

WORKING PAPER 68

MONETARY UNION: EUROPEAN LESSONS,
LATIN AMERICAN PROSPECTS

EDUARD HOCHREITER, KLAUS SCHMIDT-HEBBEL AND GEORG WINCKLER

WITH COMMENTS BY LARS JONUNG AND GEORGE TAVLAS

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Editorial

On April 15 - 16, 2002 a conference on “Monetary Union: Theory, EMU Experience, and Prospects for Latin America” was held at the University of Vienna. It was jointly organized by Eduard Hochreiter (OeNB), Klaus Schmidt-Hebbel (Banco Central de Chile) and Georg Winckler (Universität Wien). Academic economists and central bank researchers presented and discussed current research on the optimal design of a monetary union in the light of economic theory and EMU experience and assessed the prospects of monetary union in Latin America. A number of papers presented at this conference are being made available to a broader audience in the Working Paper series of the Oesterreichische Nationalbank and in the Central Bank of Chile Working Paper series. This volume contains the fifth of these papers. The first ones were issued as OeNB Working Papers No. 64 to 67. In addition to the paper by Eduard Hochreiter, Klaus Schmidt-Hebbel and Georg Winckler the Working Paper also contains the contributions of the designated discussants Lars Jonung and George Tavlas.

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Monetary Union: European Lessons, Latin American Prospects*

Eduard Hochreiter
(Oesterreichische Nationalbank)

Klaus Schmidt-Hebbel
(Banco Central de Chile)

Georg Winckler
(University of Vienna)

Abstract

In this paper selective issues of long-run sustainability of monetary unions are analyzed. Using theoretical insights and the experience of EMU up to now we argue that empirical evidence on OCA criteria for EMU suggests that benefits for the countries participating in EMU outweigh costs by a relatively large margin although by varying degrees from country to country. Fiscal policy rules are necessary for EMU to succeed. We also conclude that EMU has been driven by political considerations. A sound financial sector is a precondition. With regard to lessons to be drawn for Latin America and the Caribbean we first find that there has been a strong push towards the floating cum inflation-targeting corner and to regional trade integration. Moreover, it seems that, in contrast to EMU, the benefit-cost balance of a move to monetary union is much less favorable in Latin America and the Caribbean and, most important, the political dimension missing.

Keywords: Exchange rate regimes, Monetary Union, transition, emerging market economies

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1. Introduction

The world is in a state of flux regarding the choice of monetary and exchange rate regimes. One option is giving up national currencies to join a monetary union. Since Mundell (1961) the literature has emphasized conventional OCA criteria in shaping this decision. EMU, the largest historical experiment in giving up sovereignty in monetary (and other) policy areas, has captured the imagination of policy makers and researchers alike. It has also brought other issues, related to complementary areas of reform and integration, to the forefront of theory and policy analysis. These issues shape the discussion about monetary union and, more generally, on optimal regime choice for countries in other regions, including Latin America and the Caribbean (LAC).

The purpose of this paper is to assess selective issues on the long-run sustainability of monetary unions, in the light of theory and of the experience of EMU, and to draw its lessons for regime choice, and monetary union in particular, for LAC. In section 2 we briefly review recent world trends in exchange rate and monetary regimes and a summary of estimates of the benefits and costs of EMU. This leads to discussing three important issues that are crucial in the theory and EMU experience of monetary union, related to complementary areas of policy coordination and integration among prospective union members (Section 3). These issues are important if monetary union is not accompanied by a political union. Then we discuss the issues that shape monetary and regime choice in LAC, with particular consideration of recent trends and literature and the prospects for monetary union in the light of the EMU experience. Section 5 concludes briefly.

2. Monetary and Exchange Rate Regimes: From the Real World to Optimality Considerations

2.1 World Trends in Monetary and Exchange Rate Regimes

The world is in a state of flux regarding the choice of monetary (M) and exchange rate (ER) regimes. Many countries and full regions have shifted regimes – gradually by careful design (as in EMU) or quickly forced by markets (as in Ecuador 2000 or Argentina 2002). Here we review recent world trends in ER and M regimes. This will help in the

subsequent discussion of selective issues on monetary union illustrated by EMU and the regime challenges faced by LAC.

The world evolution in ER regimes is illustrated by IMF data on countries' official regime definitions (Figure 1). The share of fixed ER regimes in the world – comprising no independent currency, currency boards, or pegged ERs – has declined from 68% of countries in 1979 to 49% in 2001, while managed and independent floats have increased from 17% to 42%. Intermediate regimes, where ERs are adjusted by indicators (sliding pegs, bands, and sliding bands), have fallen from 15% of countries in 1979 to 9% in 2001. As a long-term time trend, a shift to the floating ER corner is evident.

More recently, based on finer IMF data, there is some evidence favoring the two-corner hypothesis: ERs adjusted by indicators have declined from 12% to 9% while common currency cases have increased from 20% to 21% and managed floats have risen from 14% to 17% between 1999 and 2001.

Official data on ER regimes have been criticized for being a poor indicator of ER flexibility. Calvo and Reinhart (2000) argue that nominally independent floaters among emerging countries exhibit fear to float through various forms of ER interventions. They provide evidence of low exchange rate volatility relative to international reserve volatility, in comparison to industrial country floaters. Levy-Yeyati and Sturzenegger (2002) take up this point by constructing a new database of ER regimes, inferred from cluster analysis of ER and reserve behavior. In their classification, de facto fixed ERs stand at 57% of the world distribution in 2000 (above the IMF's 49% for 2001) while de facto managed (dirty) and independent (free) floats are 20% (well below the IMF's 42%). However, they also confirm a long-term trend decline in de facto fixed ERs and a rise in de facto independent floats between 1979 and 2000.¹ Von Hagen and Zhou (2001) test the hollow-out hypothesis for 25 transition economies in Europe and find that although corner regimes dominate in the steady state intermediate regimes will not disappear completely.²

The recent world evolution in monetary (M) regimes is reflected by a survey conducted among 93 central banks in 1998 by Mahadeva and Sterne (1998) and the larger IMF data of annual country-based official regime definitions since 1999 (Figure 3). The

¹ This trend is also confirmed by Fischer (2001).

evidence shows a relative uniform distribution of conventional M regimes (ER, monetary aggregate, and inflation targets) for 1998 in the Mahadeva and Sterne data. The IMF data shows a dominance of ER targets that, however, tends to weaken between 1999 and 2001. This is consistent with the growing trend away from monetary and ER anchors and toward inflation targets observed during the last decade.³

As of March 2001, the combined world distribution of ER and M regimes (IMF classification) shows an obvious concentration of regime combinations on the diagonal of Table 1. It is less evident, however, that the most popular combinations are a currency board or a pegged ER with an ER target (51 countries), followed by no independent currency (39 countries), and a managed float with no conventional or explicit monetary regime (26 countries). In the corner of managed and independent floats, different combinations of the two latter ER regimes with monetary regimes are observed.

Conditional probabilities of having one regime in place, given the choice of the other regime, differ strongly in various cells of Table 1. For example, the conditional probability of having an independent float when an inflation target is in place is 81%. The opposite conditional probability – adopting an inflation target when an independent float is in place – attains only 28%.

Managed floats – often based on non-disclosed or ad-hoc rules of interventions – are strongly associated to no conventional or explicit monetary regime (26 of 31 countries). This stands in contrast to independent floats, which are more likely to be associated to explicit money or inflation targets (20 of 47 countries). Hence rule-based ER regimes tend to be associated to rule-based monetary regimes.

There are various reasons for the large and still ongoing shifts in ER and M regimes that are observed worldwide, including the following:

- (i) Multilateral adoption of a currency union, often as part of economic and eventual political union (as in EMU);
- (ii) Transition toward monetary union in the future, leading to adoption of intermediate exchange-rate regimes, as in some central and eastern European countries aiming toward euro accession;

² Kuttner and Posen (2001) argue that exchange rate regimes, central bank autonomy and domestic targets must not be considered in isolation but that they are interconnected and thus have to be analyzed jointly.

- (iii) Domestic weakness caused by a combination of fiscal dominance, weak banking systems, inflexible ER system, and price and wage rigidities, leading to ER and financial crises. This contributes to abandonment of intermediate ER regimes in favor of one corner (dollarization, e.g. Ecuador) or the other (floating ER, e.g. Argentina);
- (iv) Small countries that are highly integrated into and highly synchronous with the world economy tend to adopt pegged ERs or abandon their national currencies in favor of adopting a dominant foreign currency or monetary union with similarly small states (e.g., ECCA). There are exceptions to the latter countries: those small open economies where integration intensifies their high production specialization and asynchronicity with the world economy (e.g. Iceland);
- (v) Among countries that have managed or independent floats in place, a monetary regime shift from MA to inflation targeting.

Economic cost-benefit and political considerations drive countries to modify their ER and M regimes. We discuss next the costs and benefits of one particular regime shift: joining a monetary union, exemplified by EMU.⁴

2.2 Overview of Costs and Benefits of Giving up a National Currency

Table 3 in the annex summarizes some of the empirical estimates of specific costs and benefits in the EMU context (and elsewhere, if applicable). Major results are reported in the bullet points below.

- The traditional OCA literature (Mundell 1961, McKinnon 1963) argues that countries joining a monetary union will benefit from lower transaction costs associated from trading goods and assets in different currencies. Lower transaction costs would enhance trade and therefore generate higher benefits from economic specialization.
- Recent empirical evidence stresses the large positive effects of currency unions on trade (Rose 2000, Glick and Rose 2001) and income (Frankel and Rose 2002). However, new

³ As of early 2002, 20 countries have adopted inflation targeting regimes (Schmidt-Hebbel and Tapia 2002).

⁴ There is a large body of recent literature on optimal exchange rate regimes that we will not review in this article. For the case of emerging market economies see Larraín and Velasco (2002) and for Latin America see French-Davis and Larraín (2002) and Escaith et al. (2002).

evidence suggests that Rose and associates might be grossly overestimating the impact of currency unions on trade due to sample selection and non-linearities (Persson 2001) and the endogeneity of the decision to join the union (Tenreyro 2001).

- Other potential microeconomic efficiency gains from joining a currency union are due to elimination of nominal exchange rate volatility and hence lower interest rates, lower real exchange rate volatility, deeper financial integration, and (in the case of joining a dominant currency area, like the euro) international acceptance of the currency.
- The microeconomic efficiency gains of a currency union might be offset by lower macroeconomic flexibility. Countries joining a currency union lose their ability to stabilize output through an independent monetary policy and give up nominal exchange rate flexibility. In sum, the traditional approach states that countries with close international trade and financial links are more likely to be members of an OCA whereas countries with asymmetric business cycles are less likely (Artis and Toro 2000).
- For candidates of a currency union microeconomic benefits increase and macroeconomic costs decline with their degree of trade integration and business cycle symmetry. Empirical studies for the EU show that countries with closer trade linkages exhibit highly correlated business cycles.
- OCA criteria are dynamic: net benefits of a currency union increase after joining the union because trade integration and business cycle correlation become higher than before joining the union (Frankel and Rose 1998, 2002, Rose and Engel 2001).
- Non-traditional OCA factors that determine the choice to join a currency union include the distribution of seigniorage, interregional fiscal transfers, and substituting the traditional lender of last resort. The net effect of the former seems to be very small but unevenly distributed, especially as seigniorage is shared among EMU participants, there are different views regarding the importance of the latter two factors.
- There is fairly conclusive evidence that benefits of EMU outweigh costs by a relatively large margin. This seems to be especially true for smaller members at the center of the union, where the loss of the exchange rate instrument does not have any significant costs (e.g. Austria, Benelux).

- However net benefits of monetary union are not the same for all members. EMU members at the periphery may not be as strongly viable members in the long run in comparison to the states of the U.S. (Kouparitsas 1999). Analogously, EMU is estimated to be successful for all original 12 EU countries only if fiscal reforms are pursued in order to attain larger comovement among all members (Haug et al. 2000).
- Output variability decreases through the aggregation effect and the mean of stochastic variables fluctuates by less than its components.
- The loss of seigniorage is marginal once price stability has been reached and minimum reserve requirements are harmonized and remunerated. Differences in preferences regarding cash holdings (currently the predominant reason for "winners and losers") might diminish over time as the importance of cash is being reduced (plastic money, etc.) but not eliminated (need for cash in the underground and criminal economies).
- Crespo-Cuaresma et al. (2002) estimate the growth effects of EU membership using an endogenous growth model and panel data. They find a growth bonus from EU membership which is relatively higher for poorer member countries and which is permanent.

3. Fundamental Issues On Long-Run Sustainability of a Monetary Union

This section discusses three key issues that are crucial in the theory and experience of European economic and monetary union: the role of fiscal policies, labor market issues and financial market integration and supervision.⁵

The euro area is now characterized by one common currency and one monetary policy. Albeit sovereignty of member countries is constrained by the law of the EU, they remain separate political entities pursuing independent policies. Hence the issue arises whether a monetary union can work without a political union. A political union does not seem to be necessary for the success of a monetary union, especially if the three fundamental issues are resolved.

3.1. Role of Fiscal Policies: Unpleasant Fiscal Arithmetic, Monetary Dominance, and Fiscal Coordination

The relationship between fiscal and monetary policies in monetary unions has been an object of many studies in recent years. Much of this is a reaction to the Maastricht Treaty of 1992 and the Pact for Stability and Growth (SGP), adopted by the EU-Council 1997.⁶ The Treaty institutionalized binding fiscal rules for monetary convergence; the Pact specified these rules and empowers the Council to impose sanctions for non-compliance as a non-interest bearing deposit (maximum 0.5% of GDP) which is converted into a fine after two years, unless the excessive deficit has been corrected.

Are such fiscal rules really necessary for the success of a MU? Some authors suggest that they may be a nuisance (see Eichengreen and Wyplosz 1998). Some argue from the perspective of static macroeconomics, on which the theory of optimum currency areas is built. According to this view no restrictions on the use of fiscal policies should be imposed: IS and LM curves can be shifted independently. Of course, for reasons of policy efficiency, policy coordination should seek optimal policy mixes. Yet, given that monetary policy is centralized in MUs and, in the case of EMU, shaped by the ESCB, it is argued that “nationalized” or even “regionalized” fiscal policies should be fixed individually and complemented by an interregional fiscal transfer mechanism to cope with asymmetric shocks within the MU.

From a neoclassical perspective, binding fiscal rules could also be unwarranted. If Ricardian Equivalence holds, fiscal deficits are macroeconomically irrelevant and have no effects on real interest rates. If it does not hold but financial markets are efficient, sovereign credit risk will be priced like any other financial risk and reflected by interest rate spreads or by credit rationing. Why should there exist bureaucratic and political procedures, based on an ambiguous pact, which determine “excessive deficits” and result in fining states? Would big EU members really comply with fiscal rules or, if needed, just demonstrate their political muscle? Instead, these authors argue, one should trust in the functioning of market mechanisms.

⁵ We do not discuss trade and goods market integration, because EMU seems to suggest that this integration is a prerequisite for forming a MU and reaping its benefits.

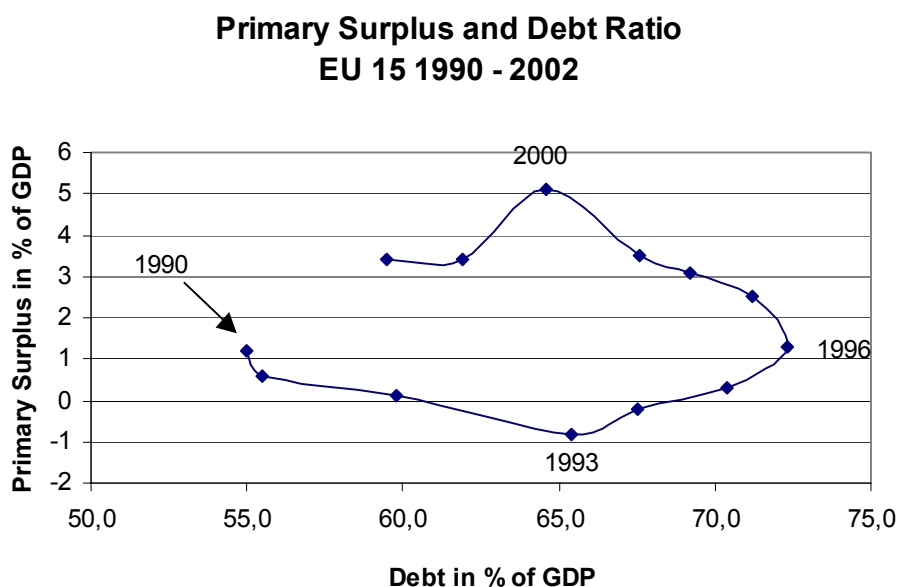
⁶ Resolution of the European Council on the Stability and Growth Pact Amsterdam, 17 June 1997; Official Journal C 236, 02/08/1997: 0001-0002

In contrast to these views, there is now a growing literature on why fiscal rules make sense in a monetary union. Obviously, issues about imperfect financial markets, especially with the pricing of sovereign credit risks can be raised. Yet, another basis of justifying fiscal rules are insights of dynamic macroeconomics. E.g., Sargent-Wallace's unpleasant monetarist arithmetic argues that a restrictive monetary policy, yielding a small inflation tax (seigniorage) only, may be insufficient to balance exogenously determined primary public deficits. Public debt may explode. To avoid this, monetary policy needs to adapt at some future date, providing more seigniorage. Then monetary policy yields to fiscal policy in a game of chicken between monetary and fiscal authorities (Sargent-Wallace 1981). Winckler-Hochreiter-Brandner (1998) reversed this analysis. They demonstrate that the architecture of EMU implies the opposite, i.e. an unpleasant fiscal arithmetic. In Euroland, fiscal authorities have to yield to the ESCB at some date. Dixit (2001) extensively analyzes games of monetary and fiscal interactions in the EMU, indicating that freedom of national fiscal policies undermines the ESCB's monetary commitment. Dixit thereby justifies fiscal constraints like the Stability and Growth Pact (SGP). In addition, the coordination among regional fiscal authorities seems necessary.

Woodford (1995, 1998), Canzoneri-Diba (1996), Buiters (1998) in a critical review, recently Daniel (2001), and many others have contributed to develop the fiscal theory of the price level. According to Woodford's model, economies are always confronted by various random shocks which trigger unexpected variations in the level of net deficits and public debt. Fiscal sustainability requires two possible reactions in the case of negative shocks: (1) higher inflation taxes respectively more seigniorage, based on a shift to a more expansionary monetary policy stance, thus diminishing the burden of nominal debt or (2) introduction of fiscal policies aimed at reducing primary deficits in subsequent periods. The former would indicate a fiscal dominant regime, since monetary policy adapts, whereas the latter describes a monetary dominant regime, since fiscal policies change. The term "dominance" reminds us of the term "unpleasant arithmetic".

Unfortunately, empirical tests aimed at assessing regime shifts from fiscal to monetary dominance in the EU (or the other way around) are highly inconclusive, see

Canzoneri-Diba (1996)⁷. A visual inspection of aggregate EU data suggests however, (although only few observations are taken into account) that in 1993, when the Maastricht Treaty became effective, a regime shift from fiscal to monetary dominance took place. Monetary dominance was reinforced in 1996 as is visually illustrated in the figure below.



Fiscal rules in monetary unions are necessary, but that does not imply a formal SGP. A formal SGP hence is not necessary, but is it sufficient? Based on the seminal paper by Mundell (1961) some argue that the SGP is not sufficient to maintain a monetary union since it lacks a transfer mechanism to cope with asymmetric shocks. However, Kletzer and von Hagen (2001) argue that the welfare effects of such fiscal insurance schemes are quite ambiguous. The authors conclude that this is the main reason why in contrast to Mundell's claim and popular arguments in the policy debate no substantial fiscal insurance schemes against asymmetric shocks are necessary in a MU. The SGP is thus sufficient.

⁷ First, most EU countries adapted their measures of public debt to Maastricht standards in 1990, thereby precluding comparison of pre and post-1990 debt series. Second, only annual data are available. To increase the number of observations, a panel study should be pursued. However, due to many special circumstances in the individual EU states a host of dummy variables have to be included. Third, one needs to concentrate on statistical procedures to test for structural breaks.

Another criticism has been that the SGP unnecessarily constrains national fiscal policy in case of idiosyncratic shocks. However, one can argue that, *under normal circumstances*, the SGP does *not* unduly constrain fiscal policy. E.g., if the Pact's goal of close to balance or in surplus *over the medium term*, i.e., over the business cycle, is reached, then automatic stabilizers can work unconstrained without endangering the 3% deficit limit. In addition the Treaty stipulates that, under *exceptional circumstances*, the 3% deficit limit may be overshoot without invoking the excessive deficit procedure.

3.2. Labor Mobility, Wage Flexibility and Integration

The elimination of the nominal exchange rate as an instrument to absorb idiosyncratic shocks raises the question about how such shocks can be dealt with without straining MU. Mundell (1963) argued that a MU is feasible as long as there is sufficient labor market mobility and/or aggregate and relative real wage flexibility. In contrast to the US, Europe is said to lack both (Layard et al. 1994; Tyrväinen 1995) and thus EMU is bound to raise unemployment and political tensions (Feldstein 1997 and 1998). While labor mobility in Europe has been low and has hardly changed even since the establishment of the single market, there is some evidence that real wage flexibility has increased in recent years.

At the same time there remain uncertainties regarding the evolution of trade unions. First, it is still an open question how trade unions have responded to the establishment of EMU: Cukierman and Lippi (2001) argue that EMU alters the strategic interactions among wage bargaining partners. In a MU, trade unions become relatively smaller, feel macroeconomically less responsible and thus will be more aggressive when negotiating wage contracts. As a result, unemployment will rise. Knell (2001) extends this model to open economies and, in contrast, finds that the establishment of EMU has had no effect on unemployment, essentially because a shadow MU existed before 1999. Well before 1999 trade unions were concerned with international competitiveness and price stability, which was guaranteed by the anchor central bank (the Bundesbank). As a consequence there was no regime shift for these countries when Stage Three of EMU started.

Yet, there are at least two issues regarding the evolution of trade unions and the centralization and decentralization of wage bargaining processes, respectively, in EMU.

The first relates to the question of whether trade unions will remain nationally segmented or whether they will attempt to "regain their relative size" by cooperating and eventually merging across EMU. Calmfors (2001) argues that transnational wage setting seems unlikely due to prohibitive coordination costs. If at all, one could imagine trans-EMU wage bargaining taking place in multinational firms.

The second issue relates to unemployment as a regional (and sectoral) problem (Soltwedel et al. 1999). Unemployment rates show large intra-EMU dispersion, with very high rates observed in weak regions like Eastern Germany, the Mezzogiorno and various regions in Spain, Portugal, and Greece. The European Commission (2000), the IMF (1999), and the OECD (1999) have identified European unemployment as a predominantly structural problem which can only be tackled through fundamental labor market reform. At the same time highly different unemployment rates call for a decentralization of wage bargaining and wage setting, down to firm levels, to allow for larger relative wage dispersion (Davies and Hallet, 2001).

To conclude: Stage Three of EMU did not imply regime shifts in labor markets of those participating countries that had a long history of pegging their currency to the DEM (e.g. Austria, Belgium, the Netherlands). Labor mobility did not change and, in any case, is not necessary for a smooth functioning of EMU. The really important issues are real wage flexibility and structural adjustment. While some progress has been made much more is needed.

3.3 Financial Integration and Supervision

Financial market integration is a worldwide phenomenon, driven by globalization and technological progress. Adoption of the euro added another catalytic dimension for financial integration in the Eurozone. Following its introduction in January 1999, the (unsecured) money markets integrated almost immediately and smoothly (Gaspar et al. 2001) into a single market as reflected by the substantial decline in bid-ask spreads (Galati and Tsatsaronis 2001). Bond markets have widened and deepened appreciably but government bonds remain only imperfect substitutes for each other. Yield differentials of equal quality sovereign bonds persist. E.g. German and Dutch government bonds are both rated AAA but continue to be differently priced. At the same time there was a sharp rise in

non-sovereign bond issues. The euro quickly emerged as the second most important bond issuance currency after the US dollar. Yet progress has been uneven. The "Lamfalussy Report" (2001) finds that the process of financial market integration remains slow and incomplete. Padoa-Schioppa (2002) identifies market-related factors (fragmented infrastructure for cross-border clearing and settlement of security transactions) and policy-related conditions (regulatory obstacles) as inhibiting factors. This is also true for other financial sectors and, in particular, in the field of banking and capital-market supervision.

The European cross-border clearing and settlement infrastructure, which is essential for smoothly and efficiently functioning securities markets, remains highly fragmented. There are some 20 different systems in operation at the present time (Giovannini Report 2001, von Thadden 2001) resulting in expensive and cumbersome cross-border transactions and clearing procedures. Major steps in integration and consolidation of the infrastructure have yet to be undertaken.

The unified monetary policy of the euro area is confronted with regulatory and supervisory authorities which are specialized both nationally and across sectors. This does not pose a problem as long as financial markets remain nationally segmented. In this case the principle of home country control and host country responsibility greatly overlap (De Grauwe 2000). Increasing cross-border mergers or market integration, however, blur responsibilities and may contribute to slower and less efficient crisis management.

The ECB's regulatory and supervisory roles are defined in Protocol No. 3 of the Statute of the ESCB and the ECB. Art. 3 only states that "the ESCB shall contribute to the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system". Art. 25 lays down the consultative role of the ECB in prudential supervision. Thus regulatory and supervisory functions are assigned to national authorities. While precise institutional responsibilities differ markedly across EMU, national central banks are involved in one way or another in all Eurozone countries⁸ (Hochreiter 2000), a point which is also frequently stressed by the ECB.

⁸ This remains true also after the recent changes in the supervisory structures in Austria and Germany where an independent Financial Market Authority was established.

This set of separated institutional arrangements has drawn severe criticism. Favero et al. (2000) argue that European integration will intensify competition among financial institutions, reducing profits and raising systemic risk. The problems will grow once cross-border mergers proliferate. Hence the latter authors call for more centralization of prudential supervisory structures, possibly by assigning a larger role to the ECB. Benink and Whilborg (2002) argue that market discipline should play a bigger role when regulating banks.

Yet, the "Brouwer Report" on Financial Stability (European Commission 2000) concludes that "the existing institutional arrangements provide a coherent and flexible basis for safeguarding financial stability in Europe. *No institutional changes are deemed necessary*". (European Commission 2000: 7; emphasis added). Europe, however, does need a strengthening of cross-sector and cross-border cooperation of financial regulators and supervisors (European Commission 2000).

Once a crisis hits there is a need for effective crisis management and emergency financing. Bruni and de Boissieu (2000) distinguish three financing channels to defuse a crisis: tax payers money, private capital and central bank financing through its Lender of Last Resort (LOLR) function. While there are a number of arguments in favor and against the central bank's LOLR function, there is a broad agreement on its need at the macroeconomic but not at the microeconomic level (Freixas 2001). In the Eurozone (more precisely in the ESCB) there are no clear provisions for a LOLR function and, in particular, how the function is allocated between the ECB and national central banks (Bruni and De Boissieu 2000) As far as the ESCB is concerned, the Treaty does not assign LOLR responsibilities. This view of a de facto decentralized function raises concerns about the handling of a fast-developing liquidity crisis (Prati and Schinasi 2000). Yet, while past experience – before EMU – has shown that central banks have been quick and efficient in defusing national and international crises, it remains an open question if past pre-EMU experience can offer much guidance in EMU.

Our own conclusion is that no major change of the European institutional regulatory and supervisory architecture is in the offing at the present time. The same is true for a more precise delineation of LOLR functions in the ESCB. The first major (systemic) crisis will provide the litmus test regarding the adequacy of current institutional arrangements and the

improvements now being implemented in the field of supervision (e.g. the round table of chairs of supervisory committees, the strengthening of central bank involvement in some of the euro area countries).

Section 4: Recent Trends and Future Options of Monetary Regimes in Latin America and the Caribbean (LAC)

In this section we review recent trends in monetary and exchange rate regimes in LAC and discuss future regime, with particular attention to MU, in the light of the recent literature and the EMU experience.

4.1. Exchange Rate and Monetary Regime Trends in LAC.

The world trend away from pegged ER regimes and toward more flexible arrangements noted in section 2 is even more pronounced in LAC.⁹ Regarding M regimes, the world trend toward inflation targeting among floaters is also more intense in LAC.

In 1994 LAC's dominant regime combination was an ER regime of limited flexibility (adjustable peg or band) combined with an ER or a monetary growth target (Table 2). Since then LAC has evolved according to the two-corner hypothesis. In 2002 five countries that comprise 87% of regional GDP (Brazil, Chile, Colombia, Mexico, and Peru) are positioned close to the lower-right hand corner, having adopted a managed float with inflation targeting. Their typically independent central banks have invested in strengthening their domestic currencies by stabilizing under inflation targeting and modernizing their monetary policy frame. At the same time they have made progress toward a floating ER regime where "fear to float" is mostly reflected by occasional but at times intensive exchange rate interventions (Schmidt-Hebbel and Werner 2002).

Three small countries that represent 2% of regional GDP have adopted the U.S. dollar (the upper left-hand corner in Table 2): Ecuador, El Salvador, and Panama. Many smaller economies, particularly in Central America and the Caribbean, may follow suit. 6

⁹ According to the IMF classification, the share of countries with fixed ER regimes, among 18 LA countries, fell from 67% in 1979 to only 16% in 2002, the share of independent floaters increased from zero in 1979 to 32% in 2000, and intermediate regimes of ER adjustment by indicators have remained stable at 27%, while managed floats have increased from 27% to 44%.

very small island economies in the Caribbean form the ECCU monetary union whose currency is pegged to the US dollar.

Smaller LAC economies with diversified trade and that suffer from idiosyncratic shocks (and therefore are not highly synchronous with the US or world economy), face stiff tradeoffs regarding their regime choice between the upper left and lower right corners. Among the latter are Costa Rica, Uruguay, and Bolivia that have currently in place ER regimes of limited flexibility under various nominal anchors for their monetary policy. Two large economies in currently critical situation – Argentina and Venezuela – have recently been forced off their rigid ER regimes but their final choice of ER and M regimes is still open.

In sum: LAC is a very heterogeneous region where countries differ widely in size, structure, and politics. Hence they also vary significantly in economic factors and political conditions that shape their choice of M and ER regimes.

4.2. Regional trade blocks and accession to outside blocks

Like in the European experience, monetary regime choices are strongly determined by trade integration and accession. A strong push toward unilateral trade opening, bilateral trade agreements, regional agreements, and accession to free trade with the US and the EU is observed in LAC since the 1990s. Total trade has increased significantly in most LAC countries during the last two decades. Regional common-market agreements – Mercosur, the Andean Pact, the Central American Common Market, and CARICOM – determine some regional initiatives of macroeconomic coordination and eventual adoption of a common regional currency. However a large gap separates reality from rhetorics in all regional trade agreements, marred by frequent political setbacks and administrative violations of agreements that severely hamper trade integration. In fact, LAC's regional agreements lag behind the level of European trade integration attained by the 1957 Treaty of Rome. This offers a stark contrast to the free-trade agreement NAFTA, which has been highly successful in binding Mexico more closely into the economies of the U.S. and Canada. The prospects for a continental agreement towards a Free Trade Area for the Americas (FTAA) to be reached in 2005 and similar free trade arrangements to be attained

at continental or regional (Mercosur) levels with the EU bring the discussion of currency choice and its costs and benefits to the forefront.

4.3. Costs and Benefits of Giving up National Currencies in LAC

There are few studies for LAC countries or regions on OCA criteria, micro benefits, and macro costs of unilateral dollarization or adopting a common currency. However some recent work focuses on some OCA criteria for the region and assesses the benefits of sub-regional monetary union and unilateral dollarization.

Ahmed (1999) analyzes the sources of economic fluctuations in LAC's three largest economies – Argentina, Brazil, and Mexico – to assess the implications for their choice of ER regimes. External shocks account only for 20% of output fluctuations and US interest rate shocks have anomalous effects (first expansionary, then contractionary) on Latin American output levels. These findings point against the choice of fixed ERs, MU or unilateral dollarization in these three countries. However real ERs are found to be only weakly responsive to US interest rate and terms-of-trade shocks in the three countries, weakening arguments that favor floats.¹⁰

As opposed to the findings by Frankel and Rose (1998) and Rose and Engel (2001) for the EU, Calderón et al. (2002) show that the impact of trade integration on business cycle synchronization is much smaller in developing countries in general and, in the case of LAC, is not significantly different from zero.¹¹ For Caricom countries, Kendall (2000) finds little evidence of exchange rate convergence, confirming the more general results by Rose and Engel (2001) quoted above.

Morandé and Schmidt-Hebbel (2000) assess the pros and cons of unilateral dollarization and joining a MU for Chile. High production and export specialization in commodities and highly idiosyncratic external and domestic shocks explain the negative (or low positive) output correlation between Chile and prospective currency partners in

¹⁰ These and subsequent findings are subject to the standard limitation that they are based on historical samples under national currencies and unstable domestic policies, reflected in low trade integration and low business cycle correlation. OCA benefits are potentially endogenous to monetary regimes.

¹¹ This can be rationalized by differences in the pattern of trade. LAC and developing-country trade is relatively more intensive in homogeneous primary goods than by differentiated manufactured goods. Hence trade opening causes more specialization in the former categories, leading to lower cyclical output correlation with trading partners.

Mercosur, the U.S. or the EU. Chile is found to be a less likely candidate for currency union or unilateral dollarization than Argentina, Brazil or Mexico.

4.4. Monetary Union in Mercosur and Nafta

In discussing the options of a monetary union for Mercosur, Eichengreen (1998) finds that Mercosur members exhibit unusually large real exchange rate volatility, reflecting, *inter alia*, the influence of idiosyncratic macroeconomic shocks. Levy Yeyati and Sturzenegger (2000) find that Mercosur countries fail the tests implied by OCA criteria. Intra-Mercosur trade integration is very low in comparison to the EU, as documented by Belke and Gros (2002), and hence much larger intra-Mercosur exchange-rate variability is required. Mercosur institutions and policies are weaker than those in the EU, making Mercosur more subject to idiosyncratic shocks that require more exchange-rate flexibility. Weak output correlation and nationally segmented labor markets reduce the scope for labor markets to absorb asymmetric shocks that are larger in Mercosur than in Nafta or EMU. Mercosur countries exhibit large differences in fiscal policy, banking strength, prudential financial regulation, and labor market flexibility, exemplified in *extremis* by Argentina's current crisis. Before achieving significant progress in domestic reform and international coordination in these areas, a common Mercosur currency remains a distant dream.

Recent studies assess the costs and benefits for Canada and Mexico to join the U.S. in a MU (Buitier 1999, Morales 1999, Chriszt 2000). Regarding prerequisites, much progress in financial and labor market integration has to be achieved and the issue of LOLR has to be addressed before adopting a Nafta MU. Even if economic arguments favor such a union, political factors may be the largest remaining hindrance. At present, the will to relinquish monetary sovereignty to the U.S. is not well developed in its two partners and the U.S. does not appear enthusiastic to share its monetary sovereignty. Buitier argues that the difficulty in attaining political accountability by a North American central bank ensures that a Nafta MU is highly unlikely.

4.5. Dollarization

Substitution of the US dollar for national currencies has a long history in LAC. Currency and asset substitution was a rational response to high domestic inflation, weak banks, and pervasive devaluation fears. De facto dollarization of transactions and asset

holdings exhibits hysteresis and hence is difficult to reverse (Calvo and Végh 1992). Large de facto dollarization is widespread in small and medium-sized LAC economies, for example in Bolivia, Guatemala and Uruguay. In addition, all LAC economies hold large amounts of US dollar-denominated net foreign liabilities, exposing them to significant wealth losses in the wake of currency devaluation. De facto dollarization and large dollar debts often dominate conventional OCA criteria when evaluating official dollarization – as recently demonstrated by El Salvador. Panizza et al. (2000) argue that official dollarization in Central American and Caribbean economies may reduce inflation and financial fragility by reducing the volatility of key relative prices. Edwards (2001), confirming the inflation gain from dollarization, argues against dollarization by providing evidence that dollarized countries grow at significantly lower rates and are not spared from major current account reversals.

4.6. Lessons from EMU and Prospects for Regime Choice in LAC

The EMU experience offers lessons for prospective MU plans in LAC. First, a sound fiscal policy plays a dominant role among the prerequisites for successful MU. Maastricht and the SGP engineered a reversion from fiscal to monetary dominance in the Eurozone. LAC has accomplished on average significant progress towards fiscal stability during the last decade but many countries remain fiscally fragile – Argentina is just the extreme case of fiscal profligacy and conflict.

Second, EMU is not an example regarding labor market flexibility, as noted above. Neither is LAC, where two models of labor markets are observed. In non-English speaking countries (i.e., most of LAC), labor markets are beset by rigid legislation and rules, modeled on the Continental European example, that contribute to wage rigidity, unemployment, and large informal employment. This stands in stark contrast to small English-speaking countries in the Caribbean, where labor legislation and practices follow the liberal Anglo-American model (IDB 1996, Heckman and Pages 2001).

Third, EMU shows that a sound financial sector is a precondition for efficient financial intermediation (required to reap the micro benefits of a MU) and low likelihood of future banking crises (required to maintain fiscal solvency). This stands in contrast to LAC, where most banking sectors are fragile – beset by large bad debts and exposed to significant

maturity, currency, and credit risks. Moreover, prudential regulation and supervision of banks and capital markets follow different standards in different LAC economies.

Fourth, with much progress in price stabilization – LAC’s average inflation rates have fallen from more than 100% per annum in the 1980s to single-digit levels in recent years – seigniorage is now a negligible source of fiscal revenue in most LAC economies. But this does not mean that the sacrifice of seigniorage when unilaterally dollarizing is uncontroversial in LAC. Few countries – particularly not the larger ones – are willing to give away their seigniorage revenue without compensation from the U.S. or a say in monetary policy – both still unacceptable propositions for the U.S.

This leads to our fifth inference: the difficult politics of MU. EMU is and now and the future a foremost political agreement, of which economic integration and MU are only part of. Europe’s growing willingness to sacrifice national sovereignty – in macroeconomic management, structural policies, and, eventually, politics – puts MU on a very different footing than what LAC is currently aiming at. There is scarce evidence that LAC countries are at present willing to sacrifice sovereignty in economic matters – much less so in politics – even if the net benefits of closer integration were obvious to everybody. Why? For two reasons: the still ongoing task of developing nation states and large country heterogeneity. Some countries are beset by domestic conflicts that require massive efforts in addressing their roots in order to build up or rebuild their nation state. And those countries that have largely accomplished the latter task and have reformed their economies have little incentives to join their weaker neighbors in closer integration and MU.

Finally, a positive lesson emerges from theory and country experience in Europe and LAC. There is no conflict between the long-term strategies that lead to strengthening national currencies and joining a MU. To a large extent, the preconditions for successful national monetary policy under inflation targeting cum floating exchange rate are identical to the prerequisites for joining a MU: lack of fiscal dominance, strong prudential regulation and supervision of financial markets, flexible labor markets, high international factor mobility, large trade integration. This is clearly exemplified by countries in Central Europe – like Poland, the Czech Republic, and Hungary – that are reforming their economies and have adopted inflation targeting to strengthen domestic monetary policy in their transition to EU accession and eventual euro adoption.

Section 5: Conclusions

The paper started by documenting the worldwide move away from intermediate exchange-rate regimes and largely toward floating exchange rates. This move to the corners can be explained by initial conditions and optimality considerations – both tend to be very different in different countries. In LAC, for instance, unilateral dollarization was adopted because of the result of bad initial macroeconomic conditions (like in Ecuador) or because of longer-term optimality considerations based on OCA criteria (like in El Salvador). At the other extreme, adoption of a floating cum inflation targeting can be the result of an initial crisis situation (as in Brazil) or as a gradual evolution toward more flexibility and monetary policy independence (as in Chile).

Our review of the empirical evidence on OCA criteria for EMU members leads to the unsurprising but strong conclusion that benefits of EMU outweigh costs by a relatively large margin although net benefits are not the same for all members. This result may have been influenced by the fact that the majority of the present members of EMU have been in a quasi-MU with Germany long before Stage Three of EMU started due to their fixed exchange rate arrangements.

Our review of three key issues that are crucial in the theory and experience of European economic and monetary union led us to the following conclusions:

- First, while fiscal rules are necessary in EMU, the SGP is sufficient but not necessary.
- Second, it is not so much labor mobility that is important for a smooth functioning of EMU but rather real wage flexibility and structural adjustment.
- Third, no major change of the European institutional regulatory or its supervisory architecture structure from national to supranational "dominance" is in the offing. Yet, this does not jeopardize monetary union, at least for the time being.

Finally, what are the prospects for regional or sub-regional monetary union in LAC? Recent trends confirm even more strongly for LAC than for the rest of the world the two-corner hypothesis, particular the flight to the floating cum inflation-targeting corner. A strong push toward bilateral and multilateral regional trade agreements and trade agreements with the US and the EU have been reached during the last decade and are expected to be signed in the near future. However, with exception of highly successful

NAFTA, the multilateral intra-regional trade agreements have been marred by political setbacks and administrative violations that severely hamper effective trade integration. Some empirical evidence on the costs and benefits of giving up national currencies in LAC show significantly less favorable conditions for LAC countries than for EU nations. Low intra-regional trade, large idiosyncratic shocks, major differences in institutions and policies, and large heterogeneity in development levels point against intra-regional monetary union under current conditions. Dollarization seems to be more feasible for those smaller LAC economies that are highly correlated and integrated with the U.S. and/or are pushed to abandon their national currencies because of unfavorable domestic conditions. However for the majority of medium-sized and large economies, neither intra-regional monetary union nor dollarization appear to dominate their recent decision to strengthen national currencies by adopting a floating exchange rate with inflation targeting. However, in doing so and succeeding to lock in macroeconomic stability and relative price flexibility, the latter countries may be on the best course to start a successful path toward intra-regional monetary union in the long term.

References

- Ahmed, Syed, (1999). "Sources of Economic Fluctuations in Latin America and Implications for the Choice of Exchange Rate Regimes", Board of Governors of the Federal Reserve System, International Finance Discussion Papers No. 656, December.
- Artis, Michael and Toro, Juan (2000). "Testing for common patterns in European business cycle chronologies", Greek Economic Review, 20, 2, autumn.
- Bayoumi, Tamim and Eichengreen, Barry, (1997). "Ever closer to heaven? An optimum currency area index for European countries", European Economic Review 41, 761-770.
- Bayoumi, Tamim and Eichengreen, Barry, (1998). "Exchange Rate Volatility and Intervention: Implications of the Theory of Optimum Currency Areas", Journal of International Economics 45, 191-209.
- Benink, Harald and Wihlborg, Clas, (2002) "The new Basel capital accord: making it effective with stronger market discipline", forthcoming in European Financial Management, March.
- Belke, Ansgar and Gros, Daniel (2002). "Monetary Integration in the Southern Cone: Mercosur is not like the EU", presented at ECLAC Conference "Towards regional Currency Areas", Santiago, Chile, March.
- Bruni, Fanco and De Boissieu, Christian, (2000). "Lending of Last Resort and Systemic Stability in the Eurozone", forthcoming in: Goodhart, Charles (ed.), "Which Lender of Last Resort for Europe?", Central Banking Publications, London, 175-196.
- Buiter, Willem Hendrik, (1998). "Young Person's Guide to Neutrality, Price Level Indeterminacy, Interest Rate Pegs and Fiscal Theories of the Price Level", CEPR Discussion Paper No. 1799, February.
- Buiter, Willem Hendrik, (1999). "The EMU and the NAMU: What is the case for North American Monetary Union?", Canadian Public Policy, September.
- Calderon, Cesar , Chong, Alberto and Stein, Ernesto, (2002). „Does Trade Integration Generate Higher Business Cycle Synchronization?", Central Bank of Chile, Mimeo.
- Calmfors, Lars, (2001). "Wages and wage-bargaining institutions in the EMU - a survey of the issues", Seminar Paper No. 690, Institute for International Economic Studies, Stockholm, May.
- Calvo, Guillermo and Carmen Reinhart, (2000). "Fear of Floating", NBER Working Paper 7993.
- Calvo, Guillermo and Carlos Vegh, (1992). "Currency substitution in developing countries: an introduction", Revista de Análisis Económico 7(1).
- Canzoneri, Matthew and Diba, Behzad T., (1996). "Fiscal Constraints on Central Bank Independence and Price Stability", CEPR Discussion Paper No. 1463, September.
- Crespo-Cuaresma, Jesús, Dimitz, Marie Antoinette and Ritzberger-Grünwald, Doris, (2002). "Growth, Convergence and EU Membership", Working Paper 62, Oesterreichische Nationalbank.
- Coleman, Andrew, (1999). "Economic Integration and Monetary Union", Treasury Working Paper 99/6, New Zealand.
- Chriszt, Michael, (2000). "Perspectives on a Potential North American Monetary Union", Federal Reserve Bank of Atlanta Economic Review 85(4), 29-38
- Cukierman, Alex and Lippi, Francesco (2001). "Labour Markets and Monetary Union: A Strategic Analysis", The Economic Journal, 111, 541 -565, July.
- Daniel, Betty C., (2001). "The fiscal theory of the price level in an open economy", Journal of Monetary Economics 48, 293-308, October.
- Davies, Sara and Hallet, Martin, (2001). "Policy responses to regional unemployment: Lessons from Germany, Spain and Italy", Economic Papers No. 161, European Commission, December.
- De Grauwe, Paul, (2000). "Economics of Monetary Union", Fourth Edition, Oxford University Press, Oxford.

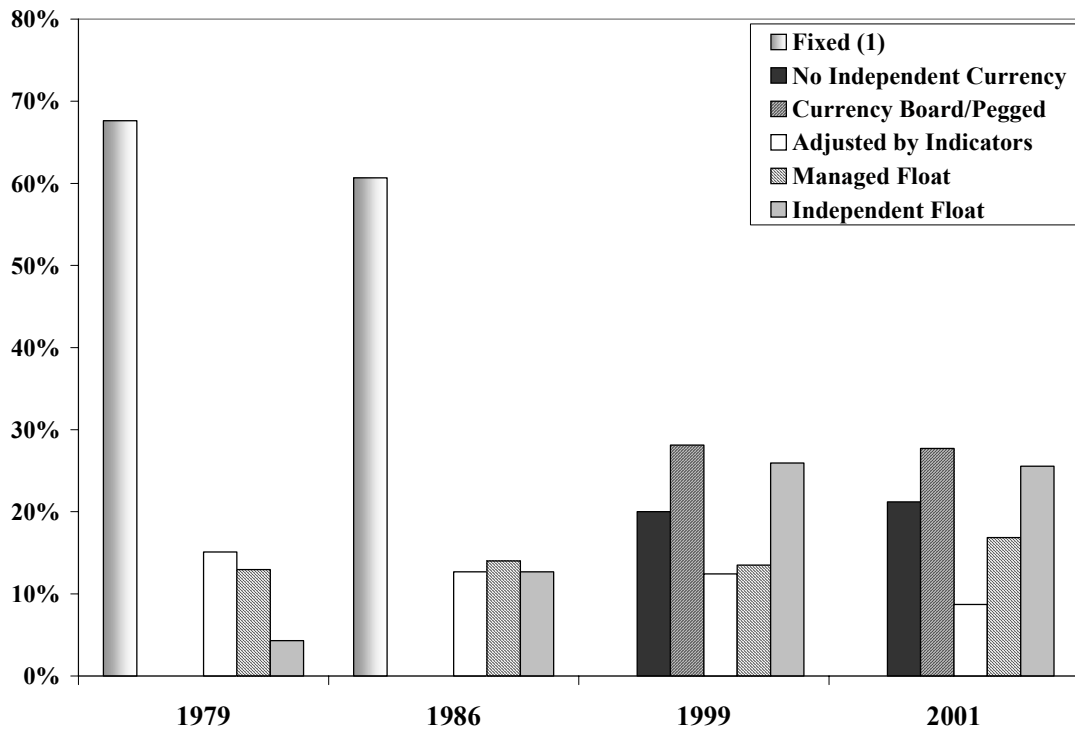
- De Gregorio, José, (1999). "Financial Integration, Financial Development and Economic Growth", *Estudios de Economía*, 26 (2), 137 - 161.
- Dixit, Avinash, (2001). "Games of monetary and fiscal interactions in the EMU", *European Economic Review* 45, Alfred Marshall Lecture, 589-613, May.
- Edwards, Sebastian, (2001). "Dollarization and Economic Performance: An Empirical Investigation", NBER Working Paper 8274, May.
- Eichengreen, Barry, (1998). "Does Mercosur need a single currency?", NBER Working Paper 6821, December.
- Eichengreen, Barry and Wyplosz, Charles (1998). "The Stability Pact: more than a minor nuisance?", *Economic Policy*, Vol. 26, 67-113, April.
- Escaith, Hubert et al., (2002). "Regional Integration and the Issue of Choosing an Appropriate ER Regime in Latin America", presented at ECLAC Conference "Towards regional Currency Areas", Santiago, Chile, March.
- European Commission, (1990). "One market, one money", *European Economy* No 44, October.
- European Commission, (2000). "Report on Financial Stability", *Economic Papers* No. 143, May.
- Fatas, Antonio, (1997). "EMU: Countries or regions? Lessons from the EMS experience", *European Economic Review* 41, 743-751.
- Favero, Carlo A. , Freixas, Xavier , Persson, Torsten and Wyplosz, Charles, (2000). "Monitoring the European Central Bank 2: One Money, Many Countries and MECB Update", CEPR, June.
- Feldstein, Martin, (1997). "EMU and International Conflict", *Foreign Affairs* 76, 60-73.
- Feldstein, Martin, (1998). "The Political Economy of the European Economic and Monetary Union: Political Sources of an Economic Liability", NBER Working Paper No W 6150.
- Frankel, Jeffrey A. and Rose, Andrew K., (1997). "Is EMU more justifiable ex post than ex ante?", *European Economic Review* 41, 753-760.
- Frankel, Jeffrey A. and Rose, Andrew K., (1998). "The Endogeneity of the Optimum Currency Area Criteria", *The Economic Journal* 108, 1009-1025.
- Frankel, Jeffrey A. and Rose, Andrew K., (2002). "An Estimate of the Effect of Common Currencies on Trade and Income", forthcoming in *Quarterly Journal of Economics*.
- Freixas, Xavier, (2001). "Crisis management in Europe", Chapter 4, in Favero et al.
- Ffrench-Davis, Agosíny and Larrain, Guillermo, (2002). "How optimal are the Extremes? Latin American Exchange Rate Policies during the Asian crisis", presented at ECLAC Conference "Towards regional Currency Areas", Santiago, Chile, March.
- Galati, Gabriele and Tsatsaronis, Kostas, (2001). "The Impact of the Euro on Europe's Financial Markets", BIS Working Paper 100.
- Gaspar, Vitor , Perez-Quiros, Gabriel and Sicilia, Jorge, (2001). "The ECB Monetary Strategy and the Money Market", *International Journal of Finance and Economics* 6, 325 - 342.
- Glick, Reuven, Rose, Andrew K., (2001). "Does a Currency Union Affect Trade? The Time Series Evidence", UC Berkeley, Haas School of Business. Mimeo, November.
- Haug, Alfred A. , MacKinnon, James G. and Michelis, Leo, (2000). "European Monetary Union: A Cointegration Analysis", *Journal of International Money and Finance* 19, 419-432.
- Heckman, James and Pagés, Carmen (2000). "The Cost of Job Security Regulation: Evidence from Latin American Labor Markets", *Economía*, 1 (1), 109-54.
- Heinemann, Friedrich and Jopp, Mathias, (2002). "The Benefits of a Working European Retail Market for Financial Services", Institut für Europäische Politik, Berlin.
- Hochreiter, Eduard, (2000). "The Current Role of National Central Banks in the Eurosystem", *Atlantic Economic Journal*, Vol. 28, No. 3, 300 – 308, September.
- Hochreiter, Eduard and Rovelli, Riccardo, (2001). "The Generation and Distribution of Central Bank Seigniorage in the Czech Republic, Hungary and Poland", Mimeo, Oesterreichische Nationalbank.

- Hochreiter, Eduard , Rovelli, Riccardo and Winckler, Georg, (1996). "Central Banks and Seigniorage: A Study of Three Economies in Transition", *European Economic Review* 40, 629 - 643.
- IMF World Economic Outlook, (1999).
- OECD, (1999). "EMU: Facts, Challenges and Policies", Paris.
- Kendall, Patrick, (2000). "Exchange Rate Convergence in CARICOM", *Social and Economic Studies* 49(2-3), 139-166.
- Knell, Markus, (2002). "Wage Formation in Open Economies and the Role of Monetary and Wage-Setting Institutions", Working Paper No. 63, Oesterreichische Nationalbank.
- Kouparitsas, Michael A., (1999). "Is the EMU a Viable Common Currency Area? A VAR Analysis of Regional Business Cycles", *Federal Reserve Bank of Chicago, Economic Perspectives*, 4th Quarter, 2-20.
- Kletzer, Kenneth and von Hagen, Jürgen, (2001). "Monetary Union and Fiscal Federalism", Mimeo, ZEI, July.
- Kuttner, Kenneth N. and Posen, Adam S., (2001). "Beyond Bipolar: A Three-Dimensional Assessment of Monetary Frameworks", *International Journal of Economics and Finance*, Volume 6 No 4, October 369 - 388.
- Lamfalussy Report, (2001). "Final Report of the Committee of Wise Men on the Regulation of European Securities Markets", The Wise Men's proposal on the regulation of European Securities Markets", Brussels, February 15.
- Larraín, Felipe and Velasco, Andres, (2001). "Exchange Rate Policy in Emerging-Market Economies: The Case for Floating", *Princeton University Essays in Economics* N° 224.
- Layard, Richard, Nickell, Stephen and Jackman, Richard, (1991). "Unemployment: Macroeconomic Performance and the Labour Market", Oxford University Press, Oxford.
- Levy-Yeyati, Eduardo and Sturzenegger, Federico (2002). "Classifying Exchange Rate Regimes: Deeds vs. Words", Mimeo, Business School Universidad Torcuato Di Tella, January.
- Levy-Yeyati, Eduardo , Sturzenegger, Federico, (2000). "Is EMU a Blueprint for MERCOSUR?", *Cuadernos de Economía* 110, 63-99.
- Mahadeva, Laban and Sterne, Gabriel, (1998).
- Manioc, Olivier and Mountaban, Jeannine, (2002). "Is a Monetary Union in Caricom Desirable?", presented at ECLAC Conference "Towards regional Currency Areas", Santiago, Chile, March.
- McKinnon, Ron, (1963). "Optimum Currency Areas", *American Economic Review* 53, 717-724.
- Morales Castañeda, Raúl, (2001). "Unión Monetaria para América del Norte: Una perspectiva", *Comercio Exterior* 51, 480-494.
- Morandé, Felipe and Schmidt-Hebbel, Klaus, (2000). „Chile's Peso: Better than (Just) Living with the Dollar?" *Cuadernos de Economía* 110, 177-226.
- Mundell, Robert, (1961). "A Theory of Optimum Currency Areas", *American Economic Review* 51, 509-517.
- Padoa-Schioppa, Tomaso, (2002). "Remarks at the roundtable: Mid-term review of progress towards European financial integration", Brussels, February 22, www.ecb.int .
- Panizza, Ugo , Stein, Ernesto and Talvi, Ernesto, (2000). "Measuring Costs and Benefits of Dollarization: An Application to Central American and Caribbean Countries", Washington, D.C.: Inter-American Development Bank, Mimeo, September.
- Persson, Torsten, (2001). "Currency Unions and Trade: How large is the Treatment Effect?", *Economic Policy*, 435-448.
- Portes, Richard, (2000). "The Role of the Euro in the World: past Developments and Future Perspectives", in: Deutsche Bundesbank (ed.): "Recent Developments in Financial Systems and their Challenges for Economic Policy: a European Perspective", Frankfurt/Main.
- Portes, Richard and Rey, Hélène, (1998). "The Emergence of the Euro as an International Currency", *Economic Policy* 26, 263 - 303.

- Prati, Alessandro and Schinasi, Garry, (2000). "Will the ECB be the Lender of Last Resort", in: Artis, Michael, Weber, Axel and Hennessy, Elizabeth, (2000): "The Euro - A challenge and opportunity for financial markets", Routledge and SUERF, London and New York, 227 - 256.
- Rose, Andrew K., (2000). "One Money, One Market: The Effect of Common Currencies on Trade", *Economic Policy*, 9-45.
- Rose, Andrew K., Engel, Charles, (2001). "Currency Unions and International Integration", UC Berkeley, Haas School of Business, Mimeo, September.
- Sargent, Thomas J. and Wallace, Neil. "Some Unpleasant Monetarist Arithmetic", *Quarterly Review Vol. 5*, Federal Reserve Bank of Minneapolis, 1-17.
- Scandizzo, Stefania, (2002). "Options for Monetary Integration in the Andean Community", presented at ECLAC Conference "Towards regional Currency Areas", Santiago, Chile, March.
- Schmidt-Hebbel, Klaus and Tapia, Matias, (2002). "Monetary Policy Design and Transparency: Evidence from 20 Inflation Targeting Countries", Mimeo, Banco Central de Chile.
- Schmidt-Hebbel, Klaus and Werner, Alejandro, (2002). "Inflation Targeting in Brazil, Chile and Mexico: Performance, Credibility, and the Exchange Rate", forthcoming in *Economía*.
- Schuberth, Helene and Wehinger, Gert, (1998). "Room for Manoeuvre of Economic Policy in EU Countries - Are there Costs of Joining EMU?", Working Paper 35, Oesterreichische Nationalbank.
- Sekkat, Khalid, (1998). "Exchange Rate Variability and EU Trade", *Economic Papers No. 127*, February.
- Soltwedel, Rüdiger, Dohse, Dirk and Krieger-Boden, Christiane, (1999). "EMU Challenges European Labor Markets", IMF Working Paper WP/99/131, September.
- Tenreyro, Silvana, (2001). "On the Causes and Consequences of Currency Unions", Cambridge, MA, Harvard University, Mimeo, November.
- The Giovannini Group, (2001). "Cross-Border Clearing and Settlement Arrangements in the European Union", Brussels, November.
- Theurl, Theresia, (1998). "Erfolgsbedingungen für monetäre Unionen souverän bleibender Staaten: Die Beispiele des 19. Jahrhunderts", in: Mosser, A. (ed.): "Österreichs Weg zum Euro. Aspekte - Perspektiven – Handlungsspielräume", Wien (Manz), 17-61.
- Tyrväinen, Timo, (1995). "Wage Determination in the Long Run, Real Wage Resistance and Unemployment: Multivariate Analysis of Cointegration Relations in 10 OECD Economies", Bank of Finland Discussion Papers No.95.
- Von Hagen, Jürgen and Zhou, Jizhong, (2001). "The Choice of Exchange Rate Regimes - An Empirical Analysis for Transition Countries", ZEI, University of Bonn, Mimeo, November.
- Von Thadden, Ernst-Ludwig, (2001). "The Single Financial Market: An Assessment and Outlook for the Future", in: Oesterreichische Nationalbank (ed.): "Der einheitliche Finanzmarkt - eine Zwischenbilanz nach zwei Jahren", Oesterreichische Nationalbank, Wien, 32 - 47.
- Winckler, Georg, Hochreiter, Eduard and Brandner, Peter, (1998). „Deficits, Debt and European Union: Some Unpleasant Fiscal Arithmetic”, in: Guillermo Calvo and Mervyn King (eds): "The Debt Burden and its Consequences for Monetary Policy", MacMillan, London and Basingstoke, 254-276.
- Woodford, Michael, (1995). "Price level determinacy without control of a monetary aggregate", *Carnegie Rochester Conference Series on Public Policy* 43, 1-46.
- Woodford, Michael, (1998). "Control of the Public Debt: A Requirement for Price Stability?", in: Guillermo Calvo and Mervyn King (eds): "The Debt Burden and its Consequences for Monetary Policy", Mac Millan, London and Basingstoke.

APPENDIX

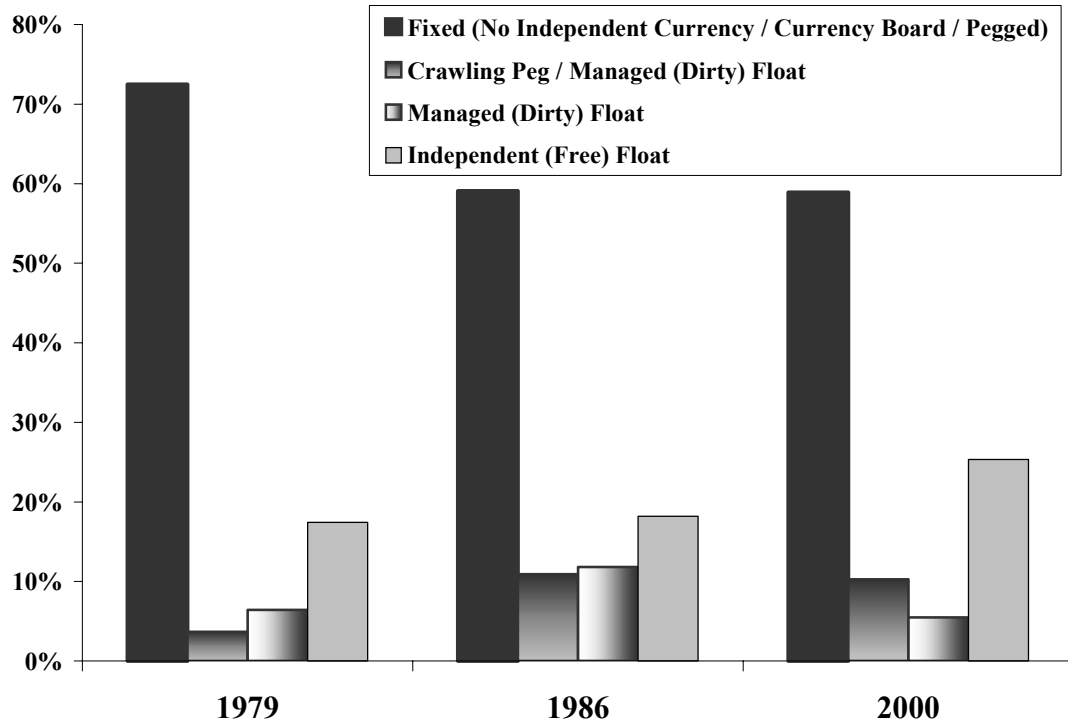
Figure 1
Country Distribution by Exchange Rate Regimes
IMF Classification: 1979, 1986, 1999 and 2001



Source: Authors' calculations based on the International Monetary Fund's *International Financial Statistics*.

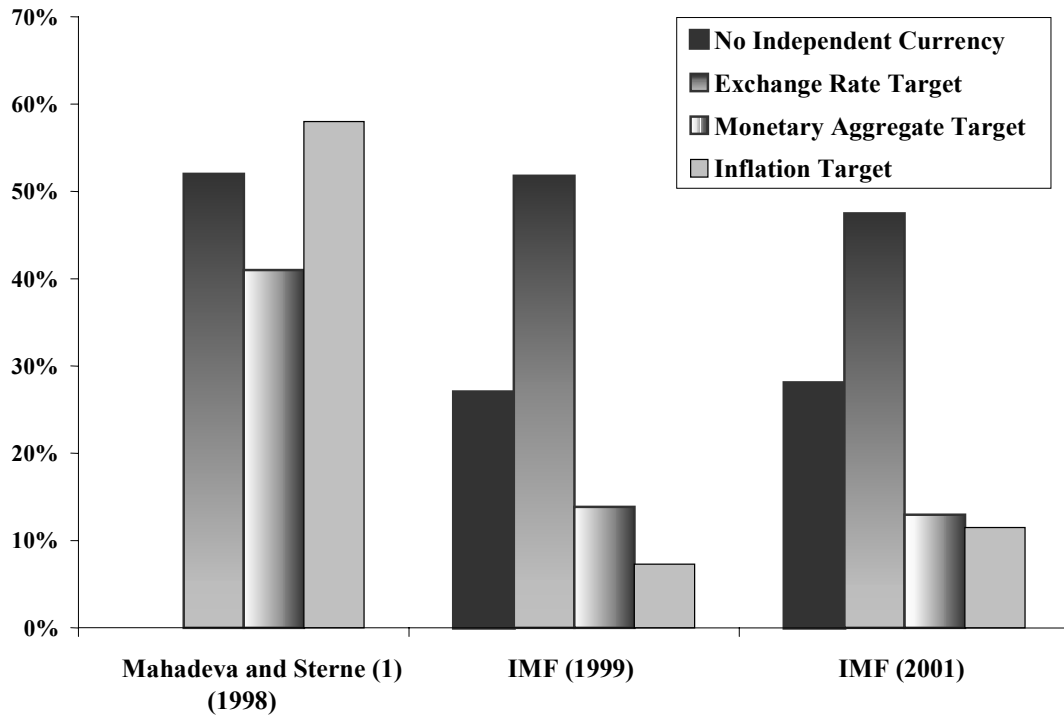
(1): For 1979 and 1986, the "No Independent Currency" and "Currency Board/Pegged" categories were both classified as "Fixed" by the IMF.

Figure 2
Country Distribution by Exchange Rate Regimes,
Levy-Yeyati and Sturzenegger Classification Based On Cluster Analysis: 1979, 1986
and 2000



Source: Authors' calculations based on Levy Yeyati and Sturzenegger (2002).

Figure 3
Country Distribution by Monetary Regimes,
IMF (1999 and 2001) and Mahadeva and Sterne (1998) Classification



Source: Authors' calculations based on the International Monetary Fund's *International Financial Statistics* and Mahadeva and Sterne (2000).

(1): Data set only considers countries (or monetary areas) with an independent currency. Sum of percentages exceeds 100% as countries can fit in more than one class.

Table 1
Conditional Adoption of Exchange Rate and Monetary Regimes
IMF Classification 2001

	No Independent Currency	Currency Board and Pegged Exchange Rate	Exchange Rate Adjusted by Indicators	Managed Float	Independent Float	<i>Total Number of Cases</i>
No Independent Currency	39 , 100%, 100%					39
Exchange Rate Target		50 , 75%, 100%	16 , 25%, 100%			66
Money Target		1 , 5%, 2%		3 , 17%, 10%	14 , 83%, 30%	18
Inflation Target			1 , 6%, 6%	2 , 13%, 6%	13 , 81%, 28%	16
None/Other				26 , 58%, 84%	20 , 42%, 42%	48
<i>Total Number of Countries</i>	39	51	17	31	47	

Source: Authors' calculations based on the International Monetary Fund's *International Financial Statistics*.

Note: There are 185 countries and 187 cases for the monetary regimes, and 185 countries (cases) for the exchange rate regimes.

In bold: number of cases. First percentage: likelihood of exchange rate regime conditional on corresponding monetary regime. Second percentage: likelihood of monetary regime conditional on corresponding exchange rate regime.

Table 2
Exchange Rate and Monetary Regimes in Latin America and the Caribbean,
1994 and 2002

	No Independent Currency	Currency Board	Peg	Adjustable Peg/ Exchange Rate Band	Managed Float	Free Float
1994						
No Independent Currency	Panama					
Exchange Rate Target		Argentina	Venezuela	Bolivia, Brazil Chile, Ecuador Dominican Rep. Guatemala Mexico Nicaragua Uruguay		
Monetary Aggregates Target				Bolivia Colombia Costa Rica	Peru	
Inflation Target				Chile		
None/Other Mon Regime						
2002						
No Independent Currency	Ecuador El Salvador Panama					
Exchange Rate Target				Costa Rica Honduras Nicaragua Uruguay		
Monetary Aggregates Target				Bolivia	Guatemala Jamaica	
Inflation Target					Brazil Chile Colombia Mexico Peru	
None/Other Monetary Regime					Argentina Dominican R. Paraguay Venezuela	

Source: Mishkin and Savastano (2000), Mahadeva and Sterne (2000), and central banks.

Note: each country is classified under its dominant nominal anchor.

Table 3
Benefits and Costs of a Monetary Union
Empirical estimates for EMU

Benefits and Costs	Author(s)	Effect in % of GDP	Notes
<u>BENEFITS</u>			
<u>Microeconomic efficiency</u>			
1. Savings on transaction cost			
<ul style="list-style-type: none"> • Inter-bank transactions • Foreign exchange transactions 	(1) p. 21	+ 0.5 % p.a.	
2. Savings from enhanced competition and growth effects due to membership in the MU	(9)	Permanent positive growth effect	
3. Effect of enhanced financial market integration	(4) p. 41	+ 0.5 - 0.7 % p.a.	Ref. to de Gregorio (1999)
4. Reduced real exchange rate volatility	(6) p. 56 (11), (12) (15)		Increase in volatility only has a temporary effect on trade variables. Being a member of a CU reduces st. dev. of RER by 2.5-6.0%
5. Gains from enhanced international role of euro	(2), (3)	+ 0.4 % p.a.	
<u>Macroeconomic stability</u>			
1. Reduced output and inflation variability		> 0	Due to aggregation effects
2. Countries with closer trade linkages exhibit highly correlated business cycles. Being a member of a currency union raises international business cycle correlation by 0.1.	(11), (12), (13), (14) (15)		Empirical studies for the EU
<u>COSTS</u>			
1. Loss of policy instruments	(10)	Generally low	Some reduction of synchronization of output fluctuations possible
2. Cost of asymmetric shocks	(10)	Negligible for most EU members	For some (B, SF, I, F, E) some SR effects of monetary policy

3. Higher real exchange rate persistence	(15)		Real exchange rates adjust more slowly to shocks in members of currency unions
4. Loss of seigniorage	(1) p. 122 and own calc. Based on (7, 8)	Negligible ¹²	
5. Potential for political tensions	(16)		According to (16) even civil war not excluded.

Notes:

- (1) European Commission (1990).
- (2) Portes, Richard and Rey, H el ene (1998).
- (3) Portes, Richard (2000).
- (4) Heinemann, Friedrich and Jopp, Mathias, (2002).
- (5) De Gregorio, Jos e (1999).
- (6) Sekkat, Khalid (1998).
- (7) Eduard Hochreiter, Riccardo Rovelli and Georg Winckler (1996).
- (8) Eduard Hochreiter and Riccardo Rovelli (2001).
- (9) Crespo-Cuaresma, Jes s, Dimitz, Marie Antoinette and Ritzberger-Gr unwald, Doris(2002)
- (10) Schuberth, Helene and Wehinger, Gert (1998).
- (11) Frankel and Rose (1997)
- (12) Frankel and Rose (1998)
- (13) Fatas (1997)
- (14) Clark and van Wincoop (2001)
- (15) Rose and Engel (2001)
- (16) Feldstein (1997, 1998)

¹² Assuming countries' inflation rates converged already before MU, single market in operation and unified (remunerated or non-remunerated reserve requirements). Under these conditions SE loss is dependent on difference between capital share in common central bank and the regions' relative bank note circulation.

Discussion

Lars Jonung*

European Commission

The focus of the paper by Eduard Hochreiter, Klaus Schmidt-Hebbel and Georg Winckler is on the long-run sustainability of monetary unions and the lessons from Europe for Latin America concerning monetary unification. The paper is like a “smörgåsbord” in the sense that it covers a large number of issues concerning the creation of the EMU, the optimal currency area (OCA) theory, the evolution of exchange rate arrangements in the world economy, fiscal rules for monetary unions, the fiscal theory of the price level, labour market flexibility, financial integration and supervision. The reader is taken at a quick pace through all the dishes.

I share practically all the conclusions of the authors. I have two objections, however: the first one concerns their use of the OCA-theory, the second concerns their discussion of the sustainability of monetary unions. To make my points, I adopt a historical perspective by focusing on some lessons from the history of monetary unions and of monetary unification.

The OCA theory has been the major analytical approach used by economists when analysing monetary unification since the seminal work of Robert Mundell in the 1960s. Economists, trying to assess the costs and benefits of monetary unification, have applied it in a large number of studies. The authors give a prominent position to the OCA approach in their paper as well. In their concluding section they state that:

“Our review of the empirical evidence on OCA criteria for EMU members leads to the unsurprising but strong conclusion that benefits of EMU outweigh costs by a relatively large margin although net benefits are not the same for all members.”

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This statement inspires me to the following question: What is the role of the OCA theory in accounting for real world monetary unification processes? Can it explain the creation of the euro and the EMU? What guidance does the OCA theory give us when considering *ex ante* membership in a monetary union?

One way of answering these questions is to turn to the historical record. Thus, let me present a lesson from the history of monetary unification that I consider most pertinent in this context.¹

Lesson number 1. History suggests that a substantial degree of political integration is necessary for successful and sustainable monetary unification. Political integration proceeds as a rule lasting monetary unification. In the past the desire to create a political unit like the nation state has been the dominating driving force behind monetary unification.

EMU is an important exception to this rule. This is the first time in history that several politically independent states have surrendered their monetary sovereignty to a common central bank.² However, prior to this step the members of the European monetary union created a network of strong institutional ties as well as co-ordinated their macroeconomic policies. This process, which occurred *before* entering into a monetary union, was a time consuming one. It took the Europeans roughly fifty years to establish a common currency.

Under peaceful conditions political unity backing a monetary union covering many countries is based on a shared feeling of the political and economic benefits of monetary co-operation manifested in a system of institutional linkages like the common institutions of the EU. Political unity and trust is thus the glue that holds an international monetary

¹ The lessons from history presented here are taken from Bordo and Jonung (1997) and Jonung (2002a).

² I focus here on traditional nation states and disregard the case of a small political jurisdiction entering into monetary co-operation with a larger monetary area like the case of Andorra, Monaco and the Vatican City.

union like the euro area together. The higher the degree of trust in the integration process, the greater the support for the common currency.³

Following from the above lesson, history demonstrates that the predictive power of traditional theories of optimal currency areas is weak. In short, monetary unions are not created according to this approach. The establishment of the EMU and the euro is due to decisions based on the desire to expand and deepen European integration. It is part of a political process. The weakness of the standard optimal currency area approach is found in its lack of political and historical dimensions. It ignores the path dependence that follows from political integration, more specifically from the existence of national borders. In theory, the optimal monetary area can be redrawn continuously without regard to existing national borders. Such borders, however, are permanent institutions that remain unchanged for long periods.

In sum, the traditional OCA theories stand out as too narrowly formulated in economic terms to be of much use for explaining monetary unification in Europe. However, they may serve as a constructive way of organising the discussion of the economic costs and benefits of monetary unification. However, economists have not been able to reach agreement about the outcome of such cost-benefit comparisons. Furthermore, calculations of this sort ignore the political costs and benefits of monetary unity. Thus I view the statement by the authors cited initially concerning the OCA evidence for EMU membership a bit too strong and one-sided. Instead, I would suggest that the benefits of EMU membership are found primarily on the political side. The economic benefits are important too, but do not appear as significant as the political ones.

In addition, the OCA approach is today in a state of flux. There is not one OCA-theory but several versions with different criteria for “optimality”. Actually, the authors’ discussion of the OCA-approach should be read as a plea for a better approach to the analysis of monetary unification.

³ This can be seen from opinion polls made across the EU member states concerning the support for the euro. See Jonung (2002b).

After considering the costs and benefits of monetary unification, the authors discuss the sustainability of the European monetary union by focusing on three “fundamental issues” concerning the workings of a common currency area. They are the following ones: (1) the relationship between fiscal and monetary policies, (2) labour mobility and wage flexibility, and (3) financial integration and supervision. In short, they suggest that fiscal rules are necessary in the EMU, that real wage flexibility is desirable and that financial supervision can be carried out on a national level without threatening the existence of the EMU.

Let me again turn to monetary history, now to discuss the necessary conditions for the sustainability of a monetary union - once it has been established. Doing so, I am switching from an *ex ante* to an *ex post* perspective.

Lesson number 2. History suggests that centralised monetary unions, that is monetary unions with one institution controlling the money supply, are permanent institutions compared to decentralised monetary unions - or at least more durable ones - as well as compared to all other forms of fixed exchange rate arrangements. A common central bank, being the sole framer of monetary policy, increases the survival prospects of a monetary union or an international exchange rate system. Monetary unification does not require fiscal unification as long as the money supply is centrally controlled by one monetary authority.

Seen from this historical perspective, the euro area is a sustainable monetary union as it is endowed with one central bank, the ECB, in charge of the money supply, being independent from fiscal authorities. The survival prospects of any institution also depends on its capacity of learning and thus of adjusting to changing circumstances as suggested by a third lesson from history.

Lesson number 3. History suggests that monetary unions and monetary institutions evolve gradually over time in response to exogenous events. Seen in a long-run perspective, they are flexible and adaptable arrangements because they are involved in a learning process.

Flexibility is a necessary precondition for survival when the system is subject to shocks – which will occur sooner or later.

In the future the euro area will be subject to various disturbances - some of them are considered by the authors. As long as the policy-makers within the Eurosystem are able to learn and adjust, the sustainability of the system will be maintained.

Finally, which are the lessons for Latin America/South America from the European monetary experience? When considering the costs and benefits of Latin American monetary unification, the authors argue that the case for a Latin American monetary union is a weak one. I share their view, in particular concerning the major economies in South America.⁴ In case the political and historical aspects are taken into account, the outlook for a LAMU or a SAMU (Latin America Monetary Union or South America Monetary Union) appears still bleaker for the moment. It took the Europeans two devastating world wars, followed by a long process of political *rapprochement* to establish a common currency and a common central bank. Still, the route towards the EMU was not a straightforward one. History could have taken other turns as well.

Compared to Europe, Latin America (or any subset of countries thereof) stands out as lacking the political stability, the political unity and the trust in government institutions necessary to create a lasting monetary union, besides being further than the euro area from fulfilling the traditional OCA conditions.⁵ This is the case currently. In the future the case may be different.

Let me end in an optimistic tone. I would like to point at a clear and positive lesson for Latin America from the recent European monetary experience. All EU member states have by now adopted inflation targeting as their monetary policy strategy. This holds for the 12 euro area members and the de-facto member Denmark, being tied to the euro area by a

⁴ For small economies in Latin America the case for dollarisation – that is a unilateral monetary union with the United States - appears to be a strong one. However, it is an open question presently if dollarisation would be a viable option for large countries like Argentina and Brazil. Most economists would tend to be sceptical, at least as long as the United States display little interest in such a monetary arrangement.

fixed exchange rate, as well as Sweden and the United Kingdom, presently being outside the euro area. So far, this norm of monetary policy has proved successful in Europe where inflation targeting is combined with political independence for central banks and various steps to guarantee fiscal discipline.

Presently, the most immediate monetary lesson from the old world to the new one seems to be to adopt inflation targeting as a response to the recent breakdown of alternative exchange rate arrangements. Such a monetary strategy may also serve as a stepping-stone towards deeper monetary co-operation among the major economies in Latin America in the future.

References:

Bordo, M.D. and L. Jonung, (1997), "The history of monetary regimes including monetary unions - some lessons for Sweden and the EMU.", *Swedish Economic Policy Review*, pp 285-358, vol 4.

Jonung, L., (2002a), "EMU – the first 10 years. Challenges to the sustainability and price stability of the Euro-area - what does history tell us?". Paper presented at the workshop *The functioning of EMU. Challenges of the early years*, Brussels, 21-22 March 2001, arranged by ECFIN. Forthcoming in Buti, M. ed. *The functioning of EMU. Challenges of the early years*, Edward Elgar.

Jonung, L., (2002b), "National or international inflation targeting. The Wicksellian dilemma of Sweden and the United Kingdom", prepared for the workshop "Currency Independence in a World of Interdependent Economies", European University Institute, Florence, forthcoming in *Journal of Public Policy*.

Temprano Arroyo, H., (2002), "Latin America's integration processes in the light of the EU's experience with EMU", *Economic papers* no 173, July, European Commission, DG ECFIN, Brussels.

⁵ This is also the message in Temprano Arroyo (2002).

George S. Tavlas*

Bank of Greece

Hochreiter, Schmidt-Hebbel and Winckler provide a thought-provoking analysis of several timely issues, including the general trend toward corner-solution exchange rate regimes, and the long-run sustainability of monetary unions in light of optimum-currency-area theory and the experience of EMU. A key policy message is that, unlike the European Union, Latin American and Caribbean countries are not suitable candidates for monetary union at the present juncture.

I agree with this view, but for reasons that are somewhat different than those set forth by the authors. Latin American and Caribbean countries, in my view, constitute a rather different economic animal than do the EU countries. This circumstance is demonstrated by the fact that they react to exchange rate devaluations very differently. In the EU, a strong case can be made that the devaluations of the currencies of the UK, Italy, Spain, Portugal and Ireland in the first half of the 1990s, and more recently that of Greece in 1998, enhanced the international competitiveness of the countries concerned and, in some cases, stimulated growth.⁶ In contrast, the recent experiences of developing countries - - including Mexico and Argentina - - indicate that currency devaluations in those countries are often strongly contractionary (Gordon 1999; Eichengreen, 2000a). In this connection, Eichengreen (2000b) found that, for the period 1970-98, the typical emerging market economy experiencing an exchange market crisis lost an average of 3 percentage points of GDP growth between the years preceding and following a crisis. For the EMS countries experiencing a devaluation during the 1991-92 crisis - - a period of world recession - - the comparable figure is only 1.6 percentage points.

What accounts for these differences? Because of financial markets that are narrow and thin, developing countries typically borrow in foreign currencies at short terms. Consequently, a depreciation increases the burden of debt service and worsens the financial

* The views expressed are those of the author and should not be interpreted as those of the Bank of Greece.

⁶ See, for example, Gordon (1999) and Garganas and Tavlas (2001).

conditions of domestic banks and firms (Eichengreen 2000a; Tavlas, 2000). Often, those banks and firms do not hedge their foreign exchange exposures, so that an exchange rate crisis leads to a financial crisis. Fragile banking systems are unable to withstand the interest rate hikes needed to defend the currency. In the EU, by contrast, financial markets are relatively broad and deep, banking systems are sound, and there is little net foreign exchange exposure. When the drachma, for example, was devalued in March 1998, the Greek banking system in the aggregate had no net foreign exchange exposure (Garganas and Tavlas, 2001, p.73).

According to Hochreiter, Schmidt-Hebbel, and Winckler, another key difference between the LAC and the EU countries concerns the political factor. In my view, this is the crucial element underlying the potential success of monetary union, though I have a different slant on the issue than do the authors. They argue that, although the individual members of EMU are separate political entities, it is political *union* - - Europe's willingness to sacrifice political sovereignty - - that contributes to the stability of EMU. Perhaps so, but the euro zone countries stood to reap larger rewards from monetary union than would the LACs; the European experience has shown that monetary unification is likely to be feasible only if part of a larger political calculus (Eichengreen, 2000a, p. 328). In other words, for the euro-area countries, participation in European monetary union has not been only a matter of sacrifice. For Germany, gains included German reunification and a greater foreign policy role via the creation a common EU foreign policy (Jacquet, 1993, pp. 13-16; Eichengreen, 2000a, p. 329). For France, monetary union meant the creation of an international currency to perhaps one day rival the unique position of the U.S. dollar in the international monetary system in order to fulfill President Charles de Gaulle's "expressed determination to combat what he regarded as Anglo-Saxon domination of international monetary affairs" (Solomon, 1977, p. 24). . For smaller EU countries, monetary union meant, among other things, price stability and a share of the seigniorage and prestige of having an international currency (Dellas and Tavlas, 2001). I do not see these factors at play in LAC. It is hard too imagine, for example, that Brazil could, in the foreseeable future, help shape a common Western Hemisphere foreign policy. It is equally hard to conjecture that the U.S. would share the seigniorage garnered by the dollar in its

international role. The U.S. might one day be persuaded to return seigniorage foregone by countries that officially dollarise, but that is a very different situation.

My discussion so far has assumed that monetary union among the LAC countries would involve the U.S. dollar. Of course, this need not be the case. It is conceivable that, say, a subset of LAC countries follows the EMU route, creating a new common currency. While conceivable, this route would face difficult hurdles. In this regard, the authors argue that, although political union contributes to the stability of EMU, it does not seem to be necessary for its success. The logical implication is that LAC need not form a political union to form a monetary union. True enough, but, in my view, this is not the end of the story. LAC countries also constitute a different *political* animal compared with EU countries. As Eichengreen (2000a, p. 319) has argued, the EU countries generally have stronger *domestic* political systems than do the LAC countries, which sometimes have had difficulty in delivering a broad-based consensus in favor of exchange rate stabilization over and above all other economic objectives. It is the strong domestic institutions of the EU countries that have helped deliver such transnational institutions as the ECB and the European Parliament (Eichengreen, 2000a, pp. 328-29). Nevertheless, suppose a group of LACs succeeded in mobilizing domestic constituencies so that a common currency and a LAC central bank were created. In the absence of the United States, where would the new central bank get its credibility? The ECB quickly established its credibility credentials, but it was able to do so, in part, because it was seen as taking over the reins from the Bundesbank. The fact that Frankfurt was selected as the location of the ECB was meant to send a clear message.

Let me turn briefly to another issue. The authors argue that the evidence overwhelmingly shows that the benefits of monetary union far outweigh the costs. This line of argumentation is true providing that the prerequisites of an OCA are in place, including well functioning labour, product, and financial markets at the union level. Otherwise, how else can one explain the relatively slow growth of EMU? If monetary union adds a permanent effect to GDP growth as the authors report in the evidence they cite, are we to assume that euro zone growth would have been less than the 1.6 per cent outcome of last year and would be less than the European Commission's 1.3 per cent forecast for this year

(as of this writing) had monetary union not taken place? Something seems to be amiss, hindering the growth potential of EMU.

We do not need to search far and wide to find a likely culprit. OCA theory has changed over the years, but one constant, beginning with the pioneering work of Mundell (1961), has been the importance assigned to labour mobility (Tavlas, 1993). If you give up the exchange rate tool, you better have sufficient labour mobility to promote adjustment. In this connection, empirical studies have consistently found that labour mobility is much higher in the U.S. monetary union than in Europe (see Tavlas 1996). Yet, the authors report that labour mobility has not changed since the inception of the EMU. Additionally, they argue that labour mobility is not necessary for the smooth functioning of EMU. I have a rather different view as follows. Labour mobility may not have changed in recent years in the euro zone, but this circumstance should be viewed with concern. While labour mobility is certainly not crucial for the *establishment* of monetary union, it is necessary if monetary union is to reap the full benefits of having a common currency. This is a matter that will have to be confronted and dealt with if the euro zone is to attain the full growth benefits of monetary union.

References

- Dellas, H. and G. S. Tavlas (2001), "Lessons of the Euro for Dollarisation: Analytic and Political Economy Perspectives", *Journal of Policy Modeling*, 23, 333-45.
- Eichengreen, B. (2000a), "Solving the Currency Conundrum" *Economic Notes*, 29, 315-39.
- Eichengreen, B. (2000b), "The EMS Crisis in Retrospect", NBER Working Paper No. 8035.
- Garganas, N. and G. S. Tavlas (2001), "Monetary Regimes and Inflation Performance: The Case of Greece", in R. Bryant, N. Garganas and G.S. Tavlas (eds.), *Greece's Economic Performance and Prospects*, Athens, Bank of Greece and The Brookings Institution, 43-96.
- Gordon, R. (1999), "The Aftermath of the 1992 ERM Breakup: Was there a Macroeconomic Free Lunch?" NBER Working Paper No. 6964.

- Jacquet, P. (1993), "The Politics of EMU: A Selective Overview", in de la Dehesa, A. Giovannini, M. Guitià, and R. Portes (eds.), *The Monetary Future of Europe*, London, CEPR.
- Mundell, R. (1961), "A Theory of Optimum Currency Areas", *American Economic Review*, 51, 657-65.
- Solomon, R. (1977), *The International Monetary System 1945-76*, New York, Harper and Row.
- Tavlas, G. S. (1993), "The 'New' Theory of Optimum Currency Areas", *The World Economy*, 16, 663-85.
- Tavlas, G. S. (1997), "The International Use of the U.S. Dollar: An Optimum Currency Area Perspective", *The World Economy*, 20, 709-47.
- Tavlas, G. S. (2000), "On the Exchange Rate as a Nominal Anchor: The Rise and Fall of the Credibility Hypothesis", *The Economic Record*, 76, 183-201.

Index of Working Papers:

August 28, 1990	Pauer Franz	1 ¹⁾	Hat Böhm-Bawerk Recht gehabt? Zum Zusammenhang zwischen Handelsbilanzpassivum und Budgetdefizit in den USA ²⁾
March 20, 1991	Backé Peter	2 ¹⁾	Ost- und Mitteleuropa auf dem Weg zur Marktwirtschaft - Anpassungskrise 1990
March 14, 1991	Pauer Franz	3 ¹⁾	Die Wirtschaft Österreichs im Vergleich zu den EG-Staaten - eine makroökonomische Analyse für die 80er Jahre
May 28, 1991	Mauler Kurt	4 ¹⁾	The Soviet Banking Reform
July 16, 1991	Pauer Franz	5 ¹⁾	Die Auswirkungen der Finanzmarkt- und Kapitalverkehrsliberalisierung auf die Wirtschaftsentwicklung und Wirtschaftspolitik in Norwegen, Schweden, Finnland und Großbritannien - mögliche Konsequenzen für Österreich ³⁾
August 1, 1991	Backé Peter	6 ¹⁾	Zwei Jahre G-24-Prozess: Bestandsaufnahme und Perspektiven unter besonderer Berücksichtigung makroökonomischer Unterstützungsleistungen ⁴⁾
August 8, 1991	Holzmann Robert	7 ¹⁾	Die Finanzoperationen der öffentlichen Haushalte der Reformländer CSFR, Polen und Ungarn: Eine erste quantitative Analyse
January 27, 1992	Pauer Franz	8 ¹⁾	Erfüllung der Konvergenzkriterien durch die EG-Staaten und die EG-Mitgliedswerber Schweden und Österreich ⁵⁾
October 12, 1992	Hochreiter Eduard (Editor)	9 ¹⁾	Alternative Strategies For Overcoming the Current Output Decline of Economies in Transition
November 10, 1992	Hochreiter Eduard and Winckler Georg	10 ¹⁾	Signaling a Hard Currency Strategy: The Case of Austria

1) vergriffen (out of print)

2) In abgeänderter Form erschienen in Berichte und Studien Nr. 4/1990, S 74 ff

3) In abgeänderter Form erschienen in Berichte und Studien Nr. 4/1991, S 44 ff

4) In abgeänderter Form erschienen in Berichte und Studien Nr. 3/1991, S 39 ff

5) In abgeänderter Form erschienen in Berichte und Studien Nr. 1/1992, S 54 ff

March 12, 1993	Hochreiter Eduard (Editor)	11	The Impact of the Opening-up of the East on the Austrian Economy - A First Quantitative Assessment
June 8, 1993	Anulova Guzel	12	The Scope for Regional Autonomy in Russia
July 14, 1993	Mundell Robert	13	EMU and the International Monetary System: A Transatlantic Perspective
November 29, 1993	Hochreiter Eduard	14	Austria's Role as a Bridgehead Between East and West
March 8, 1994	Hochreiter Eduard (Editor)	15	Prospects for Growth in Eastern Europe
June 8, 1994	Mader Richard	16	A Survey of the Austrian Capital Market
September 1, 1994	Andersen Palle and Dittus Peter	17	Trade and Employment: Can We Afford Better Market Access for Eastern Europe?
November 21, 1994	Rautava Jouko	18 ¹⁾	Interdependence of Politics and Economic Development: Financial Stabilization in Russia
January 30, 1995	Hochreiter Eduard (Editor)	19	Austrian Exchange Rate Policy and European Monetary Integration - Selected Issues
October 3, 1995	Groeneveld Hans	20	Monetary Spill-over Effects in the ERM: The Case of Austria, a Former Shadow Member
December 6, 1995	Frydman Roman et al	21	Investing in Insider-dominated Firms: A Study of Voucher Privatization Funds in Russia
March 5, 1996	Wissels Rutger	22	Recovery in Eastern Europe: Pessimism Confounded ?
June 25, 1996	Pauer Franz	23	Will Asymmetric Shocks Pose a Serious Problem in EMU?
September 19, 1997	Koch Elmar B.	24	Exchange Rates and Monetary Policy in Central Europe - a Survey of Some Issues
April 15, 1998	Weber Axel A.	25	Sources of Currency Crises: An Empirical Analysis

May 28, 1998	Brandner Peter, Diebalek Leopold and Schuberth Helene	26	Structural Budget Deficits and Sustainability of Fiscal Positions in the European Union
June 15, 1998	Canzeroni Matthew, Cumby Robert, Diba Behzad and Eudey Gwen	27	Trends in European Productivity: Implications for Real Exchange Rates, Real Interest Rates and Inflation Differentials
June 20, 1998	MacDonald Ronald	28	What Do We Really Know About Real Exchange Rates?
June 30, 1998	Campa José and Wolf Holger	29	Goods Arbitrage and Real Exchange Rate Stationarity
July 3, 1998	Papell David H.	30	The Great Appreciation, the Great Depreciation, and the Purchasing Power Parity Hypothesis
July 20, 1998	Chinn Menzie David	31	The Usual Suspects? Productivity and Demand Shocks and Asia-Pacific Real Exchange Rates
July 30, 1998	Cecchetti Stephen G., Mark Nelson C., Sonora Robert	32	Price Level Convergence Among United States Cities: Lessons for the European Central Bank
September 30, 1998	Christine Gartner, Gert Wehinger	33	Core Inflation in Selected European Union Countries
November 5, 1998	José Viñals and Juan F. Jimeno	34	The Impact of EMU on European Unemployment
December 11, 1998	Helene Schuberth and Gert Wehinger	35	Room for Manoeuvre of Economic Policy in the EU Countries – Are there Costs of Joining EMU?
December 21, 1998	Dennis C. Mueller and Burkhard Raunig	36	Heterogeneities within Industries and Structure-Performance Models
May 21, 1999	Alois Geyer and Richard Mader	37	Estimation of the Term Structure of Interest Rates – A Parametric Approach
July 29, 1999	José Viñals and Javier Vallés	38	On the Real Effects of Monetary Policy: A Central Banker's View
December 20, 1999	John R. Freeman, Jude C. Hays and Helmut Stix	39	Democracy and Markets: The Case of Exchange Rates

March 01, 2000	Eduard Hochreiter and Tadeusz Kowalski	40	Central Banks in European Emerging Market Economies in the 1990s
March 20, 2000	Katrin Wesche	41	Is there a Credit Channel in Austria? The Impact of Monetary Policy on Firms' Investment Decisions
June 20, 2000	Jarko Fidrmuc and Jan Fidrmuc	42	Integration, Disintegration and Trade in Europe: Evolution of Trade Relations During the 1990s
March 06, 2001	Marc Flandreau	43	The Bank, the States, and the Market, A Austro-Hungarian Tale for Euroland, 1867-1914
May 01, 2001	Otmar Issing	44	The Euro Area and the Single Monetary Policy
May 18, 2001	Sylvia Kaufmann	45	Is there an asymmetric effect of monetary policy over time? A Bayesian analysis using Austrian data.
May 31, 2001	Paul De Grauwe and Marianna Grimaldi	46	Exchange Rates, Prices and Money. A Long Run Perspective
June 25, 2001	Vítor Gaspar, Gabriel Perez-Quiros and Jorge Sicilia	47	The ECB Monetary Strategy and the Money Market
July 27, 2001	David T. Llewellyn	48	<i>A Regulatory Regime</i> For Financial Stability
August 24, 2001	Helmut Elsinger and Martin Summer	49	Arbitrage Arbitrage and Optimal Portfolio Choice with Financial Constraints
September 1, 2001	Michael D. Goldberg and Roman Frydman	50	Macroeconomic Fundamentals and the DM/\$ Exchange Rate: Temporal Instability and the Monetary Model
September 8, 2001	Vittorio Corbo, Oscar Landerretche and Klaus Schmidt-Hebbel	51	Assessing Inflation Targeting after a Decade of World Experience
September 25, 2001	Kenneth N. Kuttner and Adam S. Posen	52	Beyond Bipolar: A Three-Dimensional Assessment of Monetary Frameworks

October 1, 2001	Luca Dedola and Sylvain Leduc	53	Why Is the Business-Cycle Behavior of Fundamentals Alike Across Exchange-Rate Regimes?
October 10, 2001	Tommaso Monacelli	54	New International Monetary Arrangements and the Exchange Rate
December 3, 2001	Peter Brandner, Harald Grech and Helmut Stix	55	The Effectiveness of Central Bank Intervention in the EMS: The Post 1993 Experience
January 2, 2002	Sylvia Kaufmann	56	Asymmetries in Bank Lending Behaviour. Austria During the 1990s
January 7, 2002	Martin Summer	57	Banking Regulation and Systemic Risk
January 28, 2002	Maria Valderrama	58	Credit Channel and Investment Behavior in Austria: A Micro-Econometric Approach
February 18, 2002	Gabriela de Raaij and Burkhard Raunig	59	Evaluating Density Forecasts with an Application to Stock Market Returns
February 25, 2002	Ben R. Craig and Joachim G. Keller	60	The Empirical Performance of Option Based Densities of Foreign Exchange
February 28, 2002	Peter Backé, Jarko Fidrmuc, Thomas Reininger and Franz Schardax	61	Price Dynamics in Central and Eastern European EU Accession Countries
April 8, 2002	Jesús Crespo- Cuaresma, Maria Antoinette Dimitz and Doris Ritzberger- Grünwald	62	Growth, Convergence and EU Membership
May 29, 2002	Markus Knell	63	Wage Formation in Open Economies and the Role of Monetary and Wage-Setting Institutions
June 19, 2002	Sylvester C.W. Eijffinger (comments by: José Luis Malo de Molina and by Franz Seitz)	64	The Federal Design of a Central Bank in a Monetary Union: The Case of the European System of Central Banks

July 1, 2002	Sebastian Edwards and I. Igal Magendzo (comments by Luis Adalberto Aquino Cardona and by Hans Genberg)	65	Dollarization and Economic Performance: What Do We Really Know?
July 10, 2002	David Begg (comment by Peter Bofinger)	66	Growth, Integration, and Macroeconomic Policy Design: Some Lessons for Latin America
July 15, 2002	Andrew Berg, Eduardo Borensztein, and Paolo Mauro (comment by Sven Arndt)	67	An Evaluation of Monetary Regime Options for Latin America
July 22, 2002	Eduard Hochreiter, Klaus Schmidt-Hebbel and Georg Winckler (comments by Lars Jonung and George Tavlas)	68	Monetary Union: European Lessons, Latin American Prospects