (1997). But for a contrary prediction, see Bénassy-Quéré and Mojon (1998).

<sup>7</sup> See e.g., Feldman *et al.* (1998: 75-7); Bekx (1998: 6); Chauffour and Stemitsiotis (1998: 14); Genberg (1999).

<sup>8</sup> See also European Commission (1997).

<sup>9</sup> See e.g., Feldman *et al.* (1998: 13-4); Bekx (1998: 17); Flam and Jansson (2000).

<sup>10</sup> See e.g., Bénassy-Quéré, Fontagné and Lahrière-Révil (1999).

<sup>11</sup> See e.g., Prati and Schinasi (1997: 266-7), who show that in (1995) a total value of \$27.3 trillion for the fifteen countries of the EU, as compared with \$22.9 trillion in the US and only \$16.1 trillion in Japan. Even for just the eleven present members of EMU, the total was \$21.1 trillion.

<sup>12</sup> See especially McCauley and White (1997); Prati and Schinasi (1997); Dermine and Hillion (1999); Danthine, Giavazzi and von Thadden (1999).

<sup>13</sup> See e.g., Bergsten (1997: 30); Henning (1997: 22); McCauley (1997: 39); McCauley and White (1997: 358); Frenkel and Søndergaard (1998).

<sup>14</sup> See e.g., Mussa and Goldstein (1993); Tesar and Werner (1995, 1998); BIS (1998: 89). Danthine, Giavazzi and von Thadden (1999) suggest that the trend is best explained by a learning process overcoming past informational asymmetries.

<sup>15</sup> In an authoritative early study, Prati and Schinasi caution that any 'portfolio shifts related to losses of diversification benefits are likely to be small' (1997: 314). But see

also Yeyati and Sturzenegger (1999a: 23-7), who reckon the potential for portfolio rebalancing to be rather more considerable.

<sup>16</sup> Bergsten (1997: 29); Henning (1997: 22); McCauley (1997: 39-40).

<sup>17</sup> Specifically, with Mexico excluded, the European and US shares of Latin American exports in (1997) were, respectively, 20 and 26 per cent; of imports, 20 and 29 per cent. Including Mexico, more than two-thirds of whose trade is with its northern neighbor, the corresponding per centages are 14 and 49 per cent for exports and 16 and 43 per cent for imports (Yeyati and Sturzenegger 1999a: 6).

<sup>18</sup> The point is also argued forcefully by Rogoff (1998).

<sup>19</sup> Blinder (1996). This is in addition to interest payments saved because of the greater international liquidity of dollar-denominated claims—the dollar's so-called liquidity discount—which Portes and Rey (1998: 309) estimate at some \$5-10 billion a year.

<sup>20</sup> See e.g., the statement of Finance Minister Kiichi Miyazawa at the annual meeting of the IMF and World Bank, 6 October 1998.

<sup>21</sup> For more on the politics of exchange rate regime choice, see B. Cohen (1998: chs. 3-4).

<sup>22</sup> Berrigan and Carré (1997); Chauffour and Stemitsiotis (1998); Bénassy-Quéré and Lahrière-Révil (1999).

<sup>23</sup> Dornbusch (1999); Hausmann *et al.* (1999).

<sup>24</sup> See e.g., Walter (1998).

<sup>25</sup> On Asia, see Eichengreen and Bayoumi (1999). On Latin America, see Hausmann *et al.* (1999); Yeyati and Sturzenegger (1999b); Zahler (1999). Honohan and Lane (2000) see even less prospect of future monetary unions in Africa.

## REFERENCES

Bank for International Settlements (1998). *Annual Report 1998*. Basle, Switzerland: BIS.

Bank for International Settlements (1999). *Central Bank Survey of Foreign Exchange and Derivatives Market Activity 1998*. Basle, Switzerland: BIS.

Beddoes, Zanny Minton (1999). 'From EMU to AMU? The Case for Regional Currencies'. *Foreign Affairs* 78: 8-13.

Begg, David (2000). 'The Impact of EMU on European Transition Economies: Commitment, Institutional Capacity and the Monetary-Fiscal Mix'. WIDER Working Papers No. 179. Helsinki: UNU/WIDER.

Bekx, Peter (1998). *The Implications of the Introduction of the Euro for Non-EU Countries*. Euro Paper 26. Brussels: European Commission.

Bénassy-Quéré, Agnès, Lionel Fontagné, and Amina Lahrière-Révil (1999). 'Exchange Rate Strategies in the Competition for Attracting FDI'. Paris: CEPIL.

Bénassy-Quéré, Agnès and Amina Lahrière-Révil (1999). 'The Euro and Southern Mediterranean Countries'. Paris: CEPIL. Unpublished.

Bénassy-Quéré, Agnès and Benoît Mojon (1998). *EMU and Transatlantic Exchange Rate Stability*. Paris: CEPIL.

Bénassy-Quéré, Agnès, Benoît Mojon, and Jean Pisani-Ferry (1997). 'The Euro and Exchange Rate Stability', in Paul R. Masson, Thomas H. Krueger, and Bart G. Turtelboom (eds), *EMU and the International Monetary System*. Washington, DC: IMF, ch. 7.

Bergsten, C. Fred (1997). 'The Impact of the Euro on Exchange Rates and International Policy Cooperation', in Paul R. Masson, Thomas H. Krueger, and Bart G. Turtelboom (eds), *EMU and the International Monetary System*. Washington, DC: IMF, ch. 2.

Berrigan, John and Hervé Carré (1997). 'Exchange Arrangements Between the EU and Countries in Eastern Europe, the Mediterranean, and the CFA Zone', in Paul R. Masson, Thomas H. Krueger, and Bart G. Turtelboom (eds), *EMU and the International Monetary System*. Washington, DC: IMF, ch. 5.

Blinder, Alan S. (1996). 'The Role of the Dollar as an International Currency'. *Eastern Economic Journal*, 22: 127-36.

Brühlhart, Marius (1999). 'Growing Alike or Growing Apart? Industrial Specialization of EU Countries'. Paper presented at the UNU/WIDER meeting on EMU and Its Impact on Europe and the Developing Countries, 10-12 November, Helsinki.

Caves, Richard E. (1996). *Multinational Enterprise and Economic Analysis*, second edition. Cambridge: Cambridge University Press.

Chauffour, Jean-Pierre and Loukas Stemitsiotis (1998). *The Impact of the Euro on Mediterranean Partner Countries*. Euro Paper 24. Brussels: European Commission.

Cohen, Benjamin J. (1987). 'Implications of the European Monetary System for Developing Nations', in *The International Monetary System and Its Reform*. Papers prepared for the Group of Twenty-Four by a United Nations project directed by Sidney Dell 1979-1986, Part I. Amsterdam: North-Holland, 295-321.

Cohen, Benjamin J. (1993). 'Beyond EMU: The Problem of Sustainability'. *Economics and Politics*, 5: 187-203.

Cohen, Benjamin J. (1998). *The Geography of Money*. Ithaca, NY: Cornell University Press.

Cohen, Daniel (1997). 'How Will the Euro Behave?', in Paul R. Masson, Thomas H. Krueger, and Bart G. Turtelboom (eds), *EMU and the International Monetary System*. Washington, DC: IMF, ch. 13.

Cohen, Daniel, Nicolai Kristense, and Dorte Verner (1999). 'Will the Euro Create a Bonanza for Africa?' Washington, DC: World Bank. Unpublished.

Cooper, Richard N. (1999). 'Should Capital Controls be Banished?', *Brookings Papers on Economic Activity*, 1: 89-141.

Cuddington, John T. and Hong Liang (2000). 'Will the Emergence of the Euro Affect World Commodity Prices?' WIDER Working Papers No. 178. Helsinki: UNU/WIDER.

Danthine, Jean-Pierre, Francesco Giavazzi, and Ernst-Ludwig von Thadden (1999). 'The Effects of EMU on Financial Markets: A First Assessment'. Paper presented at the UNU/WIDER meeting on EMU and Its Impact on Europe and the Developing Countries, 10-12 November, Helsinki.

Dermine, Jean and Pierre Hillion (eds) (1999). *European Capital Markets with a Single Currency*. Oxford: Oxford University Press.

Dooley, Michael J., Jose Saul Lizondo, and Donald J. Mathieson (1989). 'The Currency Composition of Foreign Exchange Reserves'. *IMF Staff Papers*, 36: 385-434.

Dornbusch, Rudi (1999). 'The Euro: Implications for Latin America'. Washington, DC: World Bank. Unpublished.



ECU Institute (ed.) (1995). *International Currency Competition and the Future Role of the Single European Currency*. Final Report of the Working Group on European Monetary Union—International Monetary System. London: Kluwer Law.

Eichengreen, Barry (1994). *International Monetary Arrangements for the 21<sup>st</sup> Century*. Washington, DC: Brookings Institution.

Eichengreen, Barry and Tamim Bayoumi (1999). 'Is Asia an Optimum Currency Area? Can It Become One? Regional, Global, and Historical Perspectives on Asian Monetary Relations', in Stefan Collignon, Jean Pisani-Ferry, and Yung Chul Park (eds), *Exchange Rate Policies in Emerging Asian Countries*. London: Routledge, ch. 21.

Eichengreen, Barry and Donald J. Mathieson (2000). 'The Currency Composition of Foreign Exchange Reserves: Retrospect and Prospect'. WIDER Working Papers No. 181. Helsinki: UNU/WIDER

European Commission (1990). *One Market, One Money: An Evaluation of the Potential Benefits and Costs of Forming an Economic and Monetary Union*. Brussels: Belgium.

European Commission (1997). 'Economic Policy in EMU. Part B: Specific Topics'. Economic Papers 126. Brussels: Directorate-General for Economic and Financial Affairs.

Feldman, R. *et al.* (1998). *Impact of EMU on Selected Non-European Union Countries*. Occasional Paper 174. Washington, DC: IMF.

Flam, Harry and Per Jansson (2000). 'EMU Effects on International Trade and Investment'. WIDER Working Papers No. 180. Helsinki: UNU/WIDER.

Flood, Robert P. and Andrew K. Rose (1995). 'Fixing Exchange Rates: A Virtual Quest for Fundamentals'. *Journal of Monetary Economics*, 36: 3-37.

Frankel, Jeffrey A. and Andrew K. Rose (1997). 'The Endogeneity of the Optimum Currency Area Criteria'. *Economic Journal*, 108: 1009-25.

Frenkel, Michael and Jens Søndergaard (1998). 'The Effects of European Monetary Union on the Dollar and the Yen as International Reserve and Investment Currencies'. *International Journal of Business*, 3: 15-32.

Genberg, Hans (1999). 'EMU and the Changing Structure of Macro Risks'. *Swedish Economic Policy Review*, 6: 7-33.

Goodhart, Charles A. E. (1995). 'The Political Economy of Monetary Union', in Peter B. Kenen (ed.), *Understanding Interdependence: The Macroeconomics of the Open Economy*. Princeton: Princeton University Press, ch. 12.

Hartmann, Philipp (1998). *Currency Competition and Foreign Exchange Markets: The Dollar, the Yen and the Euro*. Cambridge: Cambridge University Press.

Hausmann, Ricardo, Michael Gavin, Carmen Pages-Serra, and Ernesto Stein (1999). 'Financial Turmoil and the Choice of Exchange Rate Regime'. Working Paper 400. Washington, DC: Inter-American Development Bank.

Henning, C. Randall (1997). *Cooperating with Europe's Monetary Union*. Washington, DC: Institute for International Economics.

Honohan, Patrick and Philip R. Lane (2000). 'Will the Euro Trigger More Monetary Unions in Africa?' WIDER Working Papers No. 176. Helsinki: UNU/WIDER.

International Monetary Fund (1997). *World Economic Outlook, October 1997*. Washington, DC: IMF.

Kenen, Peter B. (1995). *Economic and Monetary Union in Europe: Moving Beyond Maastricht*. Cambridge: Cambridge University Press.

Makinen, Gail E. (1998). 'Euro Currency: How Much Could It Cost the United States?' CRS Report 98-998E. Washington, DC: Congressional Research Service.

Masson, Paul R. and Bart G. Turtelboom (1997). 'Characteristics of the Euro, the Demand for Reserves, and Policy Coordination under EMU,' in Paul R. Masson, Thomas H. Krueger, and Bart G. Turtelboom (eds), *EMU and the International Monetary System*. Washington, DC: IMF, ch. 8.

McCauley, Robert N. (1997). 'The Euro and the Dollar'. Essays in International Finance, 205. Princeton: International Finance Section.

McCauley, Robert N. and William R. White (1997). 'The Euro and European Financial Markets,' in Paul R. Masson, Thomas H. Krueger and

Bart G. Turtelboom (eds), *EMU and the International Monetary System*. Washington, DC: IMF, ch. 12.

Mussa, Michael and Morris Goldstein (1993). 'The Integration of World Capital Markets', *Changing Capital Markets: Implications for Monetary Policy*. Kansas City: Federal Reserve Bank of Kansas City, 245-313.

Porter, Richard D. and Ruth A. Judson (1996). 'The Location of US Currency: How Much is Abroad?'. *Federal Reserve Bulletin*, 82: 883-903.

Portes, Richard and Hélène Rey (1998). 'The Emergence of the Euro as an International Currency,' in David Begg, Jürgen von Hagen, Charles Wyplosz, and Klaus F. Zimmermann (eds), *EMU: Prospects and Challenges for the Euro*. Oxford: Blackwell, 307-43.

Prati, Alessandro and Garry J. Schinasi (1997). 'EMU and International Capital Markets: Structural Implications and Risks,' in Paul R. Masson, Thomas H. Krueger, and Bart G. Turtelboom (eds), *EMU and the International Monetary System*. Washington, DC: IMF, ch. 11.

Rajan, Ramkishan S. (1999). 'What Does the Euro Mean for Asia?'. Claremont Graduate School. Unpublished.

Rogoff, Kenneth (1998). 'Blessing or Curse? Foreign and Underground Demand for Euro Notes', in David Begg, Jürgen von Hagen, Charles Wyplosz, and Klaus F. Zimmerman (eds), *EMU: Prospects and Challenges for the Euro*. Oxford: Blackwell, 261-303.

Rose, Andrew K. (2000). 'One Money, One Market: The Effect of Common Currencies on Trade'. *Economic Policy*, 30: 7-45.

Ruhashyankiko, Jean-François (1999). 'The Euro and the Production Structure and Export Performance of Middle East and North African Countries'. International Monetary Fund Working Paper WP/99/12. Washington, DC: IMF.

Tesar, Linda L. and Ingrid M. Werner (1995). 'Home Bias and High Turnover'. *Journal of International Money and Finance*, 14: 467-92.

Tesar, Linda L. and Ingrid M. Werner (1998). 'The Internationalization of Securities Markets since the 1987 Crash,' in Robert E. Litan and Anthony M. Santomero (eds), *Brookings-Wharton Papers on Financial Services 1998*. Washington, DC: Brookings Institution.

Verner, Dorte (1999). 'The Euro and Latin America'. *Finance and Development*, June: 43-5.

Walter, Norbert (1998). 'An Asian Prediction'. *The International Economy*, 12: 49.

Williamson, John (1999). 'The Case for a Common Basket Peg for East Asian Currencies,' in Stefan Collignon, Jean Pisani-Ferry, and Yung Chul Park (eds), *Exchange Rate Policies in Emerging Asian Countries*. London: Routledge, ch. 19.

Wyplosz, Charles (1999). 'An International Role for the Euro?', in Jean Dermine and Pierre Hillion (eds), *European Capital Markets with a Single Currency*. Oxford: Oxford University Press, ch. 3.

Yeyati, Eduardo L. and Federico Sturzenegger (1999a). 'Implications of the Euro for Latin America's Financial and Banking Systems'. Universidad Turcuato di Tella. Unpublished.

Yeyati, Eduardo L. and Federico Sturzenegger (1999b). 'Is EMU a Blueprint for Mercosur?'. Universidad Turcuato di Tella. Unpublished.

Zahler, Roberto (1999). 'The Euro and its Effect on the Economy and the Integration of Latin America and the Caribbean'. Inter-American Development Bank. Unpublished.