

WORKING PAPER 75

CENTRAL EUROPEAN EU ACCESSION  
AND LATIN AMERICAN INTEGRATION:  
MUTUAL LESSONS IN MACRO-  
ECONOMIC POLICY DESIGN

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WITH COMMENTS BY ZSOLT DARVAS AND GERHARD ILLING

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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 eleventh of these papers. The first ones were issued as OeNB Working Paper No. 64 to 72 and No. 74. In addition to the paper by George Kopits the Working Paper also contains the contributions of the designated discussants Zsolt Darvas and Gerhard Illing.

October 3, 2002



## **Central European EU Accession and Latin American Integration: Mutual Lessons in Macroeconomic Policy Design<sup>\*</sup>**

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### **Abstract**

Design options in exchange rate, monetary and fiscal policies, are explored for economies in Central Europe and Latin America that aspire to engage in monetary unification. Recent experience in these regions suggests that, absent a model of institutional harmonization and a road map for policy convergence, Latin American economies would benefit from following internally consistent macroeconomic policies—possibly in the context of a rules-based framework—and from adopting widely accepted standards of best practice. Unilateral adoption of a hard currency (dollarization or euroization) tends to be counterproductive unless it is supported by fiscal discipline and wage flexibility. Empirical evidence is presented on the effect of expected monetary unification on sovereign risk.

*JEL classification:* E61; E63; F33

*Keywords:* economic and monetary union; policy convergence; determinants of sovereign risk

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<sup>\*</sup> An earlier version of this paper was presented at the Conference on Monetary Union, Theory, EMU Experience, and Prospects for Latin America, held in Vienna, April 14-16, 2002, under the auspices of the Banco Central de Chile, Oesterreichische Nationalbank, and the University of Vienna. István Abel, Sven Arndt, Eduardo Borensztein, Zsolt Darvas, Gerhard Illing, other conference participants, and an anonymous referee provided useful comments. Solita Wakefield assisted with data gathering. The author alone is responsible for the views expressed, which do not necessarily reflect those of the International Monetary Fund.



*“All happy families are like one another;  
each unhappy family is unhappy in its own way.”*

Leo Tolstoy, *Anna Karenina*

## 1. Introduction

A number of countries in Central Europe and in Latin America have declared their intention to integrate economically, with a view to possibly participating in a monetary union in the future. In Europe, a number of former Socialist countries (the Baltic countries, Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia, and Slovenia) are candidates for accession to the European Union (EU). In Latin America, there are several major integration initiatives under way: Mercosur (Argentina, Brazil, Paraguay, Uruguay, and as associate members, Bolivia and Chile), Andean Community (Bolivia, Colombia, Ecuador, Peru, Venezuela), and NAFTA (Mexico, along with Canada and the U.S.).<sup>1</sup>

Whereas EU accession is unambiguously intended to culminate in full-fledged participation in the euro area, the members of Mercosur and of the Andean Community are engaged primarily in trade integration, accompanied by modest steps toward macroeconomic policy coordination. In spite of differences in the envisaged integration process, as well as in their institutional and economic background, these countries may draw potentially useful lessons from each other's experience in adopting macroeconomic policies that are conducive to eventual monetary unification—proposed by some academicians.<sup>2</sup>

The purpose of this paper is to derive such lessons for emerging market economies in these regions, given the underlying premise that they are likely to learn more from each other than from the creation of Europe's Economic and Monetary Union (EMU). The paper addresses key questions concerning their efforts at integration and eventual monetary unification; in particular, it examines various design options for exchange rate, monetary and fiscal policies.<sup>3</sup> As backdrop for the discussion, it is assumed that these economies are broadly suitable for eventual participation in a currency union; it is also assumed that in principle the basic political conditions for engaging in economic and monetary unification exist. However, actual economic and political suitability for unification in these countries deserves at least a quick glance, even though a full treatment of this issue lies beyond the scope of the paper.

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<sup>1</sup> Although other regional integration initiatives, such as the Central American Common Market and Caricom, or the recent proposal for creating a broader Free Trade Agreement of the Americas (FTAA), are not considered herein, some implications of this paper may be equally relevant *mutatis mutandi* for these arrangements.

<sup>2</sup> See, for example, the proposal for creating a common currency in South America by Robert Mundell at the recent World Economic Forum, in New York City (February 4, 2002).

<sup>3</sup> This question should consider, among others, an increasingly popular view among academicians, namely, that LA and CE countries should unilaterally dollarize and euroize, respectively—even before they join the corresponding currency union. See, for example, Dornbusch (2001) who advocated such a step or, as an alternative, a currency board arrangement.

Casual observation reveals that *ex ante* the two regions are not equally suited for monetary unification. From the perspective of the theory of optimum currency areas, Central European (CE) countries seem better suited than their Latin American (LA) counterparts to participate in a currency union. CE countries have become far more similar in economic structure and income levels than LA countries. While both regions are fairly open to capital movements, CE economies have become more integrated with the EU in both trade and labor mobility than LA economies are among themselves or vis-à-vis any hard currency economy. Relatively larger differences in economic structure and smaller trade shares among LA economies are in part attributable to a larger portion of value added derived from extractive activities and agriculture.<sup>4</sup>

However, concerted trade and financial integration, supported with an appropriate policy mix, can help foster *ex post* similarities in economic structure in any region, thus mitigating vulnerability to asymmetric shocks.<sup>5</sup> Moreover, there is evidence that the loss of the exchange rate and monetary instruments, upon currency unification, does not significantly impair a country's ability to withstand such shocks.<sup>6</sup> Ultimately, the impact of shocks can be absorbed with wage flexibility and appropriate countercyclical fiscal action augmented by an efficient mechanism of compensatory equalization transfers, within the common currency area.<sup>7</sup> But, admittedly, neither a countercyclical expansion (in the event of a downturn in activity) nor an equalization scheme can be used effectively as shock absorbers while a country faces a severe external financing constraint and a high level of indebtedness, which is currently the predicament of a number of LA countries.

On the political front, most CE and LA governments face major challenges in their attempt at integration. For one thing, the willingness and readiness of EU member countries in welcoming the CE candidates is being continuously tested, as evidenced by mixed signals in

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<sup>4</sup> Not surprisingly, correlation of output changes in Latin America is lower than in Europe, as reported in Bayoumi and Eichengreen (1994). It may be noted that the advanced CE candidates for EU accession have larger EU trade share and more similar structure to core EU members, than do some low-income EU members; see Kopits (1999).

<sup>5</sup> Empirical evidence on the relationship between trade intensity and income or output correlations among industrial countries suggests that this is a self-reinforcing process: participation or anticipated participation in a currency area tend to increased trade and to more synchronized cycles, see Frankel and Rose (1997). The transformation of CE countries over the last decade—starting from a position of relative autarky and wide structural differences with their Western neighbors—confirms the view that trade intensity and economic structure tend to be endogenous to the process of economic integration. A much less likely scenario—that runs counter to the CE experience—suggested by Krugman (1991), is that integration leads to greater industrial specialization.

<sup>6</sup> See the analysis for EU members, in Canzoneri, Valles, and Vinals (1996).

<sup>7</sup> Large income disparities can be narrowed with a fiscal equalization scheme that provides assistance to low income locations and takes into account the taxing capacity of each region. This is largely the rationale for entitling CE candidates to EU accession related transfers—eventually including from the Structural and Cohesion Funds, as provided to low-income EU members in connection with convergence to EMU.



opinion polls and political pronouncements. For another, shifts in popular sentiment in candidate countries add a further measure of uncertainty to the timing of accession, and more important, to participation in the euro area. However, there is far greater uncertainty in Latin America, possibly with the exception of Mexico's unquestioned membership in NAFTA. Political instability in some members of Mercosur and the Andean Community, usually in combination with financial crises, tends to undermine these integration initiatives. In addition, regional political pressures associated with a high degree of federalism in some LA countries constitute an added source of instability. (By contrast, Central Europe has been less exposed to such centrifugal forces following the breakup of former Czechoslovakia and Yugoslavia.)

The remainder of the paper is structured as follows. Section 2 examines the relevant experience of CE candidates for EU accession, and of members of Mercosur, Andean Community, and NAFTA in the conduct of monetary, exchange rate, and fiscal policies, including choices between discretionary and rules-based approaches, given capital account liberalization and structural impediments. Section 3 summarizes economic performance in light of the policy framework in each region. Section 4 explores the main issues associated with economic and policy convergence, or divergence, on the way to monetary unification, focusing on various macroeconomic policy options. The paper concludes with a summary of tentative lessons mainly for LA economies that intend to participate in a monetary union.

## 2. Policy Framework

The CE and LA economies engaged in integration come from widely different backgrounds. Prior to 1990, CE countries were subject to socialist central planning, integrated to the former Soviet Union but isolated from the rest of the world. Meanwhile, most LA economies were characterized by considerable government intervention, large state-owned enterprises, monetization of budget deficits, and barriers to trade and factor mobility.

By now, most countries in **Central Europe** have completed the bulk of the transition from central planning and have succeeded installing a market-based macroeconomic policy framework. The transition has been, by any standard, an unprecedented historical challenge for these closed economies—some experiencing shortages in the real sector and a major monetary overhang—dominated by the state-owned enterprise sector lacking a clear objective function, exempt from a hard budget constraint or bankruptcy risk, and impervious to price signals. As a first step, these countries dismantled barriers to foreign trade and investment and liberalized the price system; in some cases it was also necessary to absorb a sizable monetary overhang. Besides attempts at limiting credit expansion, it was necessary to anchor macroeconomic management with a pegged exchange rate regime and tax-based wage determination. Subsequently, the more progressive countries began privatizing enterprises and banks, and exposing them to market pricing and bankruptcy risk. In contrast to the relatively rapid transition in the tradable sector, the government sector remained protected and unreformed in most countries.

Indeed, during the first half of the 1990s, sizable fiscal imbalances prevailed as the tax base narrowed while public expenditure needs surged. Monetary policy could only be conducted

through limits on refinancing credits, which were circumvented in some countries (especially Bulgaria, Romania) with a buildup of interenterprise arrears and of nonperforming loans from state-owned banks (Czech Republic), in the absence of a hard budget constraint. However, domestic and external imbalances remained a central concern. In countries exposed to strong inflationary pressures and interested in rapidly establishing policy credibility, the instrument of choice was a hard peg in the form of a fixed rate (initially Poland and the Czech Republic) or a currency board arrangement (Estonia, Bulgaria, Lithuania). Alternatively, countries that assigned priority to containing the external current account imbalance opted for a managed float and some degree of credit control (Hungary, Slovenia).<sup>8</sup>

As an exception in the CE region, under German unification, Eastern Germany (the former German Democratic Republic) was transformed almost overnight from the most disciplined centrally-planned economy to a full member of the European Monetary System (to be followed by automatic participation in EMU), in what turned out to be the toughest “shock therapy” in any economy in transition.<sup>9</sup> The unification included immediate external and internal liberalization along with DM-ization of the East German economy, in combination with an expansionary fiscal policy (financed with sizable interregional transfers) and a sharp upward drift in the wage level, well in excess of labor productivity.

Over time, owing to an unsustainable current account deficit (Hungary in 1995) or a capital account crisis (Czech Republic in 1997), the earlier exchange rate arrangements were abandoned in some countries. These were replaced by a preannounced crawling peg (Poland and Hungary) with the double goal of maintaining external competitiveness and price stability; in other cases (Romania, Slovakia, Slovenia), these objectives were pursued in a less predictable manner through a managed float (Table 1).

In recent years, the development of market-based monetary instruments and institutions, as well as increased macroeconomic stability, paved the way to adoption of an inflation targeting regime (Czech Republic, Hungary, Poland). Yet some countries (especially the Baltic countries) retained a hard peg, while others continued to rely on discretionary monetary control in combination with a more or less managed float. Increasing concern with inflation led to the enactment of provisions ensuring central bank independence (with the exception of Romania and Latvia), approximating the EU model. In some candidates (Poland, Estonia, Lithuania, the Czech Republic, and Hungary), central banks have attained considerable legal autonomy (Table 1).<sup>10</sup> However, this autonomy has been threatened by political pressures from the executive or legislative branches of government even in the lead candidates for accession, notably in Poland, where the central bank enjoys the highest degree of statutory autonomy in the region.

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<sup>8</sup> For a collection of studies on country experiences and major reform areas in the initial phase of the transition, see Blanchard, Froot, and Sachs (1994); on financial developments, see Abel, Siklos, and Szekely (1998).

<sup>9</sup> For an early analysis, see Sinn and Sinn (1991).

<sup>10</sup> For the information and analysis underlying the central bank independence index in Table 1, see Cukierman and others (2002).

In public finances, most transition economies continued to experience fiscal imbalances reflecting a weak tax base, costs associated with structural reforms, and difficulties in rationalizing inefficient expenditures<sup>11</sup>—periodically eased with financing from privatization proceeds. Fiscal pressures were exacerbated by the electoral cycle as governments reacted to meet near-term popular demand for fiscal profligacy, neglecting requirements of long-term sustainability. In these circumstances, most governments have followed discretionary rather than rules-based fiscal policies, with few exceptions. Estonia assumed a balanced-budget obligation in combination with a stabilization fund to cushion the impact of fluctuations in economic activity, thus successfully buttressing the currency board arrangement (CBA). Poland introduced a limit on the public debt ratio, set equal to the EMU reference value of 60 percent of GDP—not binding as the actual debt ratio is well within the reference limit.

In post-socialist CE countries, over the past decade, a long list of structural reforms has been tackled with considerable success: trade liberalization, price deregulation, bankruptcy legislation, and privatization. There are, however, pending reform tasks in various countries, including privatization of state-owned enterprises in certain areas (mining, banking, public utilities). In all, much of the remaining transition agenda dovetails with the requirements to abide by the *acquis communautaires* of EU accession.

Traditionally, **Latin America** has been largely market oriented, albeit protected from trade and capital flows and subject to considerable government intervention and ownership in the enterprise sector. In the early 1990s, after emerging from a wave of external debt crises (e.g., Mexico) or high inflation episodes (e.g., Argentina) of the previous decade, many of these countries gained access to external private financial markets.<sup>12</sup> While limiting trade liberalization (primarily within their respective grouping), they began to open the capital account. Domestic reforms included privatization of state-owned enterprises, financial deregulation, and in a few cases reform of public pensions, the budget process, and tax systems. Yet significant distortions remain in public finances.<sup>13</sup>

Unlike the CE countries, partly because of structural reasons—significant reliance on primary commodity exports and weak public finances—LA countries continued to be exposed to considerable swings in the terms of trade and to shifts in capital flows. Macroeconomic volatility was further aggravated by a procyclical policy stance, often in tandem with the electoral cycle—typically manifest in a monetized fiscal expansion prior to

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<sup>11</sup> Specific reform steps included shifting from a multitude of turnover levies to a value added tax; establishment of a progressive personal income tax and a market-based enterprise income tax; removal of consumer and producer subsidies; development of targeted transfers; and adoption of open public procurement.

<sup>12</sup> See Mussa and Richards (1999) for an overview of the determinants of capital flows to emerging market economies.

<sup>13</sup> A number of LA countries are burdened with large-scale revenue earmarking, weak tax administration, significant imbalances at subnational levels of government, excessive growth of government workforce, and the proliferation of taxes on financial transactions and payroll.

elections, which was difficult to reverse thereafter.<sup>14</sup> But, with external liberalization, the deficit bias in fiscal policy and the inflation bias in monetary policy had become increasingly untenable.

By the middle of the decade, largely to attract foreign investment and to stabilize the domestic price level, a number of LA countries had dismantled exchange and capital controls and adopted an exchange rate system that ranged from a preannounced crawling peg or band (Brazil, Colombia, Mexico, Venezuela, Ecuador, Uruguay) to a hard peg (CBA in Argentina). (As an exception, until recently, Chile retained a market-based variable-rate reserve requirement on short-term capital flows.) Thus, as they liberalized the capital account, there was preference for an exchange rate anchor rather than for controlling monetary policy—given the options under the so-called impossible trinity.<sup>15</sup>

Nevertheless, some LA countries faced difficulties in meeting the basic consistency test, by adopting an expansionary fiscal stance (often in a nontransparent manner) or accommodating a private consumption boom. Rising domestic demand, in combination with the exchange rate peg and weaknesses in domestic financial regulation, led to financial capital inflows, that culminated in a series of currency crises (in some cases coupled with banking crises): in the mid-1990s in Mexico and Argentina; later in Brazil and Ecuador; and most recently again in Argentina, Uruguay and Venezuela.

In the wake of these crises, most LA countries switched from the exchange rate peg to inflation targeting and introduced limits on the budget balance and/or public debt (Table 1), primarily with the objective of restoring much-needed credibility in financial markets.<sup>16</sup> Brazil was the first to introduce a comprehensive rules-based framework in the region (in the aftermath of the collapse of the *Real* plan in 1999), followed by a number of other countries.<sup>17</sup> Thus far Chile operates the most effective rules-based approach, though without fully formalizing it. All told, reliance on discretionary monetary and fiscal policies has declined in the region.

As an integral part of this framework, and particularly to underpin inflation targeting (or the earlier exchange rate peg), most LA countries have moved to strengthen central bank independence. Although not strictly comparable, the range for the independence index (Table

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<sup>14</sup> See the evidence presented in Gavin and others (1996).

<sup>15</sup> According to the term popularized by Frankel (1999).

<sup>16</sup> Proposed by Taylor (2000) for the U.S. as a superior alternative to discretionary policy, the combination of inflation targeting (in fact, an interest rate rule) and structural budget balance requirement is even more relevant to enhance policy credibility in emerging market economies. For the latter group of countries, see Mishkin (2000) on inflation targeting, and Kopits (2002) on fiscal rules.

<sup>17</sup> In early 2002, Argentina and Venezuela abandoned the preannounced crawling peg and the CBA, respectively; Uruguay widened, and then abandoned, the preannounced exchange rate band; and Peru replaced monetary targeting with inflation targeting.

1) is broadly similar to that in the CE region. By international standards, until 2001, central banks enjoyed a high level of legal autonomy in Argentina, Chile, Peru, and Mexico. However, in Latin America, as elsewhere, *de jure* independence does not always coincide with *de facto* independence. For example, though comprehensive and carefully designed, the index probably understates the independence actually prevailing in Brazil and overstates it for Mexico.<sup>18</sup> In addition, in these countries, central banks are liable to losing their autonomy during an economic downturn and face considerable uncertainty with a change of government. The recent erosion of central bank independence in Argentina (not reflected in the index), as well as the challenges to independence during the election campaign in Brazil, underscore this point.

In response to a prolonged budget deficit bias, accommodated by monetary expansion and/or external borrowing, and to the ensuing currency and debt crises, a number of LA countries have adopted (or are formulating) fiscal rules, most commonly consisting of various types of balanced-budget obligations, defined at various levels of government and over different time horizons. In Brazil, at each government level, the authorities are required to observe the stricter of two rules: a current balanced budget balance and a primary surplus calibrated to the targeted medium-term reduction in the debt ratio. In Argentina and Peru, the central government has been subject to maintaining overall balance, while operating a stabilization fund to minimize the impact of macroeconomic fluctuations. In Chile, the government is committed to maintaining a small structural overall surplus position. Although promising, all these rules have yet to be tested by several economic cycles (especially downturns) and electoral cycles; thus far, compliance has failed in Argentina and Peru. Clearly, necessary conditions for success include a sufficiently broad institutional coverage, transparency (above all to prevent creative accounting practices), and some flexibility.

At the far end of the policy spectrum, very few CE and LA countries have opted for a hard peg either in the form of a currency board arrangement (CBA), or through unilateral abolition of its own currency in favor a hard currency—so-called dollarization or euroization.<sup>19</sup> Two Baltic countries, Bulgaria, and Argentina introduced a CBA to maximize credibility. As indicated, at the very outset of the transition, Eastern Germany switched from its currency to the DM and most recently to the euro. Among LA countries, Ecuador adopted the U.S. dollar under duress, after practically exhausting all other options for restoring macroeconomic stability.<sup>20</sup>

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<sup>18</sup> See the compilation of the underlying information and discussion of findings in Jacome (2001).

<sup>19</sup> However, Calvo and Reinhart (2000) found that many emerging market economies in these regions in fact adhere to a pegged exchange rate regime even when officially they claim to allow for a floating rate.

<sup>20</sup> Other cases include the successor states of the former Yugoslavia (Bosnia, Kosovo, and Montenegro) that are euroized, and some Central American Countries (Panama and El Salvador) that dollarized.

### 3. Economic Performance

Although not in a linear or uniform fashion, over the past decade, most CE countries displayed remarkable improvement in performance in terms of growth and stability. In the wake of a largely inevitable contraction in the early years of transition, by the second half of the nineties some of these economies were operating at or near capacity output (Table 2), for the most part driven by impressive gains in export market shares and by a surge in foreign direct investment.<sup>21</sup>

CE countries that launched price liberalization, enterprise restructuring, and external opening-up relatively early—including through stop-go reform steps before the onset of the transition, in Hungary and Poland—secured an advantage over countries that postponed macroeconomic stabilization and key reforms until the end of the decade.<sup>22</sup> While the first group of countries experienced a shorter contraction, in the second group the contraction was milder but lasted much longer. This explains to a large extent the difference in performance between the majority of CE countries that averaged at least 3 percent growth yearly and countries where output continued to contract well into the decade (Bulgaria and Romania) or barely increased (Czech Republic) (Table 2).

On the other hand, with some exceptions (Bolivia, Chile, Mexico), LA economies averaged a growth rate of less than 3 percent in the second half of the 1990s, though none experienced a contraction. Lackluster growth performance in most of these countries was attributed to the failure of sustaining or broadening sufficiently the reforms launched earlier in a relatively favorable external environment;<sup>23</sup> as well, low growth can be explained in some cases to policy inconsistencies and ensuing financial crises. Mexico stands out with the highest growth rate in the region, as the 1994 crisis had been overcome mainly through a prudent policy stance and a series of structural reforms.

Inflation decelerated to single digits in both regions as a consequence of the exchange rate peg or increasingly effective monetary control, when facilitated by fiscal restraint. The exceptional cases of high inflation reflected lack of macroeconomic discipline (Romania, Ecuador, and Venezuela), coupled with a low degree of central bank independence (Romania and Venezuela) or a major devaluation (Ecuador), or alternatively, a round of delayed administrative price increases (Slovakia). However, given their recent enactment, legal central bank independence—even when supporting an inflation targeting regime—cannot be singled out yet as a major cause of the decline in inflation (Table 2).

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<sup>21</sup> For a retrospective view of the macroeconomic developments during the 1990s, see for example Gomulka (2000).

<sup>22</sup> See Fischer and others (1996) on stabilization and growth in transition economies. The influence of institution building on economic performance in transition economies has been documented in Havrylyshyn (2000).

<sup>23</sup> Analysis by Fernandez-Arias and Montiel (2001) indicates that growth in the first half of the decade had been hampered by unfavorable external conditions and an intensified reform effort.

However, in a number of cases, the exchange rate peg, or the managed float, contributed to real appreciation, loss in competitiveness, and some deterioration in the external current account balance (Table 3).<sup>24</sup> The latter, of course did not pose a problem when financed by direct investment inflows, as was the case in several transition economies (e.g., Estonia). Moreover, external performance has been highly volatile and vulnerable to speculative attacks—despite relatively modest current account deficits in some economies—owing to the combination of an open capital account, pegged exchange rates, weak banking systems, high public indebtedness, and fluctuations in the terms of trade. On balance, as noted, the LA region was relatively more exposed than the CE region to currency and banking crises (Mexico, Argentina, Ecuador, Brazil), whether originating from within or through contagion from crises in other regions.<sup>25</sup>

More generally, inconsistent policies and institutional weaknesses, especially in the presence of a peg, tend to undermine investor confidence. In this situation, dependence on foreign capital, mainly to finance large government deficits (rather than for investment in productive capacity), has been a major source of vulnerability. Sovereign risk seems more pronounced in the LA region, as reflected in relatively high sovereign yield spreads (in some cases, lack of access to financial markets), than in CE countries. In this respect, Chile stands alone in Latin America with a relatively low spread. In the CE region, spreads seem more manageable (high spreads are observable only in Bulgaria and Romania) (Table 3). Recent cross-country evidence for a large sample of emerging market economies confirms the view that spreads on sovereign debt are positively influenced by the public debt ratio, overvaluation, and exchange and capital controls, and negatively by the level of institutional development (see Appendix).

It was precisely to mitigate their vulnerability in an environment of high capital mobility that, as discussed, a number of countries in each region have shifted (or are shifting) from hard exchange rate pegs to inflation targeting, possibly supported by central bank independence. For similar reasons, formal constraints on the budget balance and/or public indebtedness have become quite popular in LA countries. Notwithstanding these steps, so far very few countries in either region (Chile and Estonia, both with the lowest public debt ratios) seem to have achieved monetary dominance; in fact, the large majority remain under fiscal dominance.<sup>26</sup>

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<sup>24</sup> The CPI-based real exchange rate index shown in Table 3 has to be interpreted as a rough (and biased) gauge of changes in external competitiveness, particularly in CE economies that experienced major gains in labor productivity. The latter could be captured by an index based on relative unit labor costs.

<sup>25</sup> These countries remain vulnerable to sudden shifts in investor sentiment, as explained by second-generation models. For a comprehensive survey of the currency crisis literature, see Flood and Marion (1998); for a recent review of crisis episodes in emerging market economies, from a policy perspective, see Summers (2000).

<sup>26</sup> For the distinction between monetary and fiscal dominance, in the context of the government's intertemporal budget constraint, see Leeper (1991), and in a broader setting, Walsh (2001). A low stock of public sector liabilities (including unfunded contingent liabilities) can be interpreted as *prima facie* evidence of monetary dominance. Based on thorough empirical analysis, Tanner and Ramos (2002) found that monetary dominance prevailed in Brazil during the *Real* plan.

#### 4. Convergence or Divergence?

In the light of the above policy framework and economic performance, the question arises as to the extent (if at all) the CE and LA countries are on an economic and policy convergence path to integration, and ultimately, to monetary union. *Economic convergence* (or growth convergence) typically is summarized by reduction in income per capita differentials across countries or regions, as poor countries grow relatively faster than rich countries.<sup>27</sup> Over time, as discussed below, economic convergence may be influenced, *inter alia*, by convergence in macroeconomic policies. Within the EU, *policy convergence* is expressed formally as convergence to EMU reference values for inflation, interest rates, fiscal balance, and public debt, accompanied by adherence to central bank independence, capital account liberalization, and an exchange rate policy that is compatible with the ERM2 regime. These policy convergence criteria—subject to a monitoring mechanism under the authority of the European Commission and the European Central Bank—provide a clear agenda for EU accession candidates. By contrast, only vaguely comparable criteria are envisaged for Latin American countries that wish to participate in a monetary union. Inspired by the Treaty of Maastricht, members of Mercosur and the Andean Community have agreed merely on broad targets for inflation and on ceilings for fiscal deficits and public debt, and without monitoring by supranational institutions.<sup>28</sup>

Obviously, economic convergence, including similarity in economic structure and other criteria under the theory of optimum currency areas, is highly desirable to enhance the benefits from monetary unification. But, as illustrated by existing regional differences in income levels and economic structure within many countries and currency unions, economic convergence is not essential for successful unification. On the other hand, wage flexibility and policy convergence are critical. In particular, the need for convergence in the fiscal area is widely recognized in developed and developing countries with a federal system. Typically, these systems incorporate fiscal rules (i.e., borrowing limits, plus current balance requirements under the so-called golden rule) at the subnational levels of government, supplemented with some mechanism of equalization transfers. Without subnational rules and efficient compensatory transfers, fiscal federalism can contribute to regional distortions and macroeconomic instability.<sup>29</sup>

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<sup>27</sup> See, for example, Barro and Sala-i-Martin (1995). Alternative definitions of economic convergence, not adopted herein, can be specified in terms of various indicators (sectoral distribution of output, output correlation, trade openness, labor mobility, etc.), consistent with the theory of optimum currency areas.

<sup>28</sup> Mercosur members are committed, under the Declaration of Florianapolis of 2000, to containing inflation at a 5 percent annual rate during 2001-05, to limiting the budget deficit to 3 percent of GDP from 2002 onward, and to limiting the net public sector debt to 40 percent of GDP by 2010. Similarly, pursuant the June 2001 ministerial Advisory Council, Andean Community members have agreed to target inflation at a single-digit rate, to limit the budget deficit to 4 percent through 2004 and 3 percent of GDP thereafter, and public debt to 50 percent of GDP by 2015.

<sup>29</sup> Past failure to adopt limits on subnational fiscal imbalances had major destabilizing consequences in Argentina and Brazil; see Kopits, Jimenez and Manoel (2000). In part, to avoid such effects, many countries

(continued)



In **Central Europe**, following the initial transition-related output contraction, in the mid-1990s the stage was set for a steady rise in income levels. Since then, apparently in line with neoclassical growth theory, economic convergence can be detected for most CE economies. However, unlike the countries that had completed the bulk of restructuring and had attained a fair degree of macroeconomic stability, there are some outliers (especially Bulgaria and Romania) where, contrary to the theory, output contraction continued and per capita income stagnated at the lowest levels in the CE region (Table 2). This suggests that, far from being a deterministic process, growth convergence is qualified by country-specific conditions, including the institutional and policy framework.<sup>30</sup>

Most CE economies, and in particular the lead candidates for EU accession, have made (at times fitful) progress in harmonizing institutions with those of the EU, in compliance with the *acquis*—reflected in part in the conclusion of most of the 31 accession chapters. Yet virtually all of them still need to complete transition-related structural reform tasks—in some respects similar to reforms that are pending in some EU member countries. Besides completing the privatization process, these tasks involve reforming public pensions, health care, education, agriculture, and defense programs (in some cases in connection with NATO membership) as well as rationalizing the tax system, the budgetary process, and intergovernmental finances. In addition, there is scope for further strengthening the independence of the monetary authority. Overall, these tasks need to be incorporated in a medium-term adjustment context to facilitate convergence to the EMU reference values.

An increasingly debated issue is the appropriate exchange rate system prior to entry into the ERM2 regime, for participation in EMU. Actual practice varies widely among the CE candidates for accession, albeit broadly in accordance with the impossible trinity condition noted above. While the Baltic countries and Bulgaria are adhering to a hard peg, others have opted for a softer peg, in the run-up to EU membership. (In Eastern Germany, the decision had already been made for immediate euroization at the very outset of the transition.) Leaving aside some rather strong views favoring one or the other option, it has become evident that the key criterion is consistency between the exchange rate policy and the fiscal stance, supported by wage flexibility. Practically any of the existing exchange regimes in the lead candidates is compatible with convergence to EMU, as long as the consistency requirement has been met.<sup>31</sup>

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(Australia, Canada, Germany, Switzerland, United States), as currency unions, have balanced budget rules at lower levels of government.

<sup>30</sup> As distinct from absolute convergence, neoclassical growth models also allow for conditional convergence of countries with different steady-state positions. However, to the extent they reflect policy-induced divergence, the observed outliers among EU accession countries lend support to the endogenous growth theory. Further evidence that economic and policy convergence are not spontaneous phenomena, can be found in Larre and Torres (1991) for Spain, Portugal and Greece, and by McAleese (2000) for Ireland. Whereas the Mediterranean countries experienced slow convergence within the EU (in fact, stagnation in Greece), by the late 1990s Ireland had surpassed the average EU per capita income.

<sup>31</sup> By the same token, fears of upward pressures on the exchange rate from productivity gains in the tradables sector (according to the Balassa-Samuelson effect) in transition economies are somewhat exaggerated, in light  
(continued)

Most candidates are on the path of convergence to EU membership, and eventual participation in EMU. However, besides completing institutional harmonization and strengthening central bank independence, they face the challenge of tackling unfinished structural reform tasks while at the same time approaching the key EMU reference values. In fact, despite the apparent approximation of the reference deficit limit and compliance with the debt limit (Table 2), a number of candidates are (and will be) experiencing difficulties in meeting the prescribed deficit limit when the fiscal balance is defined according to a comprehensive coverage of general government, measured on the basis of ESA 95 standards and on a cyclically adjusted basis.<sup>32</sup> Accordingly, the public debt ratio is likely to rise in the near future. In other words, monetary dominance is not within reach for most countries in the region.

In **Latin America**, most countries that aspire to integrate have been torn by considerable economic volatility. Attainment of sustainable growth is rather elusive during this period of turbulence. Capital account liberalization, in some cases accompanied by an exchange rate peg (ranging from CBA to crawling bands) has failed to attract sufficient foreign investment to underpin the growth objective. Meanwhile, some of these countries have been burdened by high public indebtedness, excessive fiscal decentralization, weak tax administration, and other structural rigidities. The vulnerability that stemmed from this brew, as well as the resultant crises, often led to policy improvisation—most recently in the case of Argentina, these included protectionist trade measures and reinstatement of some exchange and capital controls. In addition, lacking a coherent policy framework, some countries (Ecuador, Venezuela) have encountered difficulties in harnessing the benefits of an earlier improvement in the terms of trade. Not surprisingly, it is difficult to observe a systematic convergence of growth rates that would reduce the high dispersion in per capita income in the region—up to five times between the highest, in Argentina, and the lowest level, in Bolivia (Table 2).

Unlike the EU accession candidates, the members of the Andean Community and Mercosur have yet to design common institutions for the union they aspire to establish, and to agree on criteria for policy convergence. They do not have the advantage of anticipating anchoring themselves to a hard currency (euro or dollar); instead, they have to gain credibility for a new currency to be created (perhaps as a composite of the existing currencies), through their own policies—an extraordinary feat from the perspective of the ongoing effort currently under way in the euro area. Furthermore, as noted, the two groups of LA economies have taken only modest initiatives in setting macroeconomic reference values, similar to those under EMU. Needless to say, convergence to these values is very unlikely without an effective mechanism of monitoring and enforcement.

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of the much greater risk of downward pressures emanating from fiscal expansion or wage rigidities; see Kopits (1999). In any event, a step appreciation of an undervalued exchange rate would probably be acceptable in the run-up to joining the euro area.

<sup>32</sup>Calculated on this basis, in the Czech Republic and Hungary, the general government deficit is currently around 6 per cent of GDP, that is, twice the EMU reference deficit limit.

Hence, a more viable option for LA countries, and for emerging market economies in general, would be to formulate a strategy of integration to a well-established currency area (with which it already has relatively strong trade and factor flows), endowed with a robust institutional framework, rather than to attempt creating their own currency within a new currency area. In this regard, Mexico might be considered a relevant example. As the only Latin American member of the OECD, and more important, of NAFTA, Mexico can choose to emulate an institutional model from these groups at its own pace since it is not subject to a formal process of harmonization. Although not a member of either one of these groups, Chile—building on a good track record of macroeconomic discipline—has made overtures to economic integration with the United States. Incidentally, since the mid-1990s Chile and Mexico have enjoyed the highest growth rates, and earned the lowest sovereign spreads in the region (Tables 2 and 3).

The **overall picture** distilled from the experience of CE and LA economies serves to highlight key elements of a successful convergence process. Above all, the importance of institutional harmonization, accompanied by a coherent policy framework, cannot be overemphasized. In the CE region, the countries that pursued more vigorously market-oriented transformation and macroeconomic stabilization (Czech Republic, Estonia, Hungary, Poland, Slovenia) have become the lead candidates for EU accession. In the LA region, only a couple of countries (Chile and Mexico) exhibit an impressive record of stability and growth, and thus some economic convergence, benefiting from structural reforms and sound macroeconomic policies.

The direct contribution of policy convergence to economic convergence tends to be strengthened by market expectations of prospective integration or monetary unification. Market anticipation of EU accession and of deepening NAFTA integration seem to have been a major driving force behind the surge of foreign investment, and particularly of direct investment inflows, in lead CE candidates and Mexico in recent years. Indeed, there is evidence that these expectations exercise a downward influence on borrowing spreads (see Appendix) which, in turn, should help alleviate fiscal stress and lead to increased capital formation and growth.<sup>33</sup> These indirect dynamic effects on economic convergence can be interpreted as resulting from a virtuous circle generated by consistent macroeconomic policies, structural reforms, and realistic prospects for economic integration.

These effects do not imply that emerging market economies either in these regions or elsewhere should attempt to promote favorable expectations by adopting unilaterally a hard currency. The cases of Eastern Germany and Ecuador indicate that such a shortcut is by no means a panacea. On the contrary, absent the necessary preconditions, this step can inflict Dutch disease, with adverse consequences on competitiveness, employment and growth, without necessarily restoring access to financial markets. Somewhat analogously, the recent

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<sup>33</sup> In addition, consistent with this view, Crespo-Cuaresma and others (2002) report that EU integration has had a positive effect on economic convergence of EU members' per capita incomes—in line with the endogenous growth theory.

collapse of the CBA in Argentina (as compared to the relatively successful experience in Bulgaria, Estonia and Lithuania) confirms once again the need to attend to the fundamentals.<sup>34</sup> Clearly, locking in to a hard currency requires strict fiscal discipline, flexible wage determination, and a sound banking system. In particular, the evidence puts in question the view that euroization or dollarization leads to an automatic fall in the risk premium, independently of the country's public finances—as claimed by some authors.<sup>35</sup>

Collective experience underscores internal policy consistency as the central condition for smooth economic integration and eventual monetary unification. Meeting this condition is more critical than the choice of a particular exchange rate regime—the focus of recent debate on EU accession.<sup>36</sup> A particularly useful vehicle for ensuring consistency is a rules-based framework consisting of two pillars: inflation targeting and a primary budget surplus targeted to debt sustainability, though with sufficient flexibility to accommodate exogenous shocks. An alternative first pillar (which requires greater stringency in enforcing the fiscal rule) is a hard exchange rate peg, followed in Estonia. To be amenable for implementation, the framework needs to be supported by a sufficiently developed institutional infrastructure, including high transparency standards.<sup>37</sup> Adoption of an appropriate framework is not only instrumental for creating credibility, but also helps establish monetary dominance, which is conducive for successful monetary unification.

## 5. Overview of Lessons

There are significant differences between CE and LA economies as regards their *ex ante* economic and political suitability for monetary unification. On the basis of standard criteria derived from the theory of optimum currency areas, CE candidates for EU accession seem to be better suited than LA economies for monetary unification—given less homogeneity in economic structure, and relatively limited trade and labor mobility within the LA region. Similarly, at present, in view of prevailing political uncertainties, most LA countries are far

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<sup>34</sup> In Argentina, the public sector deficit (accrual-based and inclusive of provincial balances, as measured in Teijeiro (2001)), averaging more than 4 percent of GDP yearly over the period 1991-2000, was patently incompatible with the CBA.

<sup>35</sup> For example, Dornbusch and Giavazzi (1999) argue in favor of currency boards, euroization or dollarization, for CE and LA economies, while recognizing the need for sound domestic financial institutions but downplaying the importance of fiscal discipline.

<sup>36</sup> See, for example, Coricelli (2001) on euroization, and Bofinger and Wollmershauser (2002) favoring a managed float. For a general discussion of the bipolar view of a hard peg *versus* free float, see Fischer (2001).

<sup>37</sup> In the monetary area, major ingredients of the institutional infrastructure are an independent central bank, a stable transmission mechanism, adequate instruments of control, and reliable inflation forecasts; see Schaechter, Stone and Zelmer (2000). In the fiscal area, key ingredients include rolling medium-term macro-fiscal projections and efficient public expenditure management, with reliable, timely, and comprehensive accounting and reporting requirements, and orderly fiscal decentralization; see Kopits (2001).

less prepared than the CE candidates to participate in a currency union. However, on both counts, the suitability of LA economies can be enhanced *ex post* insofar as the criteria are endogenous to the actual process of, or prospects for, unification. Moreover, any remaining vulnerability to asymmetric shocks can be significantly alleviated in a currency union through wage flexibility and efficient compensatory fiscal action.

Notwithstanding some differences in suitability for unification, the experience of CE candidates for EU accession provides tentative lessons for LA economies that intend to participate eventually in a currency union. Conversely, though to a lesser extent, the predicament of some LA countries also offers lessons for CE countries. The lessons that emerge from the preceding sections can be grouped under four headings: choice of the anchor currency for unification; institutional harmonization and structural reform; issues in macroeconomic policy design; and economic and policy convergence.

The strategic goal of CE candidates, of joining EMU, provides a convenient example for LA economies or other emerging market economies. The alternative approach of creating a new currency (presumably based on some composite of the currencies of participating countries) would require lengthy consensus building on the characteristics of the new currency and a track record of solid macroeconomic performance to make credible the new currency.<sup>38</sup> Between these two options—in view of the progress made so far by most CE candidates toward EU accession and the difficulties encountered in LA integration—the most realistic option for LA economies would consist of outlining a road map toward unification anchored to a hard currency (presumably the U.S. dollar). This would simplify the preparatory phase, attain policy credibility more rapidly, and further motivate the unification process.

Ongoing harmonization of institutions in CE countries to the EU *acquis communautaires* provides a convenient context for policy convergence. The alternative of creating a *sui generis* institutional model among LA economies that envisage integration and monetary unification would be a cumbersome and uncertain exercise. As these countries (with the possible exception of Mexico, as member of NAFTA and OECD) do not have a particular model to emulate, a more viable approach, therefore, would be for each LA economy to develop institutions according to internationally accepted best practice. In any event, the experience of the lead CE candidates and some LA economies (notably, Chile) underscores the importance of accomplishing a critical mass of structural reforms particularly in public finances, the banking system, and corporate governance. Progress in these areas is indispensable for the conduct of sound macroeconomic policies.

The diverse experience of CE and LA economies in macroeconomic management implies that there is no single recipe for policy design. In fact, various alternative monetary/exchange

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<sup>38</sup> Consensus would have to be reached among participants on the exchange rate among their existing currencies, on the latter's weights in the new currency, and on the exchange rate regime that would govern the new currency. The gradual phase-in of the European Monetary System, followed by the three phases of the EMU, that climaxed with the formal launching of the euro, illustrate a process that would be far more complex and tortuous in the case of any group of LA economies.

rate arrangements are compatible with successful convergence. However, the difficulties faced by some CE candidates and by many LA countries in alleviating fiscal stress, curbing inflationary pressures, and containing external imbalances, suggest some practical guidelines. Foremost, the policy mix must be internally consistent. This means that it is necessary not only to observe the tradeoffs under the so-called impossible trinity, but more important, to achieve and maintain fiscal sustainability. In all, fiscal discipline is essential to pave the way to monetary dominance and thus to participation in a currency union.

An appropriate rules-based macroeconomic policy framework can be most helpful in this regard, as long as it is supported by an appropriate institutional infrastructure. One pillar of this framework is the inflation targeting regime increasingly being followed in a number of CE and LA countries; alternatively, a hard exchange rate peg is equally viable if accompanied by strict fiscal discipline. The other pillar consists of a balanced-budget requirement (or a primary surplus target aimed at public debt reduction), which is spreading rapidly in the LA region. In both CE and LA countries, inflation targeting is supported at least by legal central bank independence, which, however, is still threatened by occasional political pressures. Analogously, fiscal rules need to be underpinned by a high degree of transparency (comprehensive institutional coverage, accrual accounting, medium-term macro-fiscal framework, etc.), which does not yet fully obtain. At this time, Chile and Estonia stand out as proven practitioners of a consistent rules-based framework that has contributed to monetary dominance and to overall policy credibility.

CE countries follow clear criteria for joining EMU, formalized in numerical reference values, subject to monitoring by EU institutions. Following this example, LA countries would benefit from formulating a focused and realistic road map for policy convergence, along with a monitoring mechanism. Here again, implementation of a consistent rules-based policy framework by each country would be useful from the very outset. More generally, over time, policy convergence would strengthen economic convergence. In addition to the catalytic role of a prudent macro policy stance, anticipation of membership in an established currency union (as in the case of EU accession) or in a regional trading arrangement linked to a hard currency area (such as NAFTA) has been found to contribute significantly to a reduction in sovereign risk, which in turn should lead to budgetary savings, as well as encourage private investment and growth.

However, unilateral adoption of a hard currency (euro by CE countries or U.S. dollar by LA countries) in no way guarantees successful convergence and monetary unification. As illustrated by the recent example of dollarization in Ecuador, absent appropriate fiscal institutions, wage flexibility, and a sound banking system, the premature assumption of a hard currency can result in high country risk, vulnerability to exogenous shocks, and erosion in competitiveness. The loss of the exchange rate as an adjustment tool is likely to impose a greater burden on the remaining policy instruments.

In sum, the above lessons point to important considerations for emerging market economies, and for those in Latin America in particular, that aspire to engage in monetary unification. Lacking an optimal strategy, a model of institutional harmonization, and a road map for policy convergence, in the period ahead LA economies would benefit from following

internally consistent macroeconomic policies and strengthening of the institutional infrastructure on the basis of widely accepted best practice, including in central bank independence, prudential regulation and supervision of the banking system, and public sector transparency. In the meantime, there is a strong case for attempting to jointly formulate a blueprint for joining a hard currency area, and for developing the necessary political consensus and time path for implementation.

**Table 1. Macroeconomic Policy Framework, 2001**

	Exchange and Capital Restrictions <sup>1/</sup>	Exchange Rate Arrangement <sup>2/</sup>	Monetary Policy <sup>3/</sup>	Central Bank Independence <sup>4/</sup>	Fiscal Policy <sup>5/</sup>
<b>EU Accession Candidates</b>					
Bulgaria	0.2	CBA	--	0.6	
Czech Republic	0.2	MF	IT	0.7	
Estonia	0.1	CBA	--	0.8	OB
Hungary	0.1	<sup>9/</sup>	IT	0.7	
Latvia	0.1	FP		0.5	
Lithuania	0.1	CBA	--	0.8	
Poland	0.4		IT	0.9	DL
Romania	0.4	MF		0.3	
Slovakia	0.3	MF		0.6	
Slovenia	0.3	MF	MT	0.6	
<b>Andean Community</b>					
Bolivia <sup>6/</sup>	0.1	CP		0.7	
Colombia	0.4		IT	0.8	CB
Ecuador	0.1	USD	--	--	OB
Peru	0.1		MT <sup>7/</sup>	0.9	OB
Venezuela	0.1	CP <sup>8/</sup>		0.5	CB
<b>Mercosur</b>					
Argentina	0.5	CBA <sup>8/</sup>	-- <sup>8/</sup>	0.9	OB
Brazil	0.5		IT	0.6	CB, DL
Chile <sup>6/</sup>	0.1		IT	0.9	OB
Paraguay	0.1	MF		0.5	
Uruguay	0.1	CP <sup>8/</sup>		0.6	
<b>NAFTA</b>					
Mexico	0.3		IT	0.8	

Sources: International Monetary Fund; national authorities; Jacome (2001); Cukierman and others (2002); and author's estimates.

<sup>1/</sup> Index value ranges from 0 (lowest) for absence of controls, to 1 (highest) for full restriction on current payments or capital movements—on the basis of statutory information, mostly preliminary for 2001.

<sup>2/</sup> Rules consisting of managed float (MF), currency board arrangement (CBA), fixed peg (FP), preannounced crawling peg or band (CP), or U.S. dollar (USD).

<sup>3/</sup> Inflation targeting (IT) or monetary targeting (MT).

<sup>4/</sup> Index value ranges from 0 (lowest) for lack of autonomy, to 1 (highest) for full independence—on the basis of statutory information, until early 2001.

<sup>5/</sup> Rules consisting of constraint on overall budget balance (OB) or current balance (CB), or limit on public sector debt (DL). For Colombia and Ecuador, pending legislation.

<sup>6/</sup> Associate member of Mercosur.

<sup>7/</sup> Shifted to IT in early 2002.

<sup>8/</sup> Abandoned CP or CBA regime in early 2002.

<sup>9/</sup> In 2001, Hungary substituted a wide intervention band (+/- 15 percent around a parity rate) for the CP regime.



**Table 2. Selected Domestic Indicators, 2000**

	GNI Per Capita (Index) <sup>1/</sup>	Real GDP Growth Rate 1995-2000	CPI Inflation Rate	Interest Rate <sup>2/</sup>	Fiscal Balance <sup>3/</sup>	Gross Public Debt <sup>4/</sup>
						(percent of GDP)
<b>EU Accession Candidates</b>						
Bulgaria	24	-1.5	10.3	11.5	-1.1	80.6
Czech Republic	58	0.9	3.9	7.2	-5.1	28.2
Estonia	40	5.1	4.0	7.6	-0.7	5.0
Hungary	51	4.1	9.8	12.6	-3.7	55.3
Latvia	30	4.6	2.7	11.9	-3.3	16.8
Lithuania	30	3.3	1.0	12.1	-2.7	29.4
Poland	38	5.1	10.1	20.0	-3.1	38.9
Romania	27	-1.3	45.7	39.8	-4.0	46.7
Slovakia	47	4.1	12.0	14.9	-3.5	34.4
Slovenia	73	4.3	8.9	15.8	-1.4	25.1
<b>Andean Community</b>						
Bolivia <sup>5/</sup>	7	3.5	4.6	34.6	-4.3	75.8
Colombia	18	0.9	9.5	18.8	-4.5	41.7
Ecuador	9	0.1	96.1	16.3	1.6	95.4
Peru	14	2.5	3.8	27.9	-2.6	37.8
Venezuela	17	0.6	16.2	25.2	3.5	32.5
<b>Mercosur</b>						
Argentina	35	2.6	-0.9	11.1	-0.3	63.4
Brazil	21	2.2	7.0	56.8	-4.5	49.6
Chile <sup>5/</sup>	27	4.1	3.8	14.8	-0.9	16.4
Paraguay	13	0.7	9.0	26.8	-4.2	31.8
Uruguay	26	2.1	4.8	49.1	-3.8	45.8
<b>NAFTA</b>						
Mexico	26	5.4	9.5	18.2	-3.7	47.5

Sources: International Monetary Fund, World Bank, and author's estimates.

<sup>1/</sup> Gross national income per capita at purchasing power parity standards, in percentage of EU average or of U.S. level. For Central European countries EU = 100; for Latin American countries U.S. = 100.

<sup>2/</sup> Bank lending rate. For Romania NBR lending rate.

<sup>3/</sup> General government or nearest available coverage.

<sup>4/</sup> End of year.

<sup>5/</sup> Associate member of Mercosur.

**Table 3. Selected External Indicators, 2000**

	Current Account Balance (percent of GDP)	Real Effective Exchange Rate <sup>1/</sup> (1995 = 100)	Sovereign Yield Spread, 2001 <sup>2/</sup> (basis points)
<b>EU Accession Candidates</b>			
Bulgaria	-5.8	121	645
Czech Republic	-4.5	115	...
Estonia	-6.4	132	...
Hungary	-2.9	110	82
Latvia	-6.9	136	88
Lithuania	-6.0	161	190
Poland	-6.3	122	209
Romania	-3.7	107	508
Slovakia	-3.7	109	148
Slovenia	-3.4	99	69
<b>Andean Community</b>			
Bolivia <sup>3/</sup>	-5.6	118	...
Colombia	0.4	96	334
Ecuador	5.3	73	1,352
Peru	-3.1	100	449
Venezuela	10.8	162	963
<b>Mercosur</b>			
Argentina	-3.1	116	3,868
Brazil	-4.1	72	696
Chile <sup>3/</sup>	-1.4	106	186
Paraguay	-3.4	102	...
Uruguay	-2.6	116	287
<b>NAFTA</b>			
Mexico	-3.2	168	247

Sources: International Monetary Fund, Bloomberg, and author's estimates.

<sup>1/</sup> Effective exchange rate adjusted for differential in consumer price inflation relative to trading partner countries.

<sup>2/</sup> Spread in reference to comparable U.S. or EU instruments.

<sup>3/</sup> Associate member of Mercosur.

## On the Determinants of Sovereign Risk

The evolution of emerging market economies, by definition, has been characterized by external liberalization. Since the early 1990s, this process has facilitated access to financial markets.<sup>39</sup> Accordingly, governments in these countries have relied increasingly on bond issues, denominated in foreign and domestic currency, for financing budget deficits. But increased dependence on financial markets associated with a large buildup of public debt relative to economic activity has not been without risk. Indeed, these economies have become vulnerable to financial crises stemming from internal or external causes (including through contagion), and in some cases, precipitated by sudden shifts in investor sentiment.

Although not necessarily conducive to a currency crisis, sovereign risk can be rather costly as reflected in high interest rates. The ensuing budgetary cost for the public sector and cost of capital for the private sector have adverse repercussions, respectively, in public debt dynamics and in crowding out of productive investment, resulting in forgone economic growth and employment. Thus the importance of explaining the determinants of sovereign risk.

This note seeks to identify the sources of sovereign risk and to capture their quantitative effect. However, it does not attempt to provide a model-based prediction of currency crises.<sup>40</sup> Nor does purport to analyze the effect of shifts in market sentiment on bond spreads issued in emerging market economies.<sup>41</sup> Rather, the objective is to shed light on fundamental country-specific sources of vulnerability of these economies in financial markets. In this manner, the exercise may contribute to a better understanding of the underlying forces that may lead to crises and that are amenable to timely observation and corrective action—a central concern in international economic policymaking.

### Conceptual Basis

Broadly speaking, sovereign risk can be viewed as consisting of three components: default risk, currency risk and country risk. Although not always mutually exclusive, for analytical convenience they can be treated separately, that is, each can be singled out as a determinant in the sense that it can affect overall sovereign risk, independent of the other two components.

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<sup>39</sup> For a review of the evolution of foreign investment flows in emerging markets, see Mussa and Richards (1999).

<sup>40</sup> A comprehensive survey of forecasting balance of payments crises, see Berg and others (2000).

<sup>41</sup> See, for example, the empirical estimates of this effect on spreads in Eichengreen and Mody (1998), and of the effect of international financial rescue operations in Dell’Ariccia, Goedde and Zettelmeyer (2000).

*Default risk* (or credit risk) the risk of a moratorium on debt servicing in a situation of severe insolvency and/or illiquidity. This risk is typically faced by any domestic creditor (holding household, corporate, or government debt), even in isolation from the rest of the world. On government debt, this risk can be simply expressed as a function of the debt outstanding as a ratio of the revenue base.<sup>42</sup> In addition, under a hard liquidity constraint, the risk can be a function of short-term maturities as a proportion of readily marketable assets. Excessive public indebtedness appears to account for the bulk of sovereign risk, for example, in a number of Latin American economies.

*Currency risk* arises from the effect of a probable devaluation on debt servicing capacity. This is reflected in the misalignment of the exchange rate by virtue of its potential implications for foreign-currency denominated debt, including liabilities of the private sector—also called dollarized liabilities.<sup>43</sup> In the Asian crisis, the repercussions of devaluations on bank and corporate foreign currency liabilities ultimately resulted in a sizable buildup of public debt from massive financial rescue operations. The risk is of course exacerbated by a fixed peg, which can be seen as an implicit government guarantee, namely, a contingent liability to the extent of the overvaluation.<sup>44</sup>

*Country risk* can be regarded as a catch-all term that encompass conditions that prevail in a given country quite apart from the above risks (that is, even absent a significant overvaluation or excessive public indebtedness). Country risk tends to vary inversely with the level of institutional development, consisting of effective application of the rule of law, observance of contracts, protection of property rights, efficiency of the regulatory mechanism, and transparency—all elements that are likely to ensure the servicing of public debt. As an additional institutional feature that may reduce country risk is the anticipated integration into an economic space anchored by a hard currency.

Although not a component of sovereign risk, openness of the exchange system is likely to exercise an indirect influence on government access to financial markets. All else being equal, it can be argued that a reduction in barriers to capital movements (or outright abolition of controls) tends to entice financial inflows in general, whereas high barriers, especially on

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<sup>42</sup> The rationale for using the public debt stock, instead of the fiscal imbalance, is derived from the fact that the former usually stands as a major contributor to capital account crises; see Kopits (2002). A comprehensive measure of the debt servicing capacity should also include the present value of unfunded contingent liabilities of the public sector. The latter are comprised of explicit or implicit government guarantees associated mainly with public enterprise liabilities, public pension obligations, labor regulations, and a deposit insurance scheme.

<sup>43</sup> This is to be distinguished from the expected devaluation normally incorporated in the covered interest rate parity—given by the differential between the home interest rate on domestic-currency liabilities and the world interest rate on foreign-currency liabilities, less any sovereign risk. It should be noted that currency risk is far more prevalent in emerging market economies than implied by the apparent proliferation of floating exchange rate regimes, many which are in fact pegged regimes, as shown in Calvo and Reinhart (2000).

<sup>44</sup> On this view, see Dooley (1998).

outflows and remittances, discourage capital inflows and raise country risk. In all, the role of capital controls needs to be explored empirically.

### Measurement

Obviously, a full assessment of the determination of sovereign risk in emerging market economies is dictated by data availability. Subject to this limitation, a data set covering a cross-section of 39 countries has been compiled for the most recent year.

Perhaps the most comprehensive indicator to gauge sovereign risk is the spread (in bps) in the yield on government paper for each country and on a comparable instrument issued in the US or the EU (comparable in maturity, currency, etc.) in the secondary market—compiled on a regular basis since the second half of the past decade for emerging market economies. For estimation purposes, monthly observations of the spread were averaged (to reduce the impact of volatility) over the year 2001.

Normally, the public debt ratio is expressed as the stock of general government liabilities as a proportion of GDP. However, for emerging market economies, GDP is a questionable indicator of debt service capacity because weak tax administration, narrow tax bases, and various fiscal rigidities (including significant earmarking for specific government expenditures).<sup>45</sup> For these reasons, tax revenue of the general government seems a more appropriate denominator. Thus the variable of choice is the ratio of the public debt to tax revenue for end-2000.

Measurement of exchange rate misalignment with respect to the equilibrium rate is fraught with well-known difficulties. An approximation adopted here consists of deviations in the real rate from trend at end-2000.<sup>46</sup> An alternative is a real (CPI-based) effective exchange rate index in reference to a base period deemed to be close to equilibrium.<sup>47</sup> Dollarized economies (Ecuador and Panama) were constrained to a zero deviation.

The level of institutional development in emerging market economies can only be quantified through an admittedly imperfect proxy. The corruption perception index for 2001 published by *Transparency International* can be used as an indirect indicator of widespread perception of institutional stability in each country. This indicator was augmented by a dummy for countries that are in the vicinity of a hard currency area, which they may be expected to join in the foreseeable future on the strength of institutional convergence to that area. These

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<sup>45</sup> See the argument in Hausmann (2002).

<sup>46</sup> See the approach in Berg and others (2000).

<sup>47</sup> Other options (e.g., the BigMac index, published by the *Economist*, as a ratio of a PPP index) were not viable given insufficient data availability for all countries in the sample.

countries are: the Baltics, Czech Republic, Hungary, Poland, Slovakia, and Slovenia in the proximity of the EU, and Mexico next to the U.S.

Lastly, external openness is quantified by its inverse, namely, an index of exchange and capital controls for 2001. Specifically, this is an unweighted composite index based on statutory information on controls on capital transactions, as well as on current payments and transfers.<sup>48</sup> The index does not take into account effective practices, which may vary across countries.

### **Estimation Results**

Notwithstanding the heterogeneity of countries in the sample and the data limitations inherent in several variables, the hypothesized relationship is supported by empirical estimates. Ordinary least-squares estimates suggest that sovereign risk is positively related to the public debt ratio, exchange rate overvaluation, and exchange and capital restrictions, and negatively to the level of institutional development and the proximity to a hard currency area (Appendix Table 1). Closer scrutiny reveals some differences depending on the functional form and the dependent variable selected.

Lacking a theoretically unique functional form, the relationship was specified alternatively in linear and logarithmic form. In addition, two different dependent variables were tested. One was simply the absolute country spread but allowing for regional dummies (Africa, Asia, Central Europe, Eastern Europe, Latin America, Middle East) to isolate possible differences in investor perceptions among various regions. The alternative approach consisted of calculating a relative spread in which each country's spread is normalized by its corresponding regional average—with the added advantage of economizing on degrees of freedom.

Overall, though the logarithmic specification seems to yield a superior fit as compared with the linear form, all regression estimates have an explanatory power that seems strong for this type of cross-country sample. Equations with the dependent variable consisting of the relative spread tend to exhibit higher statistical significance than those with the absolute spread. All coefficients display the expected sign.

Among the independent variables, the coefficient of the public debt ratio is always statistically significant at the 1 percent level and the coefficient of the dummy variable for proximity to a strong currency union is mostly significant at that level. Capital controls and institutional development display highly significant coefficients in the linear and the log forms, respectively. The coefficient of the real exchange rate deviation is significant, though at lower levels of significance.

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<sup>48</sup> For a description, see Tamirisa (1999).

The weakness of the exchange rate variable can be attributed to the absence of information on foreign currency denominated liabilities of the public sector, as well as on the foreign currency exposure of private financial institutions—subject to explicit or implicit public guarantees. Ideally, the exchange rate deviation should be weighted by such information.

### **Implications**

This simple experiment points to several potential implications for policy. The central implication is that emerging market economies do have a considerable control over their destiny, and in particular, over sovereign risk, on several fronts. However, as a general point, by the nature of such cross-section estimation, the reported coefficients should be interpreted as representing the effect on spreads of a marginal change in each independent variable, say, the public debt ratio, over the long run. (Alternatively, coefficients in the log specification represent elasticity estimates.)

Foremost, the findings corroborate conventional wisdom, namely, that fiscal discipline is essential for maintaining access to financial markets at a reasonable cost. Specifically, emerging market economies should endeavor to contain the public sector debt (including contingent liabilities) to a prudent level in relation to tax receipts, by targeting an appropriate primary surplus. A further implication is that they should aim to strengthen the tax system preferably through efficient, durable and high-yield measures, if necessary in the context of a comprehensive reform in design and administration.

In addition, the results seem to confirm the vulnerability associated with an exchange rate misalignment, when combined with the proliferation of foreign currency liabilities, whether of the public sector or publicly guaranteed. While this cannot be interpreted as a recommendation for adopting a specific exchange rate regime, they argue for flexibility, and in any case, for appropriate flanking monetary and fiscal policies, and flexible wage setting. To be sure, currency risk is eliminated through unilateral adoption of a hard currency. But, again, the results indicate that even with full dollarization or euroization sovereign risk can remain high in the presence of high public indebtedness and weak institutional framework (as in the case of Ecuador).

The estimates underscore the need for building a strong institutional framework, consisting inter alia of good governance, the rule of law, and transparency—all which reduce the scope for corruption. Admittedly, this is probably the most difficult, though not less important, road (e.g., establishing judiciary independence, prudential banking regulations, central bank autonomy, strong tax administration) toward mitigating sovereign risk. As illustrated by the experience of a number of emerging market economies, the erosion of institutional integrity is relatively easy, but its construction can be a prolonged and painstaking process.

To conclude, external liberalization should not be feared, in and of itself, as a source of high sovereign risk. On the contrary, removal of exchange and capital controls can help reduce spreads. In addition, countries that are near a hard currency area (specifically, the EU euro area or the U.S.) tend to benefit from institutional convergence toward such an area.

The above findings are of course limited in several respects—besides some obvious data imperfections. They do not capture the effect of external determinants of sovereign risk, namely, those due to macroeconomic and financial conditions prevailing in the global economy. Equally, the basic specification leaves out any explanation of cross-country contagion of capital account crises or other shifts in market sentiment. By the same token, no attempt has been made to simulate the potential impact of alternative approaches to sovereign debt contracts, currently under consideration. As a first approximation, it is plausible to assume that these factors are likely to have a scale effect rather than an effect on parameter values in the determination of risk.



**Appendix Table 1. Emerging Market Economies: Estimates of the Spread Equation<sup>1/</sup>**

Independent Variables	Dependent Variable			
	Absolute spread	Relative spread	Absolute spread	Relative spread
	Linear specification		Logarithmic specification	
Constant term	435.48 (299.70)	-328.02 (290.54)	2.90 (2.23)	-3.34 (1.93)
Public debt ratio	1.34*** (0.33)	1.16*** (0.30)	0.63*** (0.13)	0.60*** (0.11)
Real exchange rate deviation	3.79* (2.03)	3.76** (1.83)	0.57* (0.33)	0.53* (0.28)
Institutional development	-8.98* (5.21)	-10.99** (4.99)	-0.62*** (0.24)	-0.67*** (0.22)
Proximity to hard currency area	-328.91** (135.85)	-266.26** (132.18)	-1.04*** (0.21)	-1.01*** (0.20)
Exchange and capital controls	11.71*** (3.50)	11.68*** (3.42)	0.15 (0.10)	0.16* (0.09)
R <sup>2</sup> adjusted	0.684	0.705	0.816	0.848

<sup>1/</sup> See text for explanation of variables. Standard errors are shown in parentheses. Coefficients are significant at 1 percent (\*\*\*), 5 percent (\*\*), or 10 percent (\*) levels.

## References

- Abel, I., P.L. Siklos, and I.P. Szekely, 1998, *Money and Finance in the Transition to a Market Economy* (Northampton, Edward Elgar)
- Barro, R.J., and X. Sala-i-Martin, 1995, *Economic Growth* (New York, McGraw-Hill)
- Bayoumi, T., and B. Eichengreen, 1994, *One Money or Many? Analyzing the Prospects for Monetary Unification in Various Parts of the World*, Princeton Studies in International Finance No. 76 (Princeton, Princeton University Press)
- Berg, A., E. Borensztein, G.M. Milesi-Ferretti, and C. Patillo, 2000, *Anticipating Balance of Payments Crises: the Role of Early Warning Systems*, Occasional Paper 186 (Washington, International Monetary Fund)
- Bofinger, P., and T. Wollmershauser, 2002, "Exchange Rate Policies for the Transition to EMU" (unpublished, Bank of Estonia, April)
- Blanchard, O.J., K.A. Froot, and J.D. Sachs, ed., 1994, *The Transition in Eastern Europe*, vols. 1 and 2 (Chicago, Chicago University Press)
- Calvo, G., and C.M. Reinhart, 2000, "Fear of Floating," NBER Working Paper 7993 (Cambridge, November)
- Canzoneri, M., J. Valles, and J. Vinals, 1996, "Do Exchange Rates Move to Address International Economic Imbalances?" CEPR Discussion Paper No. 1498 (London, October)
- Coricelli, F., 2001, "Exchange Rate Policy During Transition to the European Monetary Union: the Option of Euroization," paper presented at the London School of Economics, March.
- Crespo-Cuaresma, J., M.A. Dimitz, and D. Ritzberger-Gruenwald, 2002, *Growth, Convergence, and EU Membership*, Working Paper 62 (Vienna, Oesterreichische Nationalbank)
- Cukierman, A., G.P. Miller, and B. Neyapti, 2002, Central Bank Reform, Liberalization and Inflation in Transition Economies—an International Perspective," *Journal of Monetary Economics*, vol. 49, pp. 237-264.
- Dell'Araccia, G., I. Goedde, and J. Zettelmeyer, 2000, "Moral Hazard in International Lending: A Test," paper presented at the IMF First Annual Research Conference, Washington, November 9-10.

- Dooley, M.P., 1998, "A Model of Crises in Emerging Markets," International Finance Discussion Paper 630 (Washington, Board of Governors of the Federal Reserve System)
- Dornbusch, R., 2001, "Fewer Monies, Better Monies," NBER Working Paper No. 8324 (Cambridge, June)
- Dornbusch, R., and F. Giavazzi, 1999, "Hard Currency and Sound Credit: A Financial Agenda for Central Europe," *EIB Papers*, vol. 4, pp. 24-32.
- Eichengreen, B., and A. Mody, 1998, "What Explains Changing Spreads on Emerging Market Debt: Fundamentals or Market Sentiment?" NBER Working Paper 6408 (Cambridge, February)
- Fernandez-Arias, E., and P. Montiel, 2001, "Reform and Growth in Latin America: All Pain, No Gain?" *IMF Staff Papers*, vol. 48, pp. 522-46.
- Fischer, S., 2001, "Exchange Rate Regimes: is the Bipolar View Correct?" *Journal of Economic Perspectives*, vol. 15 (Spring), pp. 3-24.
- Fischer, S., R. Sahay, and C. Vegh, 1996, "Stabilization and Growth in Transition Economies," *Journal of Economic Perspectives*, vol. 10 (Spring), pp. 45-66.
- Flood, R.P., and N.P. Marion, 1998, "Perspectives on the Recent Currency Crisis Literature," NBER Working Paper 6380 (Cambridge, January).
- Frankel, J., 1999, "No Single Regime is Right for All Countries and All Times" NBER Working Paper 7338 (Cambridge, September)
- Frankel, J., and A. Rose, 1997, "Endogeneity of the Optimum Currency Area Criteria," *Economic Journal*, vol. 108, pp. 1009-25.
- Gavin, M., R. Hausmann, R. Perotti, and E. Talvi, 1996, "Managing Fiscal Policy in Latin America and the Caribbean: Volatility, Procyclicality, and Limited Creditworthiness," IDB Working Paper No. 13 (Washington, Inter-American Development Bank)
- Gomulka, S., 2000, "Macroeconomic Policies and Achievements in Transition Economies, 1989-99," Economic Survey of Europe 2000, No.2/3 (New York and Geneva, UN Economic Commission for Europe), pp. 69-84.
- Havrylyshyn, O., and R. van Rooden, 2000, "Institutions Matter in Transition, but so do Policies," IMF Working Paper WP/00/70 (Washington, March)

- Hausmann, R., 2002, "Unrewarded Good Fiscal Behavior: the Role of the Debt Structure," paper presented at the IMF/WB Conference on Rules-Based Fiscal Policy in Emerging Market Economies, Oaxaca, February 14-16.
- Jacome, L.I., 2001, "Legal Central Bank Independence and Inflation in Latin America During the 1990s," IMF Working Paper WP/01/212 (Washington, December)
- Kopits, G., 1999, Implications of EMU for Exchange rate Policy in Central and Eastern Europe," IMF Working Paper WP/99/9 (Washington, January); forthcoming in M. Landesmann, ed., *Shaping the New Europe: Economic Policy Challenges of EU Enlargement* (London, Macmillan)
- Kopits, G., 2001, "Fiscal Rules: Useful Policy Framework or Unnecessary Ornament?" in Banca d'Italia, *Fiscal Rules* (Rome), pp. 59-84.
- Kopits, G., 2002, "Fiscal Policy Under High Capital Mobility," paper presented at the IMF/WB Conference on Rules-Based Fiscal Policy in Emerging Market Economies, Oaxaca, February 14-16.
- Kopits, G., J.O. Jimenez, and A. Manoel, 2000, "Responsabilidad fiscal a nivel subnacional: Argentina y Brasil," *XII Seminario Internacional de Politica Fiscal: Compendio de Documentos* (Santiago, CEPAL), pp. 23-57.
- Leeper, E., 1991, "Equilibria under Active and Passive Monetary and Fiscal Policies," *Journal of Monetary Economics*, vol. 27 (February), pp. 129-47.
- Krugman, P., 1991, *Geography and Trade* (Leuven, Leuven University Press)
- Larre, B., and R. Torres, 1991, "Is Convergence a Spontaneous Process? The Experience of Spain, Portugal and Greece," *OECD Economic Studies*, No. 16 (Spring), pp. 169-198.
- McAleese, D., 2000, "Twenty-five Years 'a Growing'" in *Europe: the Irish Experience* (Dublin, Institute for European Affairs)
- Mishkin, F., 2000, "Inflation Targeting in Emerging Market Countries," *American Economic Review: AEA Papers and Proceedings*, vol. 90 (May), pp. 105-109.
- Mussa, M., and A. Richards, 1999, "Capital Flows in the 1990s Before and After the Asian Crisis," paper presented at the WB/IMF/WTO Conference on Capital Flows, Financial Crises, and Policies, Washington, April 15-16.
- Schaechter, A., M. R. Stone, and M. Zelmer, 2000, *Adopting Inflation Targeting: Practical Issues for Emerging Market Countries*, Occasional Paper 202 (Washington, International Monetary Fund)

- Sinn, G., and H.W. Sinn, 1991, *Kaltstart: Volkswirtschaftliche Aspekte der deutschen Vereinigung* (Tubingen)
- Summers, L., 2000, "International Financial Crises: Causes, Prevention, and Cures," *American Economic Review: AEA Papers and Proceedings*, vol. 90 (May), pp. 1–16.
- Tamirisa, N.T., 1999, "Exchange and Capital Controls as Barriers to Trade," *IMF Staff Papers*, vol. 46 (March), pp. 69–88.
- Tanner, E., and A. Ramos, 2002, "Fiscal Sustainability and Monetary vs. Fiscal Dominance: Evidence from Brazil, 1991-2000" IMF Working Paper WP/02/5 (Washington, January)
- Taylor, J.B., 2000, "Reassessing Discretionary Fiscal Policy," *Journal of Economic Perspectives*, vol. 14 (Summer), pp. 21–36.
- Teijeiro, M., 2001, "Una vez más la política fiscal..." in M. Lascano, ed., *La Economía Argentina Hoy: Análisis Riguroso de un País en Crisis* (Buenos Aires: El Ateneo), pp. 267-296.
- Walsh, C.E., 2001, *Monetary Theory and Policy* (Cambridge, MIT Press)



# Discussion

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## 1. Main conclusions of the paper

Let me start by summarizing the main conclusions of the paper. These are the following:

- Most Central European (CE) countries are better suited for EMU than Latin American (LA) countries for a common currency area or for the US
- Some CE countries are better suited for EMU than current EMU members
- Regional monetary integration is unlikely in both CE and LA
- For convergence there is no single recipe, but some general guidelines should be kept: internally consistent policy mix, fiscal discipline, sound banking system, developed institutional framework, and transparency.

## 2. Comments

The conclusions mentioned above are fairly general and – with the exception of the second one – are in line with the conclusions of other presentations at this conference.

The second conclusion, stating that some CE countries are better suited for EMU than current EMU members, is a new finding of this paper. However, the support for this claim is rather weak. Only some sentence and a footnote deals with this issue by claiming that the trade share of EMU member states in gross trade is higher in five CE countries – even measured at purchasing power parity – than in Greece, Italy, and Spain, and that the share of agricultural sector in GDP is higher in Greece than in CE countries.

The claims might be correct, nonetheless it would be good to see the data on the one hand, and read more evaluations on why these are sufficient to draw the rather strong conclusion on the other hand.

My basic critique of the paper is connected to the support of the claims. The paper formulates many claims and conclusions but only a small fraction of them are based on data shown in the four tables. The reader might surely benefit from more support for the claims.

Instead of evaluating the paper paragraph by paragraph, let me concentrate on some of the missing aspects of the paper. These are the following:

- Political considerations
- Income & price level gaps and real convergence
- Evaluation of institutions
- Are CE & LA countries comparable?

## 2.1. Political considerations

There are rather strong political motives behind EU integration of Central European countries. These are rooted far back in history and supported by cultural similarities. To my knowledge similar political motives for US accession of Latin American countries or motives for a regional integration are absent.

## 2.2. Income & price level gaps and real convergence

### 2.2.1. Income levels

Countries aiming to form a monetary union must have similar income per capita and price level. Huge income differences might lead to massive migration causing serious social problems in both the rich and poor countries. Price levels should also be similar otherwise inflation rates might differ substantially.

In case of EU candidates there are substantial income and price level gaps, but they are on a catch up path as can be seen on Figures 1 that shows GDP per capita compared to Austria measured at PPP in ten CE countries in 1985-98.<sup>1</sup> With the exception of Bulgaria and Romania all other countries were on a catch up path<sup>2</sup>. One might argue that the catch up is just a recovery from the recession of the early nineties, however, this claim might be questioned since the economic-political-social systems of these countries have changed substantially so it is likely that their steady state level of income has also changed.

Figure 2 shows GDP per capita compared to US measured at PPP in eleven LA countries in 1975-98. As we can see only Chile is catching up, but the other countries are stagnating or lagging behind. Moreover, the differences in income per capita compared to US are on average larger than in case of CE countries compared to EU.

Tables 1-2 show income per capita in a historical perspective. In the three leading EU candidates we can see that their relative income level was at a much higher level before the World Wars than today. The literature on conditional convergence implies that if these countries adopt similar institutions to EU than they have a good chance to catch up at least to previously achieved levels, provided that their social structures did not worsen irreversibly during the socialist era.

In case of LA countries only Argentina and Chile could achieve reasonable income per capita levels compared to US sometimes in history, all other countries were much poorer.<sup>3</sup> These facts imply that most of the LA countries have a much worse chance to catch up with US than the leading CE countries to catch up with EU.

Finally, it might be questioned whether it is fair to compare CE countries to Austria and LA countries to US, since the US economy has been the leading economic power over the last century. However, Austria had also caught up somehow to US as can be seen in the final row of Table 2.

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<sup>1</sup> The reasons for using Austria as a benchmark instead of the EU average or the largest trading partner Germany are the following: (1) the composition of both the EU average and Germany (due to unification) have changed during the sample period 1985-1998; (2) the historical roots make Austria an obvious benchmark.

<sup>2</sup> The financial crisis in the Czech Republic in 1997 set back growth that resumed in later years.

<sup>3</sup> There is an exception: Venezuela in 1970 seems to be an outlier.



### **2.2.2. Price level convergence**

Data on price levels indicate large differences both in case of CE and LA countries compared to EU and US. However, these gaps are diminishing in case of CE countries, but not in case of LA countries, as can be seen on Figures 3-4-5-6. At this point we can add that there are substantial differences in the benchmark used, as the US dollar appreciated significantly compared to EU currencies over the second part of the sample period shown on the Figures. Nonetheless this fact does not pull out the spirit of my conclusion: price level differences compared to EU are diminishing in CE countries but do not diminish compared to US in case of LA countries.

### **2.2.3. Sum Up Real Convergence**

- Income per capita differences with respect to EU & US
  - Meaningful in first wave CE countries
  - Huge in other CE and all LA countries<sup>4</sup>
- Price level differences
  - Meaningful and huge, respectively
- Income per capita and price level catch up in CE countries
  - ⇒ Note: We should add that the persisting income differences and the process of price level convergence cause fears of immigration and higher EMU inflation among EU and ECB officials
- No catch up in LA (except Chile in the last 2,5 decades)

## **2.3. Institutional Quality**

My hypothesis is that similarity (in terms of economic structures, institutions) is not enough for monetary union, but social infrastructure must be good. It is highly unlikely, for example, that two corrupt countries where the rule of law is weak will enter a monetary union.

An extensive research project at the World Bank created a data set for the quality of institutions.<sup>5</sup> These “Indicators reflect the statistical compilation of perceptions of the quality of governance of a large number of survey respondents in industrial and developing countries, as well as non-governmental organizations, commercial risk rating agencies, and think-tanks during 1997 and 1998.” The indicators consist of six main groups:

- Rule of Law
- Corruption Control
- Regulatory Framework
- Voice-Accountability

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<sup>4</sup> Income per capita in Argentina compared to US was similar to leading CE countries compared to EU before its crisis in 2002.

<sup>5</sup> Kaufmann, Daniel, Aart Kraay and Pablo Zoido-Lobaton (1999a). "Aggregating Governance Indicators". World Bank Policy Research Department Working Paper No. 2195. and Kaufmann, Daniel, Aart Kraay and Pablo Zoido-Lobaton (1999b). "Governance Matters". World Bank Policy Research Department Working Paper No. 2196.

- Political Stability / Lack of Violence
- Government Effectiveness

The indices average to zero across all countries of the world and have a unit standard deviation.

In case of EU candidates Figure 7 shows the average of the above indicators, and Figure 8-9-10 show three of the main indices: rule of law, control of corruption, and regulatory framework. The Figures also include the EU average<sup>6</sup>, four EU member states, Turkey (another EU candidate) and Russia for comparison. (EU countries are in blue, first wave accession countries are in orange, second wave accession countries are in dark red, and Turkey and Russia are in grey). The figures suggest that:

- First wave countries attained reasonable institutional quality, and they are mostly better than Greece
- But second wave countries have much to improve

Figures 11-12-13-14 show the same data for Latin American countries, in comparison with Canada and US. (NAFTA countries are in blue, Mercosur countries are in orange, and Andean Community countries are in dark red.) The figures suggest that:

- Institutional quality in Chile is reasonable with respect to US, and not so bad in Uruguay and Argentina
- But all other countries have very poor institutional quality
- However: their regulatory framework is quite good, mainly due to various structural reforms.

The question to be answered is then the following: Why Latin American countries are unable to improve in other aspects despite successful efforts in the regulatory framework?<sup>7</sup> Why do LA & CE countries differ in this regard?

In my opinion this question should be answer first before studying any mutual lessons in policy design.

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<sup>6</sup> I used population for weighting the 15 member states.

<sup>7</sup> This question could be ask in case of Turkey as well.

### 3. Tables

**Table 1. Income per Capita in a Historical Perspective (% of Austria)**

	1913	1928	1998
Bulgaria	43	33	21
Czechoslovakia <sup>(1)</sup>	60	81	53
Hungary	60	66	44
Poland		57	33
Romania		33	24

Source: Maddison, A. (1995): Monitoring the world economy 1820-1992, OECD, Paris, and World Bank: World Development Indicators

<sup>(1)</sup>: Czech Republic in 1998.

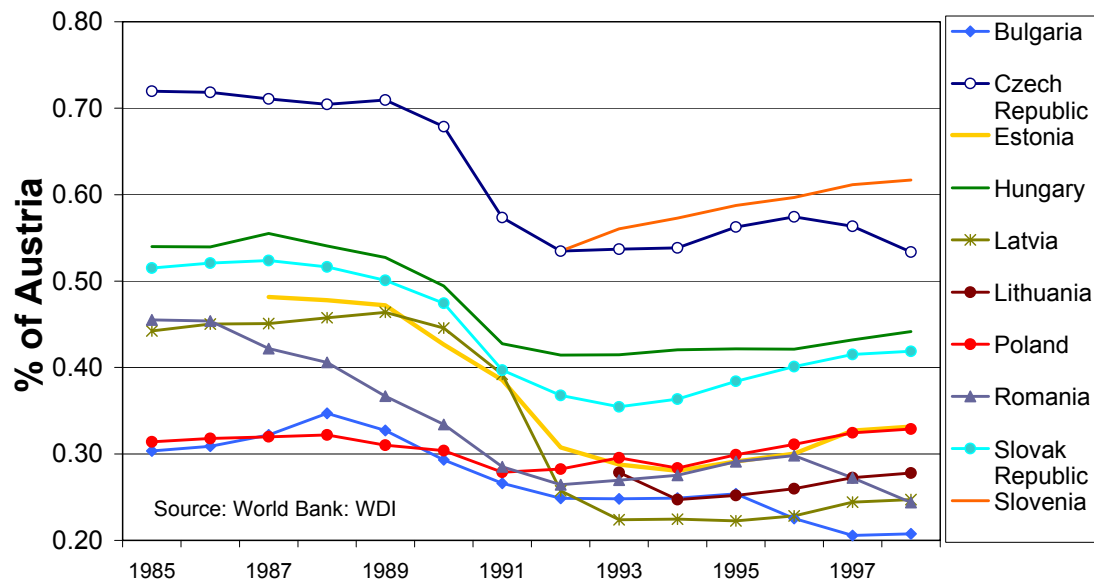
**Table 2. Income per Capita in a Historical Perspective (% of US)**

	1913	1928	1970	1998
Argentina	72	65	49	41
Brazil	16	17	21	22
Chie	50	48	35	30
Columbia	23	23	21	20
Mexico	28	24	25	26
Peru	20	23	26	14
Venezuela	21	46	73	20
<i>Austria</i>	<i>66</i>	<i>56</i>	<i>66</i>	<i>78</i>

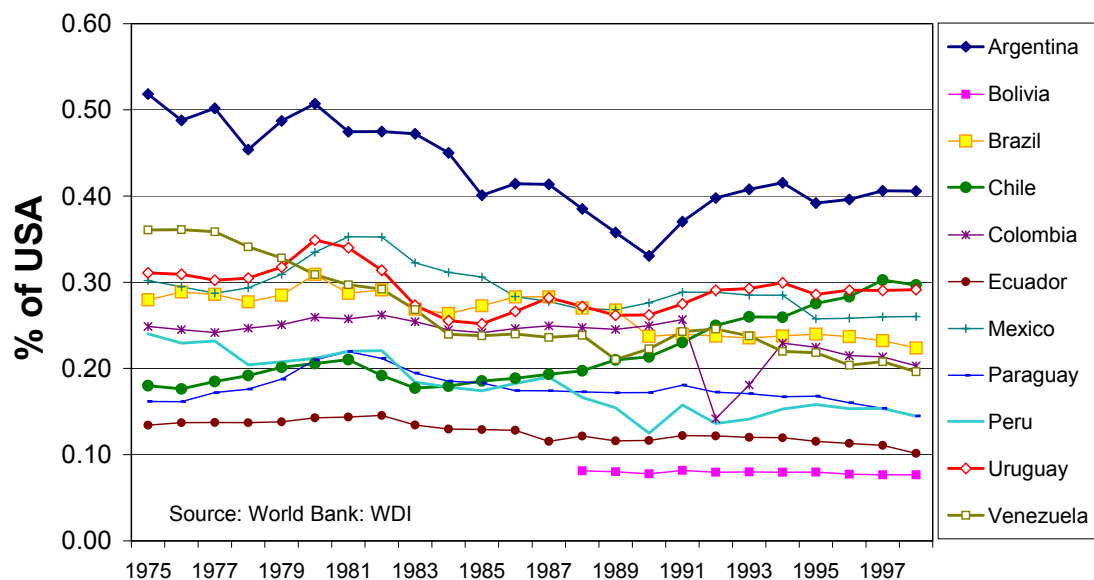
Source: Maddison, A. (1995): Monitoring the world economy 1820-1992, OECD, Paris, and World Bank: World Development Indicators

## 4. Figures

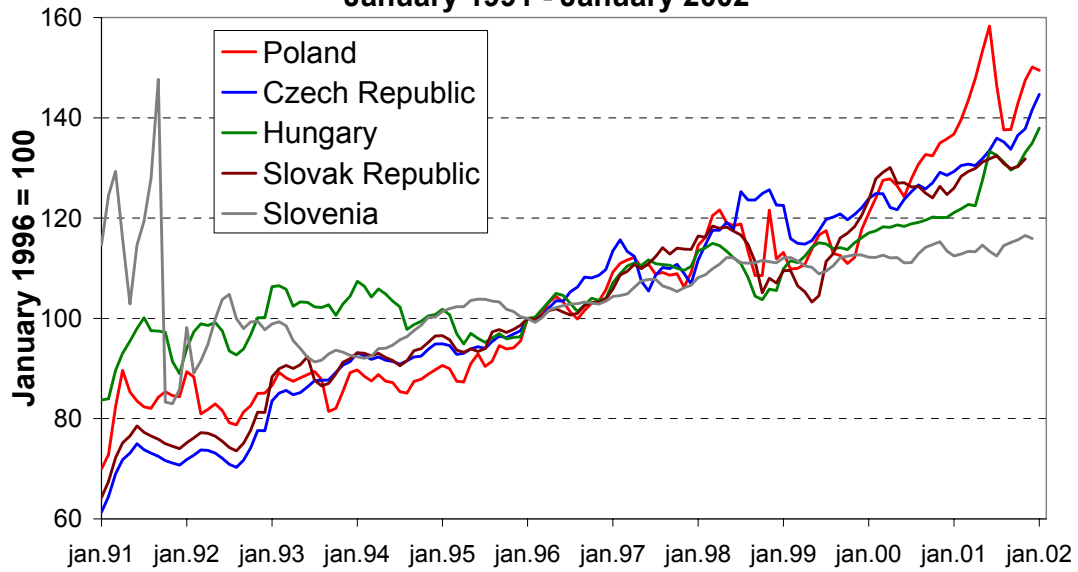
**Figure 1: EU candidates: GDP per capita at PPP, 1985-98**



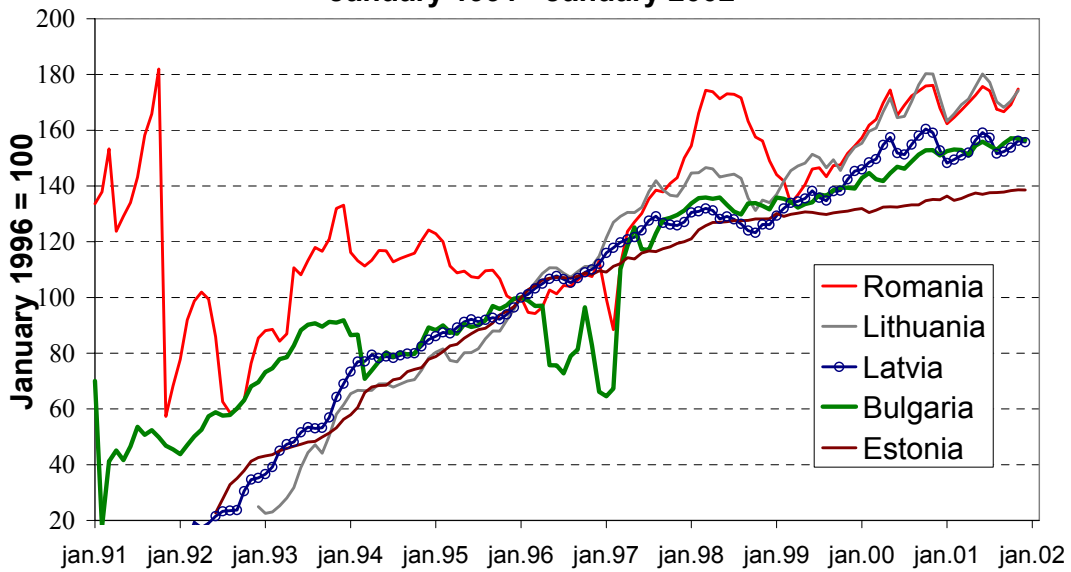
**Figure 2: Latin America: GDP per capita at PPP, 1975-98**



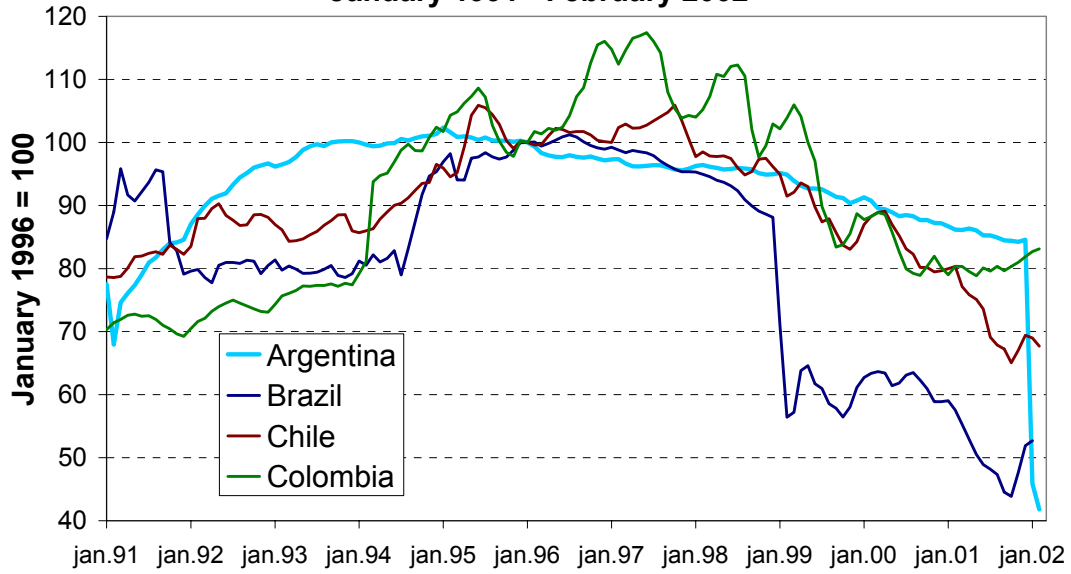
**Figure 3: Real exchange rate with respect to Germany**  
January 1991 - January 2002



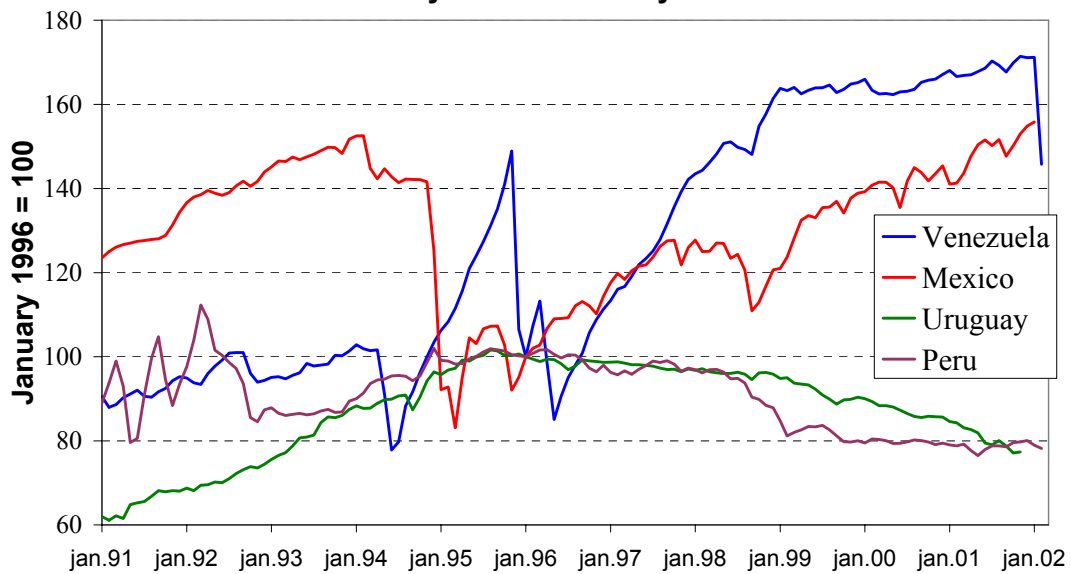
**Figure 4: Real exchange rate with respect to Germany**  
January 1991 - January 2002



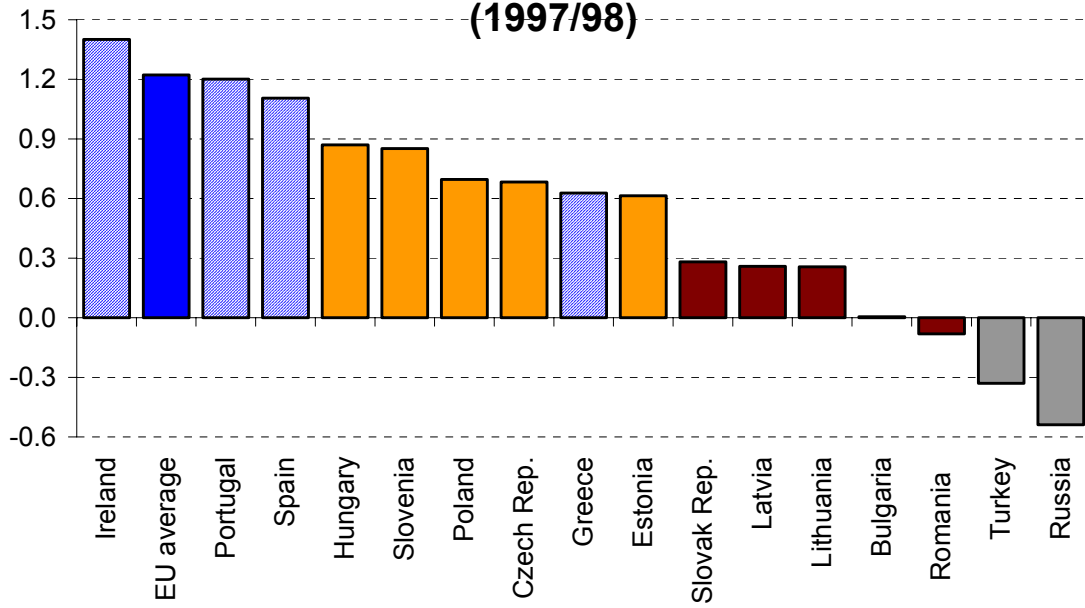
**Figure 5: Real exchange rate with respect to US**  
January 1991 - February 2002



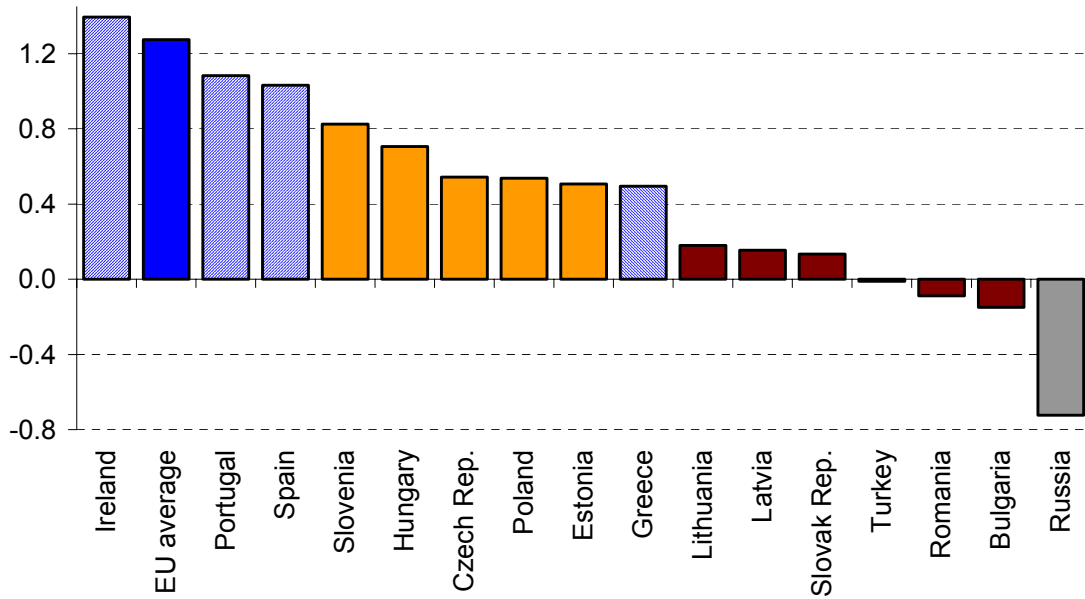
**Figure 6: Real exchange rate with respect to US**  
January 1991 - February 2002



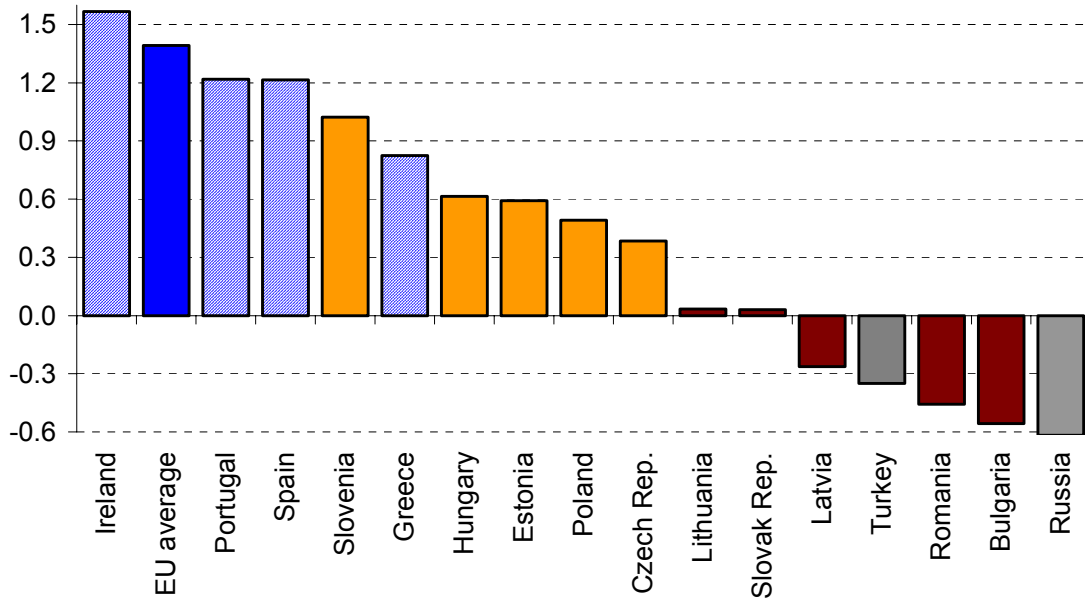
**Figure 7. EU Candidates: Average Institutional Quality (1997/98)**



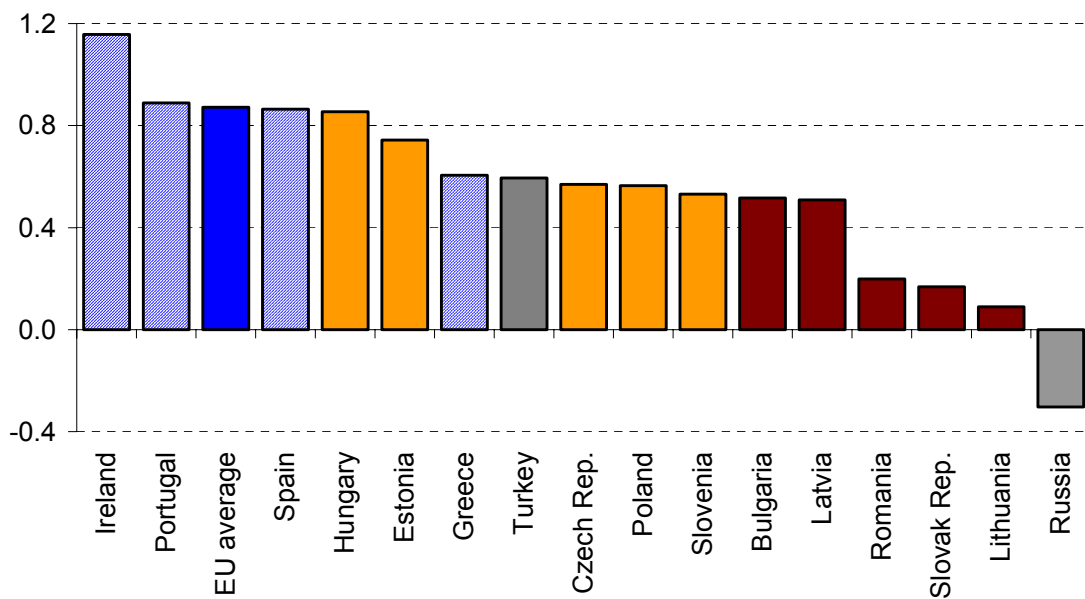
**Figure 8. EU Candidates: Rule of Law (1997/98)**



**Figure 9. EU Candidates: Control of Corruption (1997/98)**

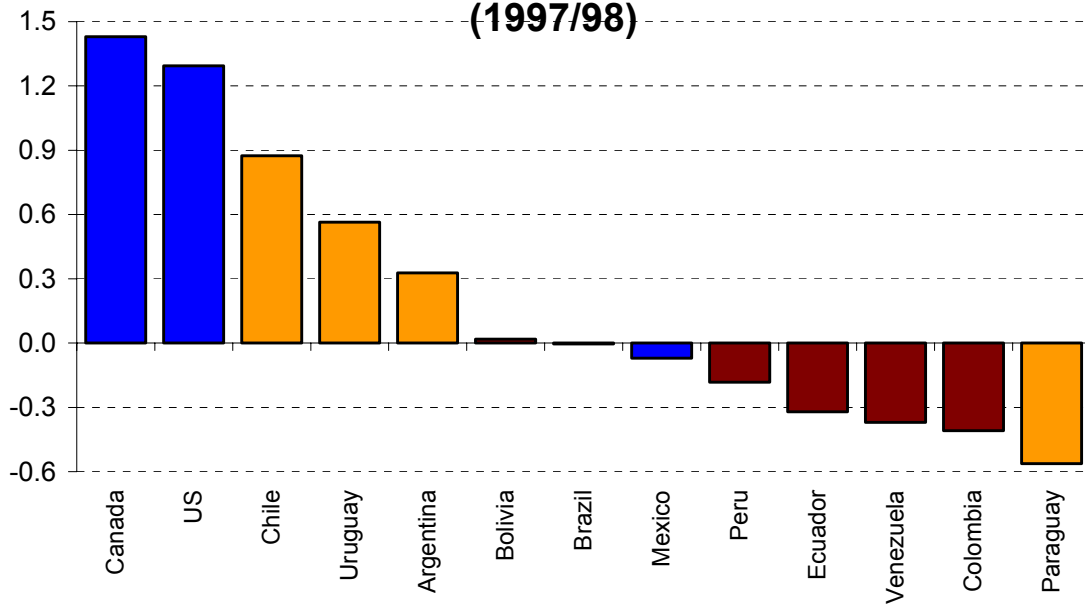


**Figure 10. EU Candidates: Regulatory Framework**

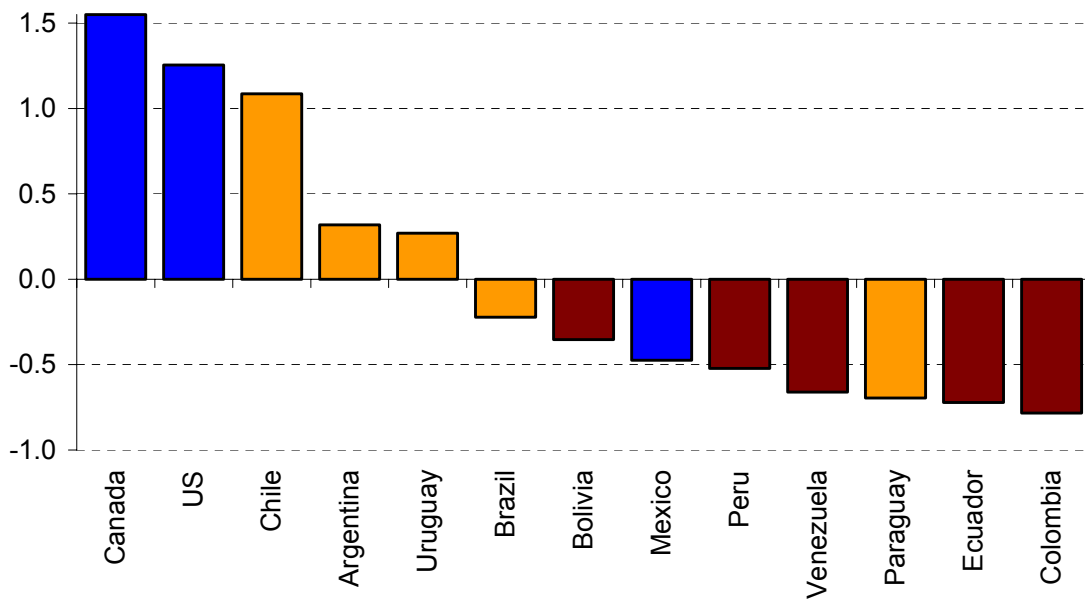




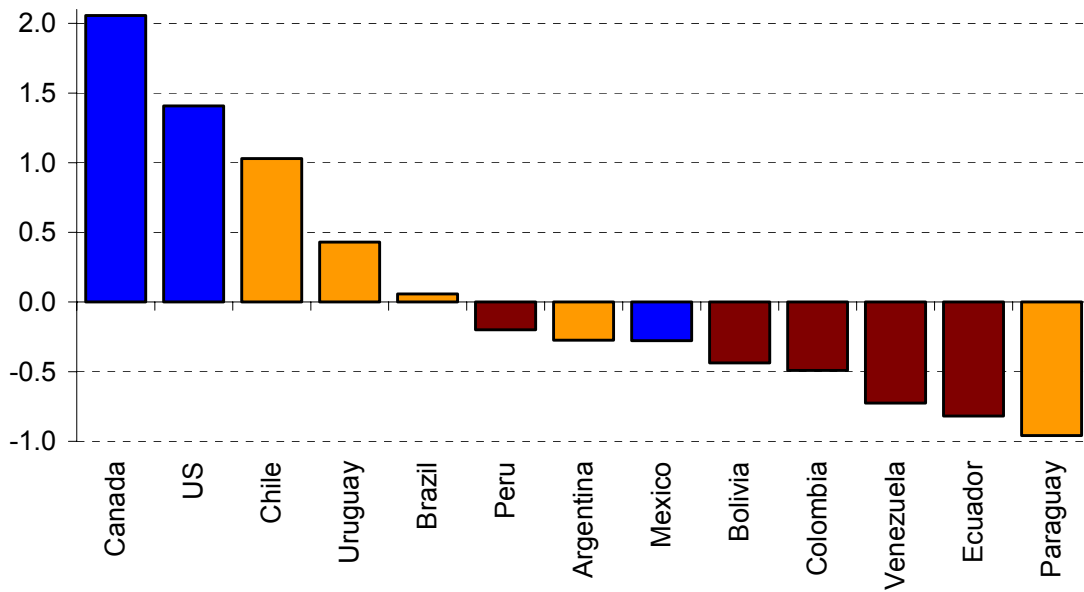
**Figure 11. Latin America: Average Institutional Quality (1997/98)**



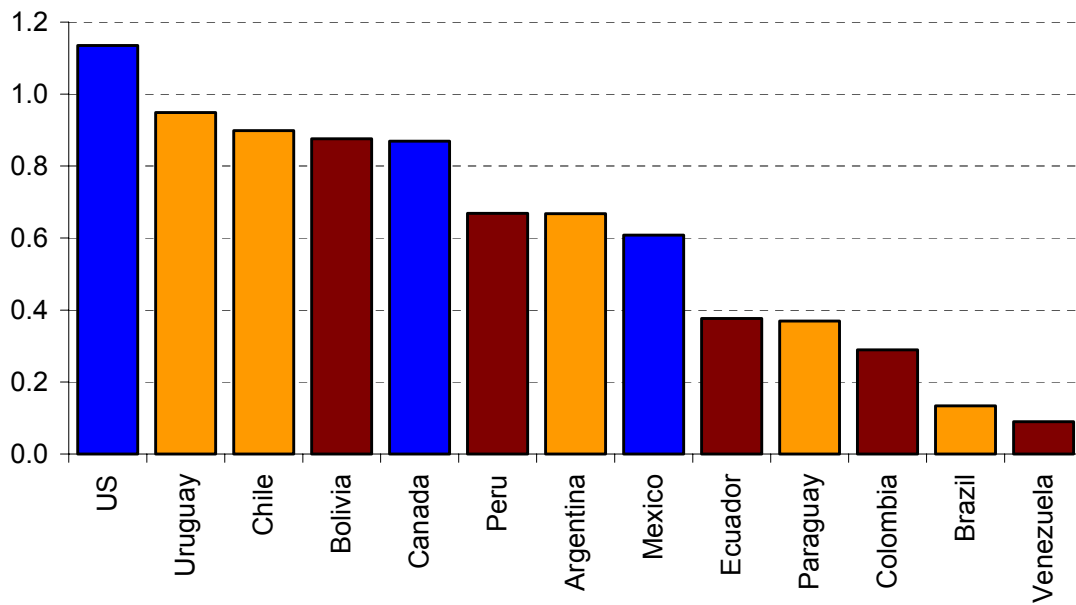
**Figure 12. Latin America: Rule of Law (1997/98)**



**Figure 13. Latin America: Control of Corruption (1997/98)**



**Figure 14. Latin America: Regulatory Framework**



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The paper compares the process of economic integration in Central Europe with Latin America. It is intriguing to ask what can we learn from the experience of Central European countries for Latin America and the other way round. The paper provides plenty of stimulating insights. It provides clear evidence that economic integration of CE with EU is much stronger than integration within the trade zones in LA itself or of LA countries with the USA (Rather than looking at the evidence of some selected indicators at just one point in time, it would have been more instructive to analyse the dynamic convergence so as to gain additional insights into sustainability of that process).

The main focus of the paper is the question how suitable these countries may be for monetary union. As starting point of the analysis, the paper takes the theory of optimum currency areas. According to Kopits, “it provides the basic rationale for creating a monetary union.”

For a comparison between CE and LA experience, however, I think the OCA perspective does not give much insights into the real issues involved in macroeconomic policy design. It may even lead to grossly misleading conclusions, simply because it ignores that political factors as a fundamental driving force. Forming the European monetary union has been a political decision, and it has been a political decision to offer central and some Eastern European countries access to the European Union under well specified conditions. It may help to remember that, just before the European Central Bank started to operate, prominent US economists (see Feldstein 1997) warned that EMU may even lead to civil war within Europe, referring to immobility of workers and inflexibility of wages.

The inconclusiveness of first major lesson in the paper gives a good illustration of the problems involved: First, it states that according to OCA criteria “most CE countries are much better suited for EU accession than ... LA economies are in joining a common currency area locally or with the U.S.” But then, Kopits points out that convergence to OCA criteria are to some extent endogenous. For that reason, these criteria cannot provide clear guidance for policy design. Rather, they are helpful in pointing out problems which have to be addressed when forming a

monetary union. The proper way to tackle these issues is to stimulate an endogenous economic and institutional convergence process. In contrast, I am extremely sceptical of suggestions to expand cohesion funds to countries in trouble, aiming to alleviate *asymmetric shocks through concerted compensatory fiscal action*. Such a policy may help to keep the US dollar strong, but it would be a safe way to spread the German (or East German) disease across all Europe – a sure recipe for disaster.

As a more constructive approach for macroeconomic policy design, we should ask: What institutional arrangements can help best to establish credible commitments? This perspective provides valuable insights both for CE and LA countries.

The options available in the two regions are quite different. CE countries are offered the unique opportunity to join European Union under well specified conditions (they have to negotiate accession terms defined in the so called 31 **chapters**, covering a wide range of criteria, starting from freedom of movement for persons, free movement of goods and capital, to convergence in competition policy, taxation and to Independence of Central Bank and regulatory framework for financial markets).

In contrast, perhaps apart from Mexico and some exotic islands, such an option is simply not available for Latin America. Countries in this region are much more in a situation like Russia, Ukraine or Bulgaria and Romania. Adequate policy design is a much tougher task in that case.

For CE countries, there has been remarkable progress during the last 10 years in many respects, taking into account that before that period, these countries have been characterised by socialist central planning, soft budget constraints and so on. The amazing progress in trade integration with Western Europe has been very much stimulated by the realistic perspective to be able to join EU if you put enough effort in restructuring/ reshaping the own institutions. For many accession countries, negotiations in most chapters have already been successfully completed (compare European Commission 2002). This self-enforcing, credibility enhancing mechanism provides impressive evidence of the advantage of an external institutional anchor.

In my view, the main lesson from the CE experience is the following: Specifying a clear institutional framework may help to trigger self-enforcing convergence process towards a good equilibrium outcome. If everything goes well, this process will even

be supported by market expectations (the amazingly low risk premia for bonds issued by CE states help to support fiscal consolidation in these countries). At present, things seem to go rather well - everybody seems to be enthusiastic about the Euro, at least among European academics and central bankers (presumably, their enthusiasm is stimulated in a particular way since they do much travelling across Europe and so gain more than others from reduced transaction costs). But it may be healthy to express some scepticism: (1) Let us hope during the next years there will be no big shock like the German unification shock (which nearly broke the EMS) or a negative referendum about EU membership in the Czech republic. (2) More seriously, even though there have been lots of institutional reforms in CE, there has been a remarkable lack of urgently needed institutional reforms within the European Union. They are needed to make it fit to cope with the accession countries. Voting procedure in the ECB council is just a minor issue in this context. Expanding the memberships offers a great chance, but also a great challenge to redesign decision making within the EU. Until now, there has been no real progress. If the EU fails in this respect, this would give a big boost for the US model of keeping LA countries away.

So let me finally come to LA. What can we learn about policy design for those countries, just like for those left out of the European Union? It is much more difficult to build up credibility on your own. The paper is not very constructive about policy designs for Brazil or Argentina. The convergence process has not yet taken off for those countries, and dollarization seems to be a costly option. Currently, the most fashionable advice is to follow New Zealand and Chile by introducing an inflation targeting regime. Somehow, inflation targeting seems to be a magic word, somewhat mysteriously building up credibility by itself. Contrary to many sceptics, Brazil turned out to do amazingly well after switching to an inflation targeting regime in January 1999. This is reassuring. Even if it were just a fad, it would be great to have found a self enforcing mechanism, simply because everybody believes in it.

Certainly, inflation targeting is much more than a fad – by providing a flexible and transparent mechanism for monetary policy, it helps to build up commitment for sound monetary policy. But the strong performance of, let say, the Brazilian case is still a puzzle since IT does not solve the commitment problem for fiscal policy nor for political risks. So let us hope that Brazil will not be the first country for which

prominent economist may claim they did not really follow a proper IT strategy once the country is hit off its current path.

References:

MARTIN FELDSTEIN, EMU and International Conflict, FOREIGN AFFAIRS, Vol. 76 / 6, 1997

European Commission, **ACCESSION NEGOTIATIONS : STATE OF PLAY**  
[http://europa.eu.int/comm/enlargement/negotiations/pdf/stateofplay\\_april2002.pdf](http://europa.eu.int/comm/enlargement/negotiations/pdf/stateofplay_april2002.pdf)

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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

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