

# The Euro and Latin America

## III: Is EMU a Blueprint for Mercosur?<sup>1</sup>

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### Introduction

This paper tries to determine whether it makes sense for Mercosur to think in a monetary union similar to that implemented in Europe. To address this question, we apply two approaches. First we analyze the issues identified by the traditional optimal currency area (OCA) theory as important for assessing whether monetary integration is convenient or not. In light of this theory we compare Mercosur with today's Europe as well as with Europe when the possibility of a monetary union started to be considered. From the analysis, we conclude that Mercosur is far from achieving the necessary pre-requisites for a monetary union, understanding as such the establishment of a common currency for member countries. However, this should not be surprising. Monetary union is always initially a long-run objective so a more appropriate question is whether it makes sense to have a monetary union after convergence in key macroeconomic variables is achieved. If so, do we need to think of a treaty such as Maastricht that fixes criteria for fiscal compatibility to be reached within say, 10 or 15 years? Or is it better to create supranational institutions that can foster the transition towards coordinated policies? To motivate our negative answer to these questions it is not enough to show that the European Union (EU) is now in better conditions to introduce a common currency than Mercosur: we have to answer why Mercosur can not reach an equivalently favorable set of preconditions in the medium or long term. In this regard we argue that some of the benefits that motivated the European process are missing the case of Mercosur.

The second approach relies on the credibility gains that a monetary union can provide for inflation prone economies. Here we emphasize an alternative lesson that could be extracted from the European experience, namely that monetary integration should take place only when at least one member country can provide gains in terms of credibility to the member countries. According to this criterion, and in light of the recent experience of some Mercosur countries, we believe that the U.S. is the natural candidate to play this role in the region.

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The paper is organized as follows. Section I discusses briefly the process of integration among Mercosur countries. Section II makes an inventory of costs and benefits of a common independent regional currency. In this section we discuss similarities and differences with Europe. Finally, section III concludes with an assessment of the project of a common currency and a summary of the lesson from the European experience.

## **I. The Road to Mercosur**

The process of economic integration between Argentina and Brazil can be divided into two stages. The first stage fostered bilateral integration at a sector level while the second attempted global integration. The first stage started with the “Argentine-Brazilian Cooperation and Integration Act” signed by Argentina and Brazil in July 1986, which removed trade barriers for certain sectors.<sup>2</sup>

The second stage started in November 1988 with the signing of the “Integration Cooperation and Development Treaty”. This treaty not only pursued the establishment of a free trade area between the countries but also mentioned the importance of gradually coordinating monetary, fiscal and exchange rate policies. In July 1990, the date for the creation of a free trade area between Argentina and Brazil was pushed up to late 1994. However, in 1991, the “Treaty of Asunción” started the process for the creation of a free trade zone between Argentina, Brazil, Paraguay and Uruguay also to be known as Mercosur. The Treaty also established the objective of a Common Market, which would be effective on January 1st 1995. The “Treaty of Asuncion” agreed on an initial 40 percent cut in tariffs between the member countries which became effective June 1991. This would be complemented with reductions each half-year in order to reach a non-tariff situation by 1995, the moment agreed for the beginning of the Common Market, (i.e. when a common external tariff would also be established). Mercosur had among its objectives the free movement of goods, services and productive factors between member countries, the setting of a common external tariff, the adoption of a common trade policy regarding the rest of the countries and the coordination of macroeconomic and sector policies.

In December 1994, the Ouro-Preto Summit modified the pre-agreed schedule, with member countries agreeing to implement a customs union previous to the implementation of a common market. The customs union began to operate on January 1st 1995 with the elimination of tariff and non-tariff barriers among the members, together with the setting of a common external tariff. However, a transitory schedule was established by which certain products traded within Mercosur would continue to be subject to tariffs. As mentioned in Paglieri and Sanguinetti (1998) Argentina included 223 categories in this list, out of which 57 percent corresponded to the steel industry, 19 percent to the textile sector, 11 percent to paper and 6 percent to shoes. Brazil included 29 items, with products

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<sup>2</sup> Notice that the integration between Argentina and Brasil begins as in Europe, i.e. free trade was not automatic but began slowly by allowing some specific goods to be traded freely. In the case of the EEC, trade integration began in 1951 with the creation of a free trade zone for coal and steel products.

derived from wood, wines, and petroleum among others. Paraguay had 272 categories, the majority belonging to textiles, agricultural products, wood and steel. Finally, Uruguay was the country that introduced the most exceptions to the list, reaching a total of 1018 products, 22 percent of which corresponded to the textile sector, 16 percent to chemical and pharmaceutical products and 8 percent to electrical machinery and metallurgic products.

In 1995, the countries agreed on a schedule for the phasing out of these tariffs, whereby by year 2001, there would be full free trade among the partners. This schedule established that the countries would have to reduce the tariffs up to 25 percent by 1996, up to 50 percent by 1997, up to 75 percent by 1998. A 100 percent reduction would be reached by 1999, except Paraguay and Uruguay that were given an extra year.

In addition each country was granted about 300 products to be included in a list exempted from the common external tariff. These also had a preestablished schedule by which they had to be eliminated by 2001 except for Paraguay, who has to converge to the common external tariff by 2006. So, in 2006 all exceptions had to disappear and the customs union would be in full operation.

The sugar and automobile sectors were left outside all of these agreements, mainly due to the significant differences in national policies. Special working teams have been created in order to foster convergence of policies and liberalize these industries in the near future.

In the Ouro Preto summit, the “Ouro Preto Protocol” was signed, setting the institutional structure of Mercosur.<sup>3</sup>

After the constitution of Mercosur, in 1996 Chile and Bolivia were incorporated as associated members, i.e., they negotiate bilaterally with Mercosur. The negotiations between Mercosur and these countries aim at their full participation in a free trade zone with Mercosur by 2006. However, the incorporation of Chile as a full member in 1999 is still being discussed. Table 1 summarizes the history of Mercosur.

**Table 1. The history of Mercosur**

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<sup>3</sup> The different administrative entities created were:

1. *The Common Market Council*: is the entity in charge of the integration process and has to make decisions regarding the application of the Asuncion Treaty; it is integrated by the Foreign Affairs and Finance Ministers of each country;
2. *The Common Market Group*: suggests projects to the Common Market Council;
3. *The Mercosur Trade Commission*: assists the Common Market Group and monitors the compliance with previously agreed trade policy;
4. *The Joint Parliamentary Commission*: sends recommendations to the Common Market Council;
5. *The Socio-Economic Consulting Forum*: represents social and economic sectors and has a consultative function; and
6. *The Mercosur Administrative Secretariat*: its functions are to assist all the other institutions of Mercosur as well as being in charge of the publication and dissemination of the norms adopted by Mercosur.

For documentation on the composition of these group see <http://www.mercosur.org>.

<b>1986</b>	Signing of the <i>Argentine- Brazilian Cooperation and Integration Act</i>
<b>1988</b>	Signing of the <i>Cooperation and Development Treaty</i> between Argentina and Brazil.
<b>1990</b>	Argentina and Brazil agree to put forwards the date for the establishment of a free trade area for the end of 1994. Paraguay and Uruguay want to join the treaty.
<b>1991</b>	Signing of the <i>Asunción Treaty</i> between Argentina, Brazil, Paraguay and Uruguay creating the Common Market of the South (Mercosur). 40% reduction in tariffs among member countries and schedule for reaching a 100% reduction in tariffs by 1/1/95.
<b>1994</b>	The <i>Ouro Preto Protocol</i> establishes the institutions in Mercosur.
<b>1995</b>	The Customs Union starts within Mercosur, although tariffs are still applied to some goods and trade of sugar and automobiles are subject to special regimes.
<b>1996</b>	Asociation of Bolivia and Chile with Mercosur.
<b>2000</b>	Complete free trade zone between Argentina y Brasil.
<b>2001</b>	A complete free trade zone between all members of Mercosur (except Bolivia and Chile) and a common external tariff between Argentina, Brazil and Uruguay.
<b>2006</b>	Argentina, Brasil, Paraguay and Uruguay will have a common external tariff for all their goods, thus completing the customs union. There will be a free trade zone between Bolivia, Chile and Mercosur.

## II. Monetary Coordination in Mercosur

Suggested initially by Argentine President Carlos Menem at the Mercosur President's meeting of April 1997, the need and the possibility of having a common currency for Mercosur countries has been discussed in policy circles for some time.<sup>4</sup> To discuss benefits and costs of participating in a common currency we consider two distinct views. First we discuss the traditional optimal currency areas (OCA) theory, which compares the

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<sup>4</sup> More recently, after the devaluation of the Real, President Menem has also suggested the adoption of the US dollar as legal tender.

benefits in terms of smaller volatility of exchange rates and lower transactions costs with the costs of giving up the exchange rate as an instrument for macroeconomic adjustment.

We use EMU as a benchmark in order to analyze whether the prerequisites are satisfied. However it is not enough to evaluate where Mercosur stands today, given that we know that the current situation will be less favorable to monetary integration than the European status quo. What this section discusses is whether the potential costs and benefits of integration are similar to those present at the outset of the European experience, how far Mercosur countries are from attaining the necessary conditions for a successful implementation of a common currency, and how feasible the achievement of these conditions looks in the present context.

The OCA theory indicates that the benefits of a monetary union are related to the degree of economic integration of the countries, with the larger the trade between the economies the higher the benefits of a common currency. Therefore, we devote the first subsections to study the degree of interdependence within Mercosur, always with the European experience as a reference. We then examine the degree of factor mobility within the region (another essential prerequisite for monetary integration), beginning with the labor market and continuing with capital markets and the financial sector. Next, we address the issue of the symmetry of shocks between countries, and speculate about the possibility of convergence in the fiscal area, discussing the possible role of fiscal policy as a way of smoothing regional shocks.

Second, we discuss how a monetary union may enhance a country's credibility, by pegging to a country which has a well established reputation for monetary stability. In this view the country benefits from a reduction in interest rates and capital flow volatility. We use the theory as applied to the establishment of a common currency for Mercosur countries with an independent monetary policy. We then discuss the potential credibility gains from monetary union, evaluating other forms of monetary integration including dollarization. Here is where we found the largest differences with Europe and where the most important lessons for Mercosur can be learnt.

## **II. 1. An application of OCA to Mercosur**

### **II.1.1 Interdependence within Mercosur**

The first important characteristic regarding trade flows within Mercosur countries is that the degree of interdependence is much lower than it was for EMU members even at the time of the "Werner Report" (when monetary union was suggested for the first time). If we consider each country's exports relative to its commercial partners (measured as percentage of GDP) we can observe in Table 2 that for Mercosur this percentage (4.1% in 1997) is significantly lower than the 9% of the EEC in 1970, and the 14% corresponding to the year in which the Maastricht Treaty was signed.<sup>5</sup> In the case of Brazil, sales to its

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<sup>5</sup> These numbers include trade with Bolivia and Chile.

partner's only amount to 1.4% of GDP, while for the smallest countries, Paraguay and Uruguay, exports to Mercosur are more important, surpassing in both cases 6% of GDP.

**Table 2. Exports to the member countries as a percentage of GDP**

	1991	1992	1993	1994	1995	1996	1997
<b>Argentina</b>	1.4%	1.3%	1.7%	2.2%	3.3%	3.4%	3.3%
<b>Brazil</b>	0.8%	1.3%	1.6%	1.3%	1.1%	1.1%	1.4%
<b>Paraguay</b>	4.6%	4.2%	4.6%	5.9%	5.6%	6.7%	7.2%
<b>Uruguay</b>	5.7%	5.3%	5.3%	5.8%	5.7%	6.3%	6.3%
<b>Bolivia</b>	4.9%	2.9%	2.6%	3.1%	2.6%	2.9%	3.0%
<b>Chile</b>	2.5%	2.7%	2.7%	3.0%	2.9%	2.7%	2.7%
<b>Average</b>	<b>3.3%</b>	<b>3.0%</b>	<b>3.1%</b>	<b>3.5%</b>	<b>3.6%</b>	<b>3.8%</b>	<b>4.1%</b>
<b>Weighted Average (x GDP)</b>	<b>1.3%</b>	<b>1.7%</b>	<b>1.9%</b>	<b>1.9%</b>	<b>2.0%</b>	<b>2.1%</b>	<b>2.4%</b>

Source: *Direction of Trade Statistics*, IMF

These low numbers are to a great extent due to the closed nature of Mercosur economies. For instance, if we look at exports as a percentage of GDP, we can see that Mercosur countries are much less open than their European counterparts. Table 3 shows the participation of exports in GDP for Mercosur countries and compares them to that of selected European countries. While for Mercosur exports represent 13% of GDP, the European equivalent reaches 37%.

**Table 3. Exports as a percentage of GDP**

	1991	1992	1993	1994	1995	1996	1997
<b>Argentina</b>	6.3%	5.3%	5.1%	5.6%	7.5%	8.0%	7.6%
<b>Brazil</b>	7.8%	9.2%	8.8%	8.0%	6.6%	6.2%	6.6%
<b>Paraguay</b>	11.8%	10.2%	10.5%	10.4%	10.2%	10.9%	13.8%
<b>Uruguay</b>	16.0%	14.4%	11.9%	11.8%	11.7%	12.5%	13.7%
<b>Bolivia</b>	15.9%	12.6%	12.7%	17.3%	16.4%	15.8%	14.4%
<b>Chile</b>	25.8%	23.9%	20.7%	22.8%	24.6%	20.8%	22.0%
<b>Average</b>	<b>13.9%</b>	<b>12.6%</b>	<b>11.6%</b>	<b>12.6%</b>	<b>12.8%</b>	<b>12.4%</b>	<b>13.0%</b>
<b>Belgium</b>	59%	55%	56%	59%	62%	62%	68%
<b>France</b>	18%	18%	17%	18%	19%	19%	21%
<b>Germany</b>	23%	21%	20%	21%	22%	22%	24%
<b>Holland</b>	46%	44%	44%	46%	49%	50%	53%

<b>Italy</b>	15%	15%	17%	19%	22%	21%	21%
<b>Average</b>	<b>32%</b>	<b>30%</b>	<b>31%</b>	<b>32%</b>	<b>35%</b>	<b>35%</b>	<b>37%</b>

Source: *International Financial Statistics*, IMF.

Yet in spite of these small numbers relative to GDP, during the period 1991-1997 trade between the two largest partners, Argentina and Brazil, increased dramatically (nearly 400%). This growth in regional trade, however small, was sufficient to increase the participation of partners in total *exports*, as indicated in Table 4. By 1997 the participation of partners in each country's exports exceeded 60% for Paraguay, reached 35% for Argentina and amounted to 18% for Brazil.<sup>6</sup>

**Table 4. Member country's share in total exports**

(only full members)

	1991	1992	1993	1994	1995	1996	1997
<b>Argentina</b>	16.5%	19.0%	28.1%	29.1%	32.0%	33.0%	35.5%
<b>Brazil</b>	7.3%	11.1%	13.9%	13.6%	13.2%	15.4%	17.7%
<b>Paraguay</b>	32.7%	34.7%	37.4%	52.0%	57.5%	63.3%	62.1%
<b>Uruguay</b>	35.1%	33.6%	41.6%	46.9%	46.9%	48.1%	49.6%

Source: *Direction of Trade Statistics*, IMF

(all countries)

	1991	1992	1993	1994	1995	1996	1997
<b>Argentina</b>	21.6%	25.1%	34.0%	36.3%	40.0%	41.6%	44.1%
<b>Brazil</b>	10.3%	14.4%	17.9%	16.9%	16.9%	18.7%	21.3%
<b>Paraguay</b>	39.0%	41.7%	43.2%	56.4%	61.3%	66.0%	66.0%
<b>Uruguay</b>	36.6%	36.9%	44.8%	49.2%	48.9%	50.0%	51.8%
<b>Bolivia</b>	40.0%	22.9%	20.8%	18.2%	16.2%	18.3%	20.8%
<b>Chile</b>	9.8%	11.2%	13.1%	13.0%	11.9%	12.7%	12.3%

Source: *Direction of Trade Statistics*, IMF

During the period when Mercosur was being implemented countries were also experiencing strong trade liberalization episodes and as a result of availability of foreign funds also increased substantially their current account deficits. As a result growth in trade within Mercosur was due to two effects: Trade liberalization (regional and global) and lower cost of borrowing in the international financial market.

<sup>6</sup> In Table 5 the numbers include Chile and Bolivia.

Even without any preferential regime, and only due to transport costs, when total trade increases one should expect an increase in the participation of imports from neighboring countries.<sup>7</sup> If the process of unilateral opening is accompanied by an even stronger opening at a regional level (which corresponds to the situation that we are analyzing), the commercial partners should increase even more their participation in total imports. However, if trade between Argentina and Brazil is analyzed closely, we can observe that this expected increase in the participation of the partners has not taken place. The data is presented in Table 5. There we show that the participation of Mercosur partners in total imports grew significantly only for Paraguay, it exhibited only a moderate 4% growth for Brazil and Argentina and remained stable for Uruguay.

**Table 5. Share of partner countries imports in total imports**  
(only full members)

	1991	1992	1993	1994	1995	1996	1997
<b>Argentina</b>	21.0%	25.3%	25.1%	23.1%	22.7%	24.4%	24.8%
<b>Brazil</b>	10.4%	10.9%	12.5%	13.9%	13.8%	15.4%	15.7%
<b>Paraguay</b>	30.0%	37.2%	37.5%	41.4%	40.4%	54.3%	50.2%
<b>Uruguay</b>	42.3%	41.4%	48.1%	49.2%	46.1%	44.0%	43.5%

Source: *Direction of Trade Statistics*, IMF

	1991	1992	1993	1994	1995	1996	1997
<b>Argentina</b>	26.8%	30.5%	29.9%	27.5%	25.6%	27.3%	27.5%
<b>Brazil</b>	12.8%	13.4%	14.3%	15.7%	16.1%	17.2%	17.3%
<b>Paraguay</b>	32.8%	40.0%	40.4%	45.1%	43.1%	56.6%	51.9%
<b>Uruguay</b>	44.0%	43.1%	49.9%	50.8%	47.9%	45.7%	45.3%
<b>Bolivia</b>	32.6%	30.7%	31.5%	32.4%	28.7%	26.9%	32.0%
<b>Chile</b>	17.6%	17.8%	16.2%	17.9%	17.5%	16.3%	17.2%

Source: *Direction of Trade Statistics*, IMF

The fact that countries have simultaneously increased the participation of Mercosur members in exports, with relatively no change in their participation in total imports is used by Heymann and Navajas (1998) to conclude that the higher trade intensity between Argentina and Brazil in exports was not due to increased intensity in the purchases by the other countries but to both countries' significant increase in total trade. In particular, in order to explain this apparent contradiction it suffices to show that imports of member countries increase at a higher rate than exports.<sup>8</sup> As already seen, data regarding export

<sup>7</sup> See Frankel, Stein and Wei (1997) and Garriga and Sanguinetti (1995, 1996).

<sup>8</sup> Consider two countries A and B. If the share of country A in B's total imports remains constant, and B's imports grow at a rate faster than that of country A exports, this implies that the exports of A to B will grow at a rate faster than that of total exports, and that the share of country B in country's A exports has to

and import growth for the Mercosur countries presented in Table 6 support this argument. This allows to conclude that the increase in the regional share in exports was not due to the reorientation of sales to member countries but to the fact that the member countries increased their imports significantly. As Garriga and Sanguinetti (1995) mention, even though Mercosur has been an important variable in order to explain regional trade increases, unilateral opening and geographic proximity of member countries have been the main determinants of regional trade.

**Table 6. Global export and import growth (1991-1997)**

	<b>Export growth (1991-1997)</b>	<b>Import growth (1991-1997)</b>
<b>Argentina</b>	106%	279%
<b>Brazil</b>	68%	192%
<b>Paraguay</b>	42%	123%
<b>Uruguay</b>	70%	127%
<b>Bolivia</b>	33%	62%
<b>Chile</b>	89%	121%

Source: *International Financial Statistics*, IMF.

In brief, the evidence suggests that Mercosur has not bring about trade reorientation but has instead simply accompanied the opening process that the economies of the region experienced during this period. In order to explain the modest effect of Mercosur on trade, Leamer (1998) compares the countries factor endowments, concluding that these are too similar (especially those of Argentina and Brazil) to obtain much benefits from trade. Thus, the expected long-run effect of Mercosur on regional trade appears to be limited.<sup>9</sup>

This conclusion is important when evaluating whether Mercosur has stimulated real integration, and whether a deepening of this integration process is to be expected. We believe that the analysis of the evolution of import participation suggests otherwise. On the other hand, the increase in export shares to Mercosur countries, which is often mentioned as an indicator of the success of Mercosur in promoting regional trade, could be difficult to maintain if import growth turned negative in the future.

On a positive note, it should be stressed that Mercosur was never conceived as a trading bloc which would close itself to the rest of the world. On the contrary, Mercosur was designed as a strategy of gradual unilateral opening to third countries (which had started previous to Mercosur but that consolidated with the average common external tariff of

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increase. In fact, one should expect that for most trade partners of Mercosur countries, they have increased their share in these countries exports.

<sup>9</sup> He finds this result to be strikingly different than the role played by Mexico within NAFTA.

12.5%) as well as a policy of preferential access to neighbors.<sup>10</sup> This is a significant difference with the European integration process, given that the EEC seems to have worked the opposite way, i.e., making intra-regional trade cheaper while increasing extra-regional barriers.

Summarizing, we conclude that the evidence indicates that Mercosur had a limited effect on regional trade, probably due to the limited gains to be derived from trade between countries with very similar factor endowments.

## II.1.2. Labor markets

The theory of the OCA mentions factor mobility and integration as important prerequisites for the creation of a monetary union. Integrated labor markets are important because if a productivity or terms of trade shock affects one country generating a fall in output and a decrease in real wages, workers in this country would migrate to other countries of the union. This, in turn, would lower the wages abroad and increase them in the country affected by the shock. This process continues until wages are equalized. In this way, factor mobility leads to efficiency gains given that each worker is employed where it is more productive; allowing at the same time for a distribution of the shock among all the members of the union.

The labor market therefore plays a crucial role in allowing for a successful monetary union, as wage flexibility and labor force mobility eases the adjustment to regional shocks. It is a well known fact that labor mobility is much lower in Europe than in US, which combined with fairly rigid labor markets leads to substantially different unemployment rates across countries<sup>11</sup>. Highly divergent unemployment rates, in turn, put strain on the integration process. Mercosur is far behind even in comparison with Europe regarding cross-country labor flow liberalization. In the case of Mercosur, Article 1 of the Treaty of Asunción established the free movement of productive factors as a common objective, including liberalization of labor flows. This objective, however, has not been achieved. So far, progress on this front limits to the creation of the Labor Sub-Group (N°10) in charge of labor, employment and social security issues. Among the issues to be discussed are labor market conditions in each country and the co-ordination of Social Security systems. The significant differences in labor laws of the different countries makes it difficult to forecast deeper integration in the short run.

What are the odds in favor of reaching a deeper integration of labor markets? Barriers to labor market integration depend on cultural, language or legal barriers. Within Mercosur, cultural and language barriers are not significant given the common political-cultural origin of the region and the similarities between Spanish and Portuguese languages.

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<sup>10</sup> For Argentina the common external tariff implied a marginal increase in trade protection, but is substantially lower than that negotiated with the WTO. See Garriga y Sanguinetti (1996). Non tariff barriers were also slashed during the several negotiation rounds leading to the implementation of Mercosur.

<sup>11</sup> See Bottle (1995) and Eichengreen (1992) who states that mobility within the U.S. is two to three times as high as mobility within European States.

However, legal restrictions may be harder to overcome in the short and medium-run. Countries could be willing to push ahead with further integration of labor markets if they believe this will not induce strong migration flows, in particular from poorer to wealthier countries. Table 7 shows the differences in income levels measured as the ratio in income per capita of the wealthiest and the poorest country in the region. The table shows that these differences are much larger in Mercosur than in the European Union. While in Europe the ratio between the levels of income between Germany and Portugal is two and a half, income levels in Argentina are almost nine times higher than in Bolivia and four and a half times those in Paraguay. These differences clearly represent an obstacle for labor market integration, given that it is not likely that the wealthier countries would agree to an unrestricted opening of their markets to workers from other regions. The labor flow implications are different when relatively similar labor markets are integrated. Migration will remain limited and will mostly take place in response to regional shocks. When large income differences are present migration will be one way until relative incomes equalize. For some economies (in particular Argentina within Mercosur) this could be politically unacceptable.

**Table 7. Income inequality (us\$ per capita)**

	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>
<b>Argentina (a)</b>	5754	6852	7613	8215	8041	8444	8952
<b>Bolivia (b)</b>	794	818	812	826	906	948	1006
<b>Paraguay (c)</b>	1443	1449	1505	1666	1860	1924	N/D
<b>Inequality (a/b)</b>	<b>7.25</b>	<b>8.38</b>	<b>9.37</b>	<b>9.94</b>	<b>8.87</b>	<b>8.91</b>	<b>8.90</b>
<b>Inequality (a/c)</b>	<b>3.99</b>	<b>4.73</b>	<b>5.06</b>	<b>4.93</b>	<b>4.32</b>	<b>4.38</b>	<b>N/D</b>
<b>Germany (d)</b>	23535	23651	22510	26333	29550	27800	N/D
<b>Portugal (e)</b>	8330	8579	7701	9206	10519	10771	N/D
<b>Inequality (d/e)</b>	<b>2.83</b>	<b>2.76</b>	<b>2.92</b>	<b>2.86</b>	<b>2.81</b>	<b>2.58</b>	<b>N/D</b>

Source: *International Financial Statistics*, IMF.

**(us\$ per capita PPP)**

	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>
<b>Argentina (a)</b>	8720	8310	9530	9950
<b>Bolivia (b)</b>	2400	2540	2860	N/A
<b>Paraguay (c)</b>	3550	3650	3480	3870
<b>Inequality (a/b)</b>	<b>3.63</b>	<b>3.27</b>	<b>3.33</b>	<b>N/A</b>
<b>Inequality (a/c)</b>	<b>2.46</b>	<b>2.28</b>	<b>2.74</b>	<b>2.57</b>
<b>Germany (d)</b>	19480	20070	21110	21300

<b>Portugal (e)</b>	11970	12670	13450	13380
<b>Inequality (d/e)</b>	<b>1.63</b>	<b>1.58</b>	<b>1.57</b>	<b>1.59</b>

Source: *International Financial Statistics*, IMF.

If labor markets remain segmented, wage flexibility is the only mechanism by which we can have convergence in unemployment rates across countries. In this regard, Europe is far behind the US. First, real wage-unemployment elasticity is significantly lower in European countries than in the US. Second, increases in the price level induce a larger response of nominal wages in Europe, indicating a higher level of indexation and therefore a smaller real wage adjustment to changes in the exchange rate (see Eichengreen (1992)).

In the case of Argentina and Brazil, wage indexation has been pervasive and the natural response to decades of extreme inflation. The degree of correlation between nominal wages and the price level has been extremely high in both countries. This fact seems consistent with the general perception that labor markets are very rigid in Latin American countries.<sup>12</sup>

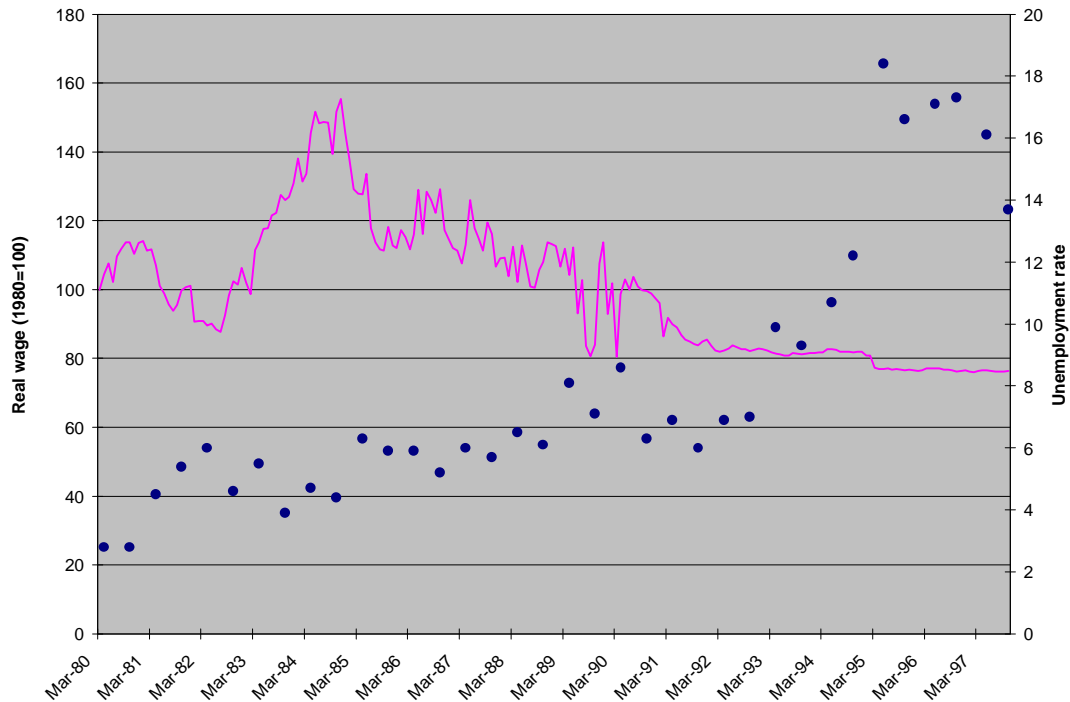
Figure 1 shows the evolution of real wages and unemployment for Argentina since the early 80's. It can be observed in the figure that during the high inflation period (through 1991) labor market rigidities seem to have not been binding, as the data exhibits very high real wage volatility together with relatively low unemployment rates. High inflation allowed real wages to be effectively very flexible as a fall in real wages only required that nominal wages increased at a lower rate than prices. This hypothesis requires some sort of rigidity in “nominal” wages, which paradoxically, could have been provided by the rigidity of labor laws. Accordingly, stabilization, led to a significant reduction in real wage flexibility,<sup>13</sup> making the need for labor market flexibilization ever more pressing. Not surprisingly, unemployment has increased dramatically during the period of macroeconomic stabilization.

<sup>12</sup> See, for example, Eichengreen (1998). The correlation between nominal wages and prices in the 90s was 1.12 for Argentina and 1.01 for Brazil.

<sup>13</sup> For example, in Argentina, labor laws do not allow for nominal wage reductions.

**Figure 1**

**Labor Market in Argentina**



Yet, how rigid are Latin American labor markets, relative to those in Europe? Galiani and Nickell (1998) provide an exhaustive survey of labor market institutions in Europe and Argentina. They conclude that there is substantial rigidity but that it is by no means clear that labor markets in Argentina are more rigid than its European counterparts. Table 8 summarizes their comparison which covers issues such as labor taxation, union coverage, employment protection and minimum wages.<sup>14</sup> In short, if factor mobility cannot be increased and labor markets rigid, one should expect substantially divergent unemployment rates if a common currency is established.

**Table 8. Labor markets institutions**

	Payroll tax rate (%) (1)	Union density (2)	Ratio of minimum to average wage	Benefit replacement ratio (%) (3)	Benefits duration (years) (3)	Active labor market policies (4)
<b>Austria</b>	22.6	46.2	0.62	50	2.0	8.3
<b>Belgium</b>	21.5	51.2	0.60	60	4.0	14.6
<b>Finland</b>	25.5	72.0	0.52	63	2.0	16.4
<b>France</b>	38.8	9.8	0.50	57	3.0	8.8

<sup>14</sup> Camargo (1997) argues that there is substantial flexibility in Brazilian labor markets.

<b>Germany</b>	23.0	32.9	0.55	63	4.0	25.7
<b>Holland</b>	27.5	25.5	0.55	70	2.0	6.9
<b>Ireland</b>	7.1	49.7	0.55	37	4.0	9.1
<b>Italy</b>	40.2	38.8	0.71	20	0.5	10.3
<b>Portugal</b>	14.5	31.8	0.45	65	0.8	18.8
<b>Spain</b>	33.2	11.0	0.32	70	3.5	4.7
<b>EMU</b>	<b>23.1</b>	<b>33.5</b>	<b>0.50</b>	<b>51</b>	<b>2.4</b>	<b>11.2</b>
<b>Denmark</b>	0.6	71.4	0.54	90	2.5	10.3
<b>Sweden</b>	37.8	82.5	0.52	80	1.2	59.3
<b>Switzerland</b>	14.5	26.6	N/A	70	1.0	8.2
<b>UK</b>	13.8	39.1	0.40	38	4.0	6.4
<b>Argentina</b>	33.0	45.0	0.31	50	1.0	0.6
<b>Japan</b>	16.5	25.4	N/A	60	0.5	4.3
<b>USA</b>	20.9	15.6	0.39	50	0.5	3.0

(1) Ratio of labor costs to wages. (2) Trade union members as a percentage of all wage/salary earners. (3) See Layard et al. (1991), annex 1.3 for precise details of this definitions. 4 years=indefinite. Argentina: the 50 percentage rate only applies for the first four months, the maximum entitlement being for one year. (4) Active labor market spending as % of GDP / current unemployment  
Source: Galiani and Nickell (1998).

## II.1.3. Capital markets

### II.1.3.1. Access to international financial markets.

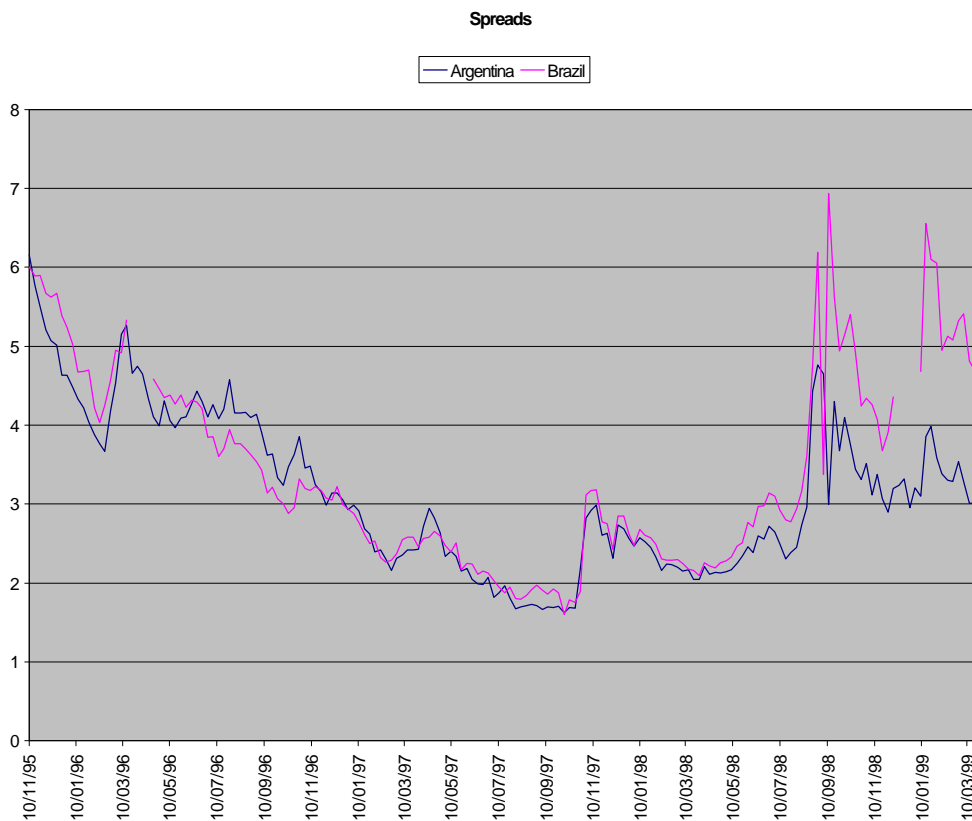
During the sixties and seventies capital flow volatility slowed the integration process in Europe, as countries avoided exposure to these flows by closing the capital accounts. However, once it was clear that the economies would operate in a globalized environment, the opening of the capital market accelerated the process towards monetary union, given that speculative inflows were expected to disappear with a common currency. Therefore, capital flow liberalization may have worked as a trigger for undertaking monetary union. For Mercosur, capital flow volatility is even more significant than in Europe. During the nineties, the average standard deviation of the current account for Mercosur countries is 2% of GDP while for a group of European countries it was only 0.34%.<sup>15</sup>

Does a similar argument apply to Mercosur countries? Throughout the 90s, although with different institutional frameworks, the countries of the region have unilaterally opened to the international capital markets, and like in Europe in 1992, international financial markets have been subject to substantial volatility. This volatility is reflected in the spreads of sovereign debt instruments. Figure 2 shows the spreads over US treasuries of

<sup>15</sup> This group includes Belgium, France, Germany, Italy and Netherlands.

the Par bonds for Argentina and Brazil. What the graph reveals is the strong correlation in the performance of these instruments, suggesting that shocks tend to result from factors that are external (or common) to both countries. Only at the end of 1998, with the Brazilian devaluation, do the spreads of Brazil and Argentina diverge. In a similar vein Burstein (1998) shows the existence of strong correlation in stock market returns between Argentina, Brazil and Mexico. In this context it is clear that regional liberalization of capital flows would have been largely irrelevant, as intra-regional flows are not quantitatively relevant as compared to flows with countries outside the region. Table 9 shows the amount of banking sector capital flows which Mercosur countries receive from some key financial centers outside the region. The data show clearly that intraregional capital flows are at most marginal.

**Figure 2**



**Table 9. Bank Sector Capital Flows**

	I. From EU				II. From US, Canada and Japan				From I+II			
	1994	1995	1996	1997	1994	1995	1996	1996	1994	1995	1996	1997
<b>Argentina</b>	55%	52%	52%	64%	36%	36%	37%	26%	91%	89%	89%	90%
<b>Brazil</b>	47%	46%	45%	48%	36%	36%	37%	31%	83%	82%	82%	79%
<b>Paraguay</b>	54%	46%	38%	56%	5%	14%	15%	6%	59%	60%	53%	62%

<b>Uruguay</b>	54%	60%	58%	64%	35%	31%	32%	24%	89%	91%	90%	88%
<b>Bolivia</b>	52%	30%	27%	32%	26%	32%	39%	37%	77%	62%	66%	68%
<b>Chile</b>	45%	43%	51%	54%	43%	44%	37%	33%	88%	87%	88%	87%
<b>Average</b>	<b>49%</b>	<b>48%</b>	<b>48%</b>	<b>54%</b>	<b>33%</b>	<b>33%</b>	<b>33%</b>	<b>28%</b>	<b>82%</b>	<b>81%</b>	<b>81%</b>	<b>82%</b>

Source: *Bank for International Settlements*; <http://www.bis.org>

If capital flows are strongly correlated for Mercosur economies and if we think monetary union as an independent common currency for the Mercosur countries, there seems to be no reason for anticipating a considerable decrease in capital flows volatility as a result of monetary integration. A common currency within Mercosur could eliminate speculative attacks regarding expectations of changes in parities between member countries. But, as already mentioned, intra-regional flows are quite limited and thus only changes in parities with external currencies can generate important speculative flows.<sup>16</sup> Thus, one of the main benefits of monetary union in the European context does not exist for Mercosur.

### II.1.3.2. The Banking Sector

The institutions which execute capital movements are banks, pension funds, investment funds, etc. For Mercosur countries, the limited development of capital markets has implied that the largest part of financial intermediation is done through the banking sector. Therefore, any analysis of financial integration should concentrate in this sector. Table 10 shows that both in Argentina and Brazil banks have a considerably large participation in financial intermediation.<sup>17</sup> Yet the participation of deposits as percentage of GDP also presented in Table 10 show that this result reflects the fact that the financial sector remains relatively small in these countries, rather than an indication of overbanking.

**Table 10. Financial sector**

	<b>Deposits/GDP</b>	<b>Banks share in financial intermediation</b>
<b>Argentina</b>	20%	98%
<b>Brazil</b>	29%	97%
<b>Chile</b>	40%	62%
<b>Finland</b>	49%	59%
<b>France</b>	68%	73%

<sup>16</sup> In section II.6 we discuss the alternative of a monetary union with the US. If such monetary union were implemented, we argue that a sizable fraction of the capital flow volatility could be eliminated. We discuss this point below.

<sup>17</sup> The US is an outlier as a result of the regulatory restrictions which limit the activity of commercial banks.

<b>Germany</b>	59%	77%
<b>Italy</b>	46%	81%
<b>Holland</b>	80%	52%
<b>Spain</b>	65%	78%
<b>UK</b>	103%	56%
<b>USA</b>	42%	23%
<b>Japan</b>	103%	79%

Source: BIS (1996), *International Financial Statistics*, IMF and Prati and Schinasi (1997).

In the European case, financial markets at the time of the launch of the Euro remain relatively segmented.<sup>18</sup> However, the integration process has led to substantial convergence in banking spreads and to an active consolidation of the banking industry. McCauley and White (1997) show that the number of institutions has fallen in Germany by 35%, in France by 43%, etc. since 1980 and that the trend has been persistent through time. Therefore the Euro is perceived as a way of fostering competition in the industry. This increased competition has taken place through an active process of mergers and acquisitions that led to the internationalization of the financial sector across European countries.

In Mercosur, the process has proceeded at a different pace. Banking internationalization came sooner rather than later as a consequence of the opening of capital markets driven by strong capital inflows that required reliable financial institutions to channel these funds to recipient countries. In some cases such as Argentina, the convertibility plan, by limiting the role of the Central Bank to operate as a lender of last resort, accelerated the banking internationalization process since local banks could not offer the same financial backing as international institutions. By 1995, the share of deposits in international banks was above 20% both for Argentina and Chile and by 1997 it had reached 37% in Argentina.<sup>19</sup>

In both cases, increased internal and external competition led to narrower spreads and depressed bank profits. Rather than improving cost efficiency, as seemed to have been the case in the US, the banking industry in Europe and Latin America responded by reducing the number of players, through a rapid process of consolidation and internationalization of the banking industry.<sup>20</sup>

However, unlike in the case of European banks, the ongoing internationalization of Latin American financial intermediaries has been characterized by the integration of national

<sup>18</sup> See McCauley and White (1997) and Prati and Schinasi (1997).

<sup>19</sup> See IMF (1998).

<sup>20</sup> See Brock and Rojas Suarez (1998). The link between increased competition, narrower intermediation margins and concentration is addressed in Levy Yeyati and Cordella (1998) and Schargrodsky and Sturzenegger (1998).

banking sectors not across the region but rather with institutions from extra-regional financial centers that benefit from lower operating costs, higher reputation and stronger regulatory framework.<sup>21</sup> An additional reason for this lies in the fact that local banks currently have neither the weight nor the implicit official backing (through a solid central bank that may act as lender of last resort) to become a major competitor in the present globalized arena. Thus, while monetary integration in Europe has been welcomed as a catalyst for the creation of regional institutions that can directly compete with the big players from the US and Japan, no such result should be expected from a deeper financial integration between the two big Mercosur members, or for that matter, between any number of Latin American countries.

Instead, monetary integration in the Mercosur would open a major source of financial vulnerability if not implemented after a common set of rules governing financial activity within the union is put in place. The reasons behind the need to harmonize financial regulation in a context of unrestricted capital flows are no different than those of any other industry. If the regulation or level of taxation is higher in one of the member countries, banks will base their operations in the other country (similarly to offshore banking) in order to avoid these higher costs. Eventually, this could lead to inefficient regulatory competition. More serious still are the moral hazard problems that can arise if the regulation is not homogenized across countries. For example if deposit insurance policy differs across countries, a moral hazard problem arises if the most fragile financial sector (or that with weaker prudential regulation) bets on benefiting from the role played by the common central bank as lender of last resort, at the expense of more solid financial systems. If prudential regulation is kept decentralized, its quality may deteriorate, and this may be used as a way of appropriating resources from other countries. To the extent that a monetary union may foster the development of cross-border activities within the union, the same can be said of prudential supervision, since, as pointed out by Kane (1998) supervisors may tend to be more lenient with the quality of investment practices of foreign subsidiaries of domestic institutions than they are with domestic banking operations.<sup>22</sup>

Table 11 shows that financial policies in the countries of the region are presently highly dissimilar. The Table shows prudential regulation indicators (measured by minimum capital requirements, actual capital-debt ratios, and reserves coverage for non-performing loans). We can observe that there are significant differences in prudential behavior. In particular, the requirements for non-performing loans differ strikingly within the region. All this indicates that there is need of substantial homogenization of regulatory practices before achieving the conditions for the establishment of a common Central Bank.

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<sup>21</sup> Indeed, although there is some minor cross-country penetration between Argentina and Brazil, all acquisitions of local banks in those countries have been undertaken by institutions in OECD countries or major financial centers.

<sup>22</sup> EMU is not immune to this type of agency problem, since financial supervision has been left to national supervisory bodies of the institution's country of origin.

**Table 11. Costs and regulation of the financial sector**

	Prudential Regulation				
	Capital requirements	Actual risk-based capital ratio	Non performing loans reserves*	Non Performing loans*	Coverage
<b>Argentina</b>	12	18.5	10.2	10.5	0.97
<b>Brazil</b>	8	12.9	1.6	5.9	0.27
<b>Chile</b>	8	10.7	3.5	1.0	3.50
<b>USA</b>	8	12.8	2.7	1.6	1.69
<b>Japan</b>	8	9.1	1.0	3.3	0.30

\* As a percentage of total loans  
Source: BIS (1996).

In short, the limited long-run gains to be obtained from the consolidation of regional banks as a result of monetary integration appear to be more than offset by the perils associated to disruptive competition which may arise from highly heterogeneous regulators and regulatory frameworks.

#### II.1.4. Symmetry of shocks

Mundell stated that one of the determinants of the costs of establishing a common monetary area was the symmetry of the shocks affecting the associated economies. If the shocks are symmetric, then it was not necessary to change relative prices between the economies, therefore reducing the costs of giving up the exchange rate as an adjustment mechanism.

Licandro Ferrando (1998) analyzes the similarities of the shocks within Mercosur and compared them with those of EMU and NAFTA. He finds that shocks in Mercosur are less symmetric than those affecting the other two trading blocs. If in addition, we consider the results presented in Bayoumi and Eichengreen (1994) and Kenen (1995), (see Table 12), which show that the size of the shocks in Mercosur are larger than those affecting the EMU, we can conclude that Mercosur could face significant adjustment strain when establishing a monetary union.

**Table 12. Standard deviation of supply shocks**

	Bayoumi and Eichengreen (1994)	Kenen (1995)
<b>Argentina</b>	0.0492	0.0638
<b>Brazil</b>	0.0202	0.0211

Uruguay	0.0615	0.0642
<b>Average</b>	<b>0.0436</b>	<b>0.0497</b>
Germany	0.0016	0.0013
Austria	0.0047	0.0043
Denmark	0.0048	0.0040
Spain	0.0006	0.0003
France	0.0012	0.0011
Finland	0.0116	0.0109
Netherlands	0.0058	0.0051
Italy	0.0013	0.0013
Sweden	0.0359	0.0265
UK	0.0042	0.0037
<b>Average</b>	<b>0.0072</b>	<b>0.0059</b>

Source: Quoted in Licandro Ferrando (1998).

However dissimilar the shocks within Mercosur are, if we subdivide the sampling period the evidence indicates that the shocks have become more symmetric as the integration process has moved forward. For instance, when analyzing the subperiods 1975-1989 and 1990-1997, Licandro Ferrando (1998) finds that economic integration within Mercosur has generated an increase in the correlation coefficient between Argentinean and Brazilian output shocks. However, if we consider that further increases in regional trade may be limited, a significant further increase in the correlation of real shocks should not be expected.

This lack of correlation of supply shocks is consistent with the finding by Loayza et al. (1999) who show, using data for the period 1970-1994, that there is little long run output correlation between Argentina and Uruguay with Brazil. Yet they show that there is substantial output comovement in the short run. Short run output fluctuations also have a bearing on monetary integration. If monetary union leads to deeper financial integration, countercyclicality in short run output fluctuations may increase the potential for cross-country insurance. If capital markets are not perfect, and monetary union reduces their degree of segmentation by removing barriers to capital flows between countries in the region, it is preferable to be integrated with a partner which output displays limited correlation with your own.

However the short run correlation pattern is probably not very robust to changes in the sample period. For example, taking the cyclical components of Argentinean and Brazilian output (computed as deviation from a HP filter of quarterly output data), Carrera et. al. (1998) show that the correlation of the business cycles for the period 1950-1974 was virtually zero (they compute a correlation of 0.01) while during the period 1975-1996 this

correlation increased to 0.31. However, even within this more recent period there is substantial volatility. The correlation of cyclical components of GDP was 0.42 for the initial phase of the Convertibility Plan (second quarter of 1991 through the second of 1994), but only 0.05 since the launch of the Real Plan (third quarter of 1993 through the end of 1997).

In short, the evidence suggests limited correlation of (long run) supply shocks within Mercosur, raising the costs of monetary union from a “Mundellian” perspective. In addition the higher short term output comovement limits the potential benefits from cross-country insurance. However, even if short run fluctuations in output were not highly correlated, unlike the European case, not much mileage can be extracted on this front since, as the previous discussion on intra-Mercosur capital flows suggests, the size of these flows is likely to be minor.

## II.1.5. Fiscal Policy

### II.1.5.1. Fiscal convergence

A group of fully integrated economies not only have to coordinate their trade and monetary policies but also require the coordination of fiscal policies. A common monetary policy requires similar fiscal policies (the same inflation tax and eventually, similar taxation structures) in order to avoid factor movements. On the other hand, once the countries participate in a monetary union, they have an incentive to have higher than optimal deficits, as the governments may assume that the monetary authority or the other partners will finance the deficit. This issue is very relevant for Mercosur, given that the individual countries have not been able to solve this problem even at the national level. In Argentina the problem of fiscal federalism is so important and difficult that a definitive system has not yet been agreed upon even though the 1994 Constitution had set 1997 as the deadline for having a new system in place. In the Brazilian case, the problems are even worse as some states have defaulted on their commitments with the central government.<sup>23</sup>

This issue is crucial for the proper operation of a monetary union is illustrated by the fact that the main conditions imbedded in the Maastricht Treaty were of fiscal nature. Maastricht established an upper bound for budget deficits of 3% of GDP, and was successful in inducing countries to accomplish this.

If we compare this with the evolution of fiscal policies in the Mercosur during the nineties, we see that by 1997 all members would have complied with the fiscal requirements of the Maastricht treaty (Figure 3). Not only was this the result of increased fiscal discipline, after decades of high inflation, but also a constraint imposed by capital

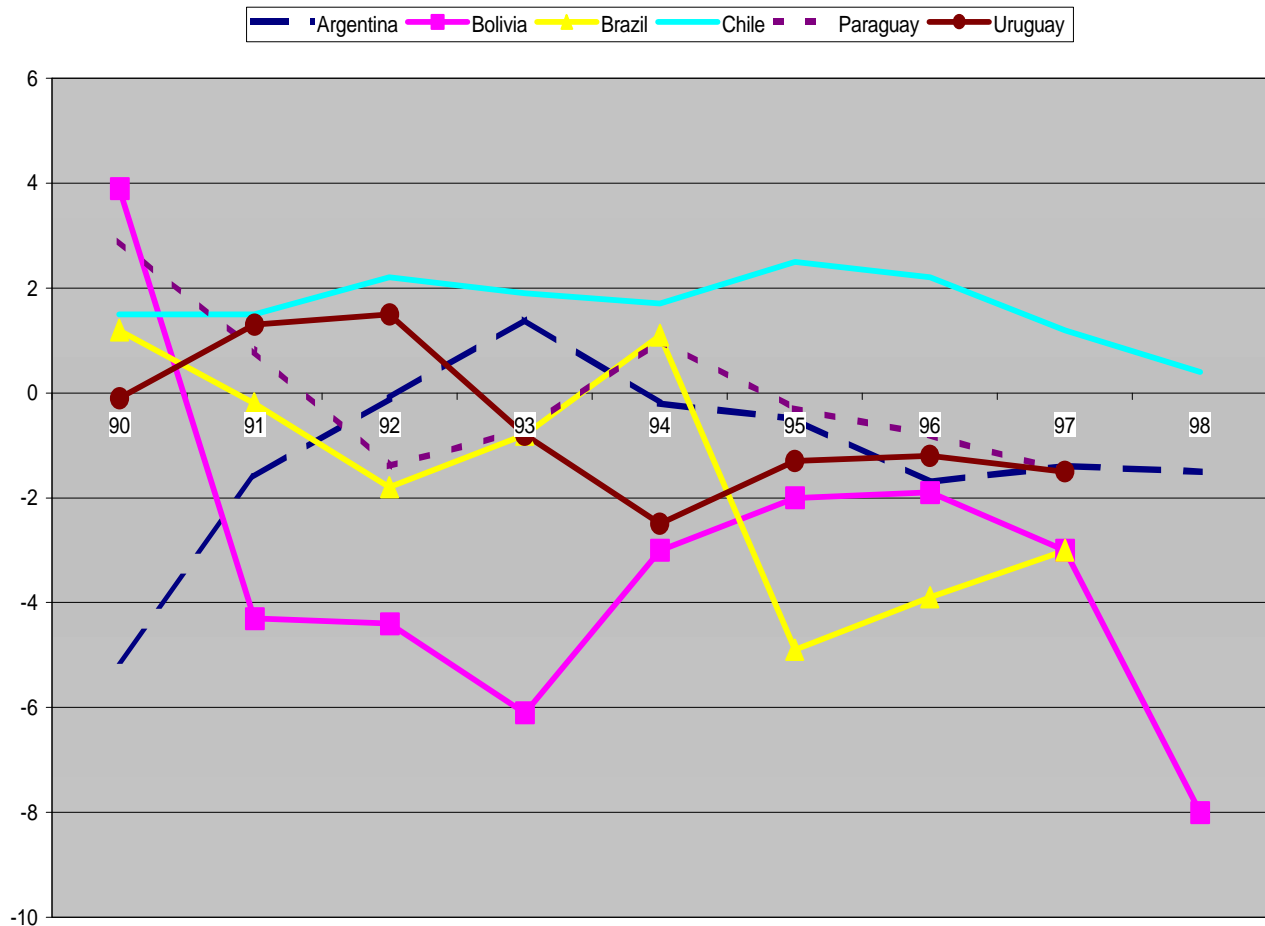
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<sup>23</sup> Particularly dramatic was the default announced by the Governor of Minas Gerais, Itamar Franco, which triggered the devaluation of the Real in early 1999. For an analysis of fiscal federalism within Mercosur countries see Jones, Sanguinetti and Tommasi (1997), Remmer and Wibbels (1998) and references therein.

markets, unwilling to finance fiscal imbalances.<sup>24</sup> However, the estimated fiscal deficit for Brazil in 1998 and 1999 indicates that fiscal solvency is far from being guaranteed in the region.

**Figure 3**

**Fiscal Surplus / GDP**



This disparity in fiscal results poses a stronger burden on any agreement a la Maastricht, while making it even more essential as a prerequisite before moving ahead towards any kind of monetary coordination.

#### II.1.5.2. Inter-jurisdictional transfers

While a monetary union imposes certain restrictions in terms of deficit financing, it also has to provide mechanisms in order to transfer resources between jurisdictions, to smoothen the negative effects of transitory regional shocks.

The existence of these transfers have been considered essential to the success of the U.S. monetary union (see Bottle, 1995). Sachs and Sala-i-Martin (1990) show that in the U.S.

<sup>24</sup> This capital market constraint was reflected in very high interest rates, substantially above those determined in the fourth condition of the Maastricht treaty.

a one-dollar decrease in the income in one of the regions implies a reduction of between 33 and 37 cents in the payment of federal taxes and an increase of between 1 and 8 cents in the transfers received by the region. Therefore, inter-state transfers channeled through the federal budget, allow on average to reduce by more than a third the loss in income of the states affected by negative temporary shocks. Similarly, Asdrulabi et. al. (1996) show, using data for the US for the period 1963-1990, that federal spending smoothed about 13% of the cross-sectional variance in gross state products.<sup>25</sup>

Mercosur does not have a fiscal policy coordination mechanism in place nor supra-national entities that may allow for transferring resources between the member countries. Although the Ouro Preto treaty created a number of supra-national institutions, none has among its tasks the coordination of fiscal policies or the creation of a common budget (as in the case of the Common Agricultural Policy for Europe). In Mercosur, the differences in output per capita described in Table 7 could induce pressures for income redistribution between rich and poor economies. These disparities, together with the low factor mobility, could put excessive pressure on fiscal policy to compensate the more backward regions. In addition, to the extent that Mercosur GDPs display significant short-run comovement, as mentioned in Loayza (1999), the gains from regional cross-insurance through fiscal transfers seems rather limited. All these factors make the agreement on a common budget even less plausible.

## II.2. Credibility

As mentioned before, one of the main benefits of the European monetary integration process was the credibility that countries gained by fixing their currencies to the German DM. This required convergence to the inflation and deficit levels of Germany, the country that was implicitly acting as guarantor of fiscal and monetary discipline. The Euro can be considered as the natural continuation of this process.<sup>26</sup>

To evaluate the possible impact of a monetary union on credibility it is essential to give a precise meaning to the institutional arrangement in mind. One alternative, and the one we have been assuming so far, is a common currency with an independent monetary policy (and therefore a floating rate) for the members of the union. However, for Mercosur this setup has a major shortcoming: none of the countries of Mercosur has a long tradition of

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<sup>25</sup> An additional 62% was smoothed by capital and credit markets.

<sup>26</sup> An interesting question is the evaluation of the gains of monetary integration for the country which provides the guarantee. In the case of Europe, Germany gained exchange rate stability with european partners, less volatility in capital flows within the region (and therefore fewer interventions imposed on its central bank). These factors, to some extent rely on the "Mundellian benefits" from currency union. Thus while the credibility story may work well for those who need to improve in terms of credibility, we need to rely on real gains to justify participation of the credibility anchor. Additionally, Germany may have found convenient to support the building of institutions which could provide explicit bail out mechanisms within an increasingly integrated region, as otherwise the cost of this intervention could have implicitly been imposed on the Bundesbank. Finally, Frieden (1998) suggests the hypothesis of "linkage politics" whereby Germany supported the EMU process as part of a broader deal in which the rest of Europe supported its foreign policy initiatives in Eastern Europe.

monetary stability or has enough reserves to provide a credibly backing of the other countries (a role played by Germany in Europe). The only country that has the necessary size is Brazil, but it is precisely the most unstable and the less willing to compromise its monetary sovereignty. A monetary union between countries like Argentina and Brazil should generate limited benefits in terms of credibility (it would be comparable, to some extent, to a monetary union between Spain, Italy and Portugal). The only gain in credibility from an agreement like this would be the setting up of a sort of “peer-control” that facilitate that reforms, unfeasible for each individual country, may be pushed forward jointly or that, for fear of a retaliation, make member countries less willing to deviate from previously agreed commitments.<sup>27</sup>

It is also difficult to believe that Mercosur countries could agree on a common monetary policy as they have followed highly dissimilar monetary policies in the recent past. For example, while Argentina has a fully convertible currency, Brazil has a dirty floating exchange rate, Chile has a floating band tied to the dollar, the marc and the yen and Bolivia has a crawling-peg to the dollar. These different policies reveal different preferences concerning monetary policy objectives that would have to be reconciled before starting to think of a common currency.

While the EMU experience can be characterized as the establishment of an independent common currency, we believe it can also be thought as a strong country with several satellite countries adopting its currency.<sup>28</sup> This, translated to the case of Mercosur, strongly suggests that a monetary union should include a country like the U.S. which could effectively act as a guarantor of stability in the region.

In addition, Ize and Levy Yeyati (1998) show that countries where there is little volatility in the real exchange rate vis a vis the US dollar tend to develop a large and persistent degree of dollarization, with Argentina, Bolivia and Uruguay as prominent examples. Therefore, for these countries, pegging to the US dollar has a relatively lower cost in terms of exchange rate rigidity.<sup>29</sup>

At the moment, the possibility of setting up a monetary bloc between the U.S. and the Latin American countries does not seem very realistic. Because the relative size of the two areas are not comparable, it is unlikely that the US would want to condition in any way its monetary policy just to reduce its exchange rate uncertainty with its Latin America partners. This was certainly not the case with Germany, which traded extensively with the rest of Europe and which is smaller than the other members of the union combined. Neither of these conditions would be satisfied for the US, not even when considering the possibility of a global America-wide dollar zone. While Germany’s participation in EMU’s GDP is about a third, US participation in a joint area with Mercosur would have amounted to 86.7% in 1997. Therefore, while it was important for

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<sup>27</sup> Mercosur has been effective in inducing this peer-pressure regarding trade policies.

<sup>28</sup> In the european example the german DM was not adopted merely for nationalistic reasons, but the monetary policy of the euro was built with the idea of emulating the behavior of the Bundesbank.

<sup>29</sup> Several other Latin American countries (e.g. Peru, Ecuador) are in the same situation.

Germany to reduce the exchange rate volatility with partner countries, the cost-benefit for the US is not so favorable.

A natural alternative would be the unilateral adoption of the U.S. dollar as legal tender.<sup>30</sup> This alternative has the disadvantage that it implies a cost in terms of seigniorage and that it would weaken the ability of local central banks to operate as lenders of last resort, increasing the risk of the domestic financial sectors and potentially increasing the overall volatility of capital flows to the region. The advantages should show up in a reduction of country spreads, supposedly due to lower capital flow volatility resulting from the disappearance of currency risk.<sup>31</sup> An obvious case to assess the relevance of the effect of dollarization on volatility is to look at Panamanian sovereign debt instruments. Figure 4 shows the country spreads for the Argentine FRB together with those of the Panamanian PDI.<sup>32</sup> Frankel (1999) estimates that the responses of domestic interest rates to changes in the US rate is more than twice as large in Argentina than in Panama, thus giving some support to the notion that dollarization reduces exposure to capital flows volatility. Table 13 replicates his exercise for Argentine and Panamanian Par bonds<sup>33</sup> also showing that for the period 1995-99 an increase of the US T-bond yields produces a larger response in the Argentine interest rate.

**Table 13. Responses of domestic interest rates to a change in T-bond yield's**

<b>Argentina (Par yield)</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.</b>
<b>TBOND</b>	1.347280	0.068738	19.60024	0.0000
<b>Constant</b>	1.331921	0.441079	3.019688	0.0026
<hr/>				
<b>Panama (Par yield)</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.</b>
<b>TBOND</b>	0.730378	0.068460	10.66870	0.0000
<b>Constant</b>	4.130982	0.425286	9.713429	0.0000

Yet there is no reason, a priori, to believe that country spreads could fall as a result of the elimination of the local currency. On the one hand it could be argued that the elimination of speculative flows against the currency may allow for a reduction in country risk as better output performance and lower interest rates improves the government's budget

<sup>30</sup> This idea is being proposed by the Argentine government. See Dornbusch et.al. (1990) for an early suggestion of this alternative.

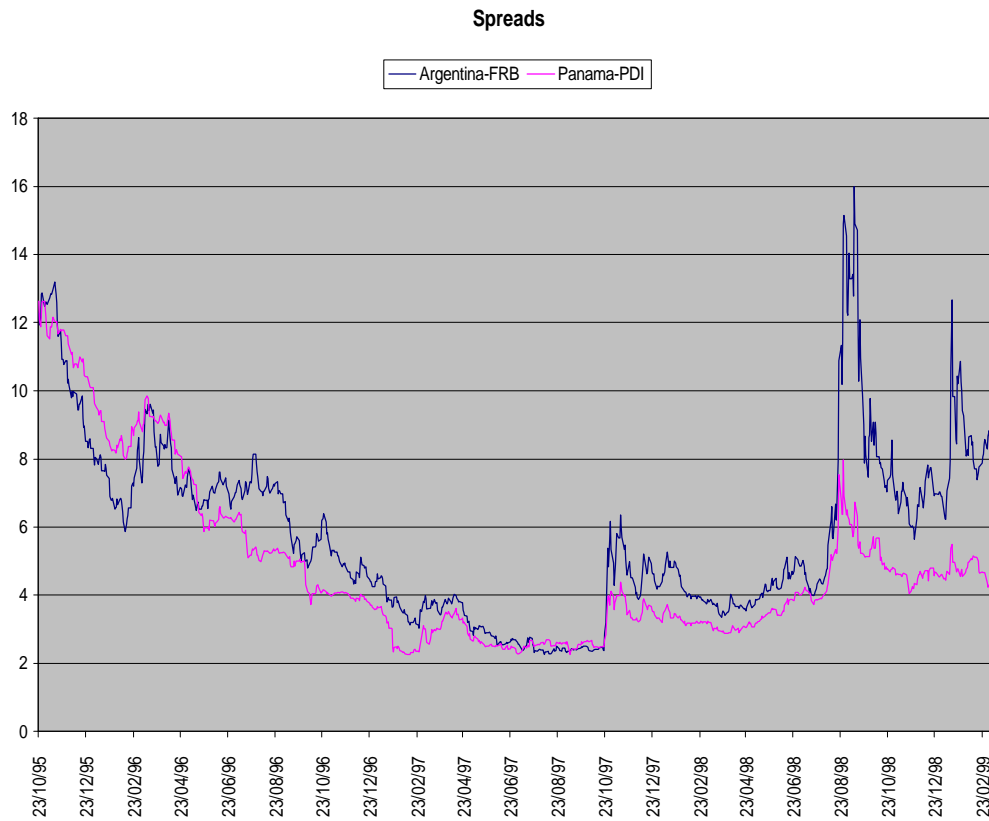
<sup>31</sup> Notice that welfare gains arise only if the spread on dollar denominated instruments decreases. Obviously local currency spreads will disappear with the instrument, but this, if anything, entails a welfare cost, because it reduces the number of alternative assets available. See Neumeyer (1998). In this domain, a half-of-the-road alternative like a CBA presents a clear advantage, as it preserves a broader menu of assets available for hedging purposes.

<sup>32</sup> Both are floating rate bonds with similar characteristics. However the maturity of the FRB at 31/3/2005 is substantially shorter than that of the Panamanian PDI at 17/07/2016. The ratings of the Panamanian bonds are better and this accounts for their lower spreads. Yet our argument relates to the volatility and not the level of the spreads.

<sup>33</sup> Similar results were obtained taking the FRB's. We chose to show the PAR bond numbers because the floating rate bonds automatically incorporate the increase in the international interest rate.

constraint. This benefit may be important in a context of high international financial market instability and contagion. However, one could also argue that if exchange rate flexibility offers the government the option to reduce the burden of maturing debt by eroding its foreign currency value through a devaluation of the local currency, the loss of such option, if anything, should increase rather than reduce sovereign risk. Thus, dollarization per se is not likely to secure a significant gain in terms of lower borrowing costs, beyond and above those already offered by the option to issue foreign currency denominated debt.<sup>34</sup>

**Figure 4**



A critical issue for evaluating the benefits of dollarization is a correct estimation of seigniorage costs. Seigniorage arises both from the need to purchase the initial stock of foreign currency to be used as currency as well as from the costs of purchasing later

<sup>34</sup> A second, related, argument points to a more practical aspect associated with the simultaneous dollarization of countries with substantial amounts of domestic currency debt. The sudden conversion of a sizeable stock of domestic currency debt would put to test the limits of the demand for emerging market dollar debt, possibly causing the associated yields spreads to raise.

increases in the stock of currency. These later increases are the result of US inflation and domestic GDP growth. More formally seigniorage can be written as:

$$(1) \quad s_t = \frac{\Delta M_t}{P_t \cdot y_t}$$

Where  $s$  represents seigniorage as a percentage of GDP,  $M$  is the nominal stock of money,  $P$  the price level (which we assume grows with the US inflation rate) and  $y$  is real output. Assuming that output grows at constant rate  $g$  and that US inflation is constant at rate  $\pi$  it can be shown that  $s$  equals:

$$(2) \quad s_t = \frac{m_t}{y_t} - \frac{m_{t-1}}{y_{t-1}} \cdot \frac{1}{(1+p)(1+g)}$$

Total seigniorage costs add to the flow costs in equation (2) the costs of acquiring the initial stock of currency. For Mercosur countries Table 14 shows that currency holding are about 3.6% of GDP.<sup>35</sup> Thus, in addition to an initial cost of this amount, there is a flow cost which can be computed from (2). If we assume that the currency-GDP ratio remains constant at 3.6%, Table 15 shows the resulting yearly seigniorage costs.

**Table 14. Currency as percentage of GDP**

	91	92	93	94	95	96	97
<b>Argentina</b>	2.9%	3.4%	3.9%	4.0%	4.0%	3.9%	4.1%
<b>Brazil</b>	2.2%	2.3%	2.4%	2.5%	1.9%	2.0%	N/A
<b>Paraguay</b>	4.6%	5.5%	5.3%	5.4%	5.4%	4.9%	N/A
<b>Uruguay</b>	4.2%	4.0%	4.2%	4.0%	3.8%	3.5%	3.4%
<b>Mercosur</b>	<b>3.5%</b>	<b>3.8%</b>	<b>4.0%</b>	<b>4.0%</b>	<b>3.8%</b>	<b>3.6%</b>	<b>N/A</b>
<b>Bolivia</b>	3.9%	4.0%	4.2%	5.1%	5.3%	4.9%	5.0%
<b>Chile</b>	3.0%	3.2%	3.2%	3.1%	3.0%	1.5%	3.0%
<b>Mercosur +2</b>	<b>3.5%</b>	<b>3.7%</b>	<b>3.9%</b>	<b>4.0%</b>	<b>3.9%</b>	<b>3.4%</b>	<b>N/A</b>
<b>Austria</b>	5.8%	5.9%	6.0%	6.0%	6.1%	6.1%	5.8%
<b>Belgium</b>	6.1%	5.7%	5.7%	5.1%	5.3%	2.9%	3.1%
<b>Finland</b>	1.8%	2.0%	2.2%	2.1%	2.3%	2.4%	2.3%
<b>France</b>	3.8%	3.7%	3.6%	3.5%	3.4%	3.3%	3.2%
<b>Germany</b>	6.0%	6.5%	6.7%	6.8%	6.9%	7.0%	6.8%
<b>Holland</b>	6.8%	6.5%	6.5%	6.3%	6.0%	5.8%	5.5%
<b>Ireland</b>	4.9%	4.7%	4.8%	4.8%	4.8%	4.7%	
<b>Italy</b>	5.3%	5.7%	5.8%	5.9%	5.5%	5.3%	5.5%

<sup>35</sup> This is the costs of acquiring the initial stock of currency mentioned in Fischer (1982).

<b>Portugal</b>	6.2%	5.7%	5.6%	5.5%	5.4%	5.3%	4.3%
<b>Spain</b>	10.2%	10.2%	10.7%	11.1%	10.8%	10.8%	10.8%
<b>EMU</b>	<b>5.7%</b>	<b>5.7%</b>	<b>5.8%</b>	<b>5.7%</b>	<b>5.6%</b>	<b>5.4%</b>	<b>5.3%</b>
<b>Mexico</b>	3.4%	3.4%	3.5%	3.7%	3.3%	3.0%	3.0%
<b>USA</b>	4.7%	4.8%	5.0%	5.2%	5.3%	5.3%	5.4%

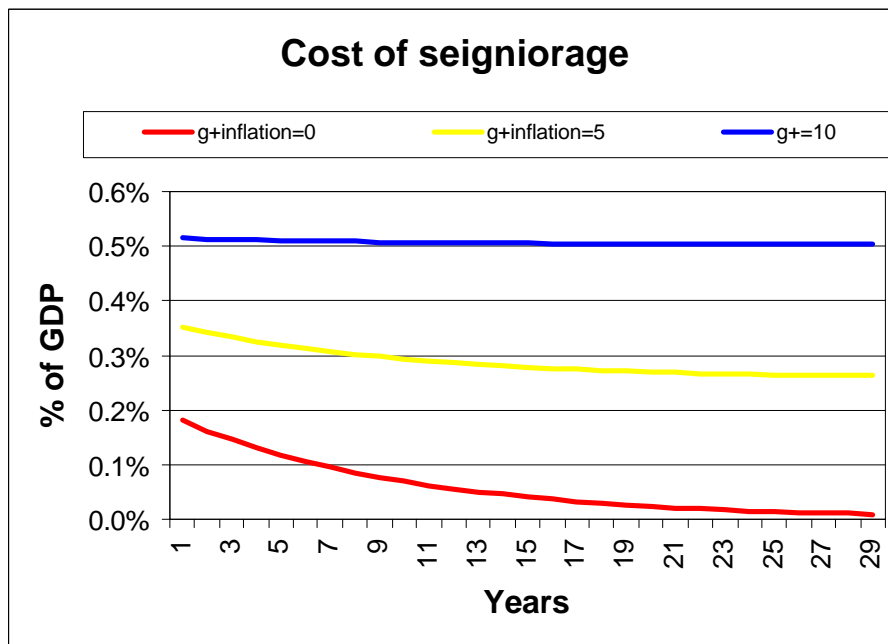
Source: *International Financial Statistics*, IMF.

**Table 15 Yearly seigniorage as percentage of GDP.**

<b>Growth/Inflation</b>	<b>0%</b>	<b>3%</b>	<b>5%</b>
<b>0%</b>	0.00%	0.10%	0.17%
<b>1%</b>	0.04%	0.14%	0.21%
<b>3%</b>	0.10%	0.21%	0.27%
<b>5%</b>	0.17%	0.27%	0.33%

However, Table 14 also shows that currency holdings in Mercosur are below the levels of both the US and Europe. In the US, for example the currency-GDP ratio equals about 5%. Therefore, it is likely that the economies will also have to purchase increases in the demand for money as they approach the US currency holdings after dollarization. Figure 5 shows these costs over time assuming a gradual convergence to the US levels.

**Figure 5**



At the worst the seigniorage costs could reach .5% of GDP per year, (in addition to the initial setup cost) which, while sizable should be weighted against the potential benefits of lower spreads and lower volatility.

A possibility in order to reduce these costs would be to negotiate with the US Federal Reserve (FED) a partial “grant” of these seigniorage revenues. In fact for countries which today do not have the currency in circulation it is unfeasible to require them to obtain it in the short run through current account surpluses so transfers from the FED are unavoidable. For the US the agreement should be convenient as long as it allows it to share in some of the new seigniorage revenues created. However, the Federal reserve faces a time inconsistency problem. If it provides some of this currency freely, local governments could be tempted eventually to recreate their domestic currencies, imposing then a seigniorage cost on the US. One way to overcome this problem would be for the country to give the Federal Reserve debt instruments of equivalent value to that of the currency transfers, these bonds becoming effective if the country defaults on its commitment to use the dollar as legal tender. However, if the country issues a new instrument for this purpose (providing the guarantee), its commitment value is limited as it is likely that if the country is willing to default on its use of dollar as legal tender it may be willing to default on its debt obligation with the FED, as this would have limited impact on other debt instruments yields. If the FED requires a bond identical to other assets trading in the market, the pricing of these bonds could be a tricky issue, and the possibility of the reversal of dollarization would certainly add a premium to all sovereign instruments, rendering useless the attempt to reduce country risk through the use of the US currency.

Regarding the disappearance of a lender of last resort. The Argentine government has hinted that it may be willing to precommitment its seigniorage revenues in order to have access to the Federal Reserve discount window. Others however, argue that the use of international insurance, of the same type as that actually purchased by the Central Bank of Argentina, or the use of fiscal resources should be sufficient to avoid liquidity crisis in the financial sector.

An intermediate alternative is extending Argentina’s convertibility to the rest of the region. The success of Argentina with the Convertibility Plan should be sufficient to prove this to be a feasible policy option. Convertibility eliminates the seigniorage cost of full dollarization, as the reserves at the central bank earn interest. On the other hand, convertibility entails a lower commitment to exchange rate stability than does full dollarization.

If instability in the region continues on the rise, the alternative of dollarization will become increasingly real. The experience of Argentina shows to what extent the credibility component is essential when deciding about a monetary system. In fact, if we would have undertaken the exercise of evaluation whether the “Mundellian” conditions for monetary union between Argentina and the US were present, we would have probably concluded that they were even less present than for our Mercosur partners. That is, the real conditions for monetary integration are not there. Yet any assessment of the Convertibility Plan is positive, indicating that the gains in terms of credibility have outweighed the restriction of not being able to adjust the exchange rate with the US, or

stated otherwise of having had to implement automatically the US monetary policy throughout the 90's.<sup>36</sup>

An alternative, even starker implication of this result, suggested in Almansí (1998), is that monetary policy is largely irrelevant as long as it insures a basic degree of economic stability. In this view, as long as the US monetary policy provides stability the fact that there is no possibility of "fine-tuning" becomes virtually irrelevant. An alternative, historical parallel can be made with Bretton-Woods. During almost 25 years all countries in Bretton-Woods were forced, at large, to emulate US monetary policy; however, this doesn't seem to have harmed in any way the growth potential of partner OECD economies. Only when US monetary policy started showing an increasing inflation bias, was that other countries opted out of the system.

In brief, without having the option of including the U.S. in a monetary union, the extrapolation of the European model to a common currency in Mercosur would be closer to suggesting the expansion of the Argentine model to the whole region than replicating the European monetary union.

### **III. Conclusions**

Mercosur does not stand up to the test in terms of the conditions identified by the OCA theory for establishing an independent monetary area with a common currency for the member countries. Table 14 presents a brief summary of these conditions. When considering the degree of integration in the real sector, interdependence is very low by comparison with that of the European countries. There when the first stage towards monetary union was completed, the average exports to partner countries accounted for 14% of GDP. In the case of Mercosur, this figure reached only 4.1% in 1997. Even though it is true that the integration process of Mercosur has not finished, and that there are still tariff reductions to be completed, we argue that the structure of the economies does not lead us to be optimistic when it comes to forecasting an increasing level of integration in the near future.

Labor markets are not integrated and large differences in income levels between the countries prevail. As a result free mobility of labor is not going to be welcomed by some of them (in particular Argentina) in the short-run. This reduces the scope for the labor market to absorb asymmetric shocks which also seem to be likely (and larger) in Mercosur than in Nafta or the EMU. The banking sector has become increasingly international, but financial sectors remain segmented and prudential regulation is still very different. This would lead to moral hazard problems in the case there was a common Central Bank, both at the level of individual banks as well as between countries if they were to engage in regulatory competition. Macro shocks appear to be correlated in the

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<sup>36</sup> See for example Baliño and Enoch (1997) who state that "currency board arrangements may be attractive permanent arrangements for small open economies that wish to preserve the benefits of belonging to a broader currency area". In policy circles the Convertibility model has been suggested on occasion for Brazil, Indonesia and Mexico.

short run (while the pattern changes dramatically according to the time period considered), and capital flows associated to currency instability are related not to the change in regional parities but to changes in the exchange rates with countries outside the region. Both factors, reduce the potential gains in terms of financial sector integration and reduced volatility of capital flows which were decisive in stimulating the European integration process.

On the fiscal side, Mercosur economies have not yet discussed the need for fiscal policy coordination, which is not surprising given that they still have not solved the fiscal federalism problems at the national level. Mercosur not only lacks targets that coordinate fiscal policies but also does not have supranational institutions that can centralize transfers to those areas affected by adverse economic shocks.

Regarding the benefits that could arise from the elimination of speculative attacks, this will depend upon the credibility that the common central bank can sustain. However, the associated benefits are seriously limited by the fact that Mercosur does not have currencies with a lasting stable tradition or a country that can stand out for the other members in case of speculative attacks during the transition process.

This is the reason why we believe the European experience suggests, if anything, the convenience of a monetary union with the U.S., as opposed to one that only involves the countries within the region. Although an analysis of the preconditions identified by the OCA theory could lead to even less optimistic result for a monetary union with the US than those presented in Table 22 for Mercosur countries,<sup>37</sup> the great advantage of this integration, would stem from gains in terms of credibility in the conduit of monetary policy and some reduction in currency speculation which could reduce significantly the volatility in capital flows that the region would be exposed to.

Finally, we would like to emphasize that according to Cohen (1993), every monetary union is built around a common political project. Cohen (1993) studies the collapse of the monetary regimes concluding that these are associated to a disruption in the institutional system in which they were operating. Within Mercosur, it should be noted that the democratic system in the integrating countries is still in the strengthening stage. Therefore, fostering economic relations between the member countries can help consolidate democratic institutions in the member countries, constituting thus a significant positive factor for regional integration. How much further can a common political project evolve in Mercosur is beyond the scope of this paper, but it surely represents a prior requirement for thinking about monetary union, in any of its alternatives.

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<sup>37</sup> A more detailed discussion of this possibility exceeded the scope of this paper which concentrated only on Mercosur countries.

**Table 14. Evaluation of monetary union**

Factors		What does the theory say?	Where is Europe?	Where is Mercosur?
Trade Integration		The larger, the higher the benefits of monetary union	High degree of integration. Exports to partners were 14% of GDP at the signing of Maastricht	Low degree of integration, exports to partners were 3.8% of GDP in 1996.
Productive Factors	Labor Market	The larger the degree of factor market integration, less is the need to use the exchange rate as an adjustment instrument and therefore larger the benefits of monetary union.  Reduces the possibility of speculative attacks and therefore increases the benefits of monetary union.	Low integration relative to the US.	No integration.
	Banking Sector		Integrated.	Highly internationalized but with important differences in regulation.
	Capital Markets		Integrated. It has also been effective as a mechanism to eliminate exchange rate realignments.	Unilaterally open (each country has opened the capital account, though some maintain restrictions). Exchange rate between countries are not very relevant (what is relevant are the parities with the dollar the Euro or the yen), thus currencies will continue to experience speculative attacks.
Shock symmetry		The more symmetric are shocks, the lower the need to change the exchange rate and the bigger the benefits of monetary union.	Symmetric shocks.	Large and asymmetric shocks.
Fiscal Policy		Monetary union imposes restrictions upon the consistency of fiscal policy among members.	Maastricht achieved consistency.	Strong divergence in fiscal balances persists.
Fiscal Transfers among member countries		The larger these transfers the larger the possibility of smoothing regional shocks, and the larger the benefits of monetary union.	Exist.	Do not exist.
Credibility		Monetary union may generate benefits in terms of increased credibility.	There is a gain in credibility because the ECB emulated the Bundesbank.	Credibility gains are unlikely due to the strong disparity in the use of monetary policy and the lack of tradition in keeping inflation in check.

Political Integration	Monetary union arises as the result of a common political project.	This process is underway.	The process is just starting.
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