Convergence of Regional Disparities in Argentina and Brazil:

The Implications for MERCOSUR

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Convergence both between Latin American countries as well as within countries has not been widely studied in the economic literature. This paper attempts to highlight the significance of convergence for policy making, not only in national terms but most importantly its implications for integrated areas such as MERCOSUR. The impact that macroeconomic and political instability have on the process of convergence within Argentina and Brazil will also be discussed. The results found for both Argentina and Brazil, together with the European Union's experience in terms of disparities suggest that closing the gap takes a long time even when policies are in place. Therefore regional policy should be addressed at an early stage in the integration process' agenda.

I. INTRODUCTION

Over the last decades, the study of convergence of regional incomes has gradually gained importance in the economic literature. The first attempts to include disparities in economic models were as part of neo-classical models of growth theory. In these models, countries would converge in the long run, with poorer countries growing faster than richer ones. Neo-classical economics bases its convergence results on decreasing marginal productivity of factors. According to this, imbalances would be levelled out automatically. Given two regions (countries) with initial identical conditions, if one region (country) had a higher marginal productivity of labour, given the assumption of free mobility, labour would migrate to that region (country). The resulting increase in labour supply would reduce its marginal productivity (and wages) and labour would then be attracted to other areas with higher wages. This process would continue until both regions are equalised.

Earlier studies on convergence seem to validate the convergence hypothesis and therefore the neo-classical model seemed to be the rule. Among these studies, Barro (1991) found conditional convergence across a wide sample of ninety-eight countries. Barro and Sala-i-Martin (1992) and Sala-i-Martin (1996) also reported convergence and found it to be quite similar across countries. However, the more the issue of disparities is investigated across diverse areas and sub-periods, the more different the results obtained.

When analysing convergence among developed countries, most studies find evidence of absolute beta convergence over long periods[1] as within the studies mentioned above. Although Barro (1998) included a Latin American dummy variable in his study of 98 countries, not much specific research have been performed for developing countries, or for Latin America in particular. Esquivel (1999) studies Mexican regions for the period 1940-1995 finding convergence; Cardenas and Ponton (1995) also find evidence of convergence among the departments in Colombia between 1950 and 1989; Caceres and Sandoval (2000) examined the behaviour of seventeen countries in the region and Dobson and Ramlogan (2002) found evidence of beta convergence for Latin America for the period 1960-1990. It must be noted that few studies consider sub-periods, mostly limiting their analyses to longer periods, as will be seen later.

Neo-classical economics has extended its implications of convergence to cover integrated areas. The removal of trade barriers under classical assumptions would imply that any existing differences between countries would be levelled out in the same way as that for

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[1] Persson (1997) for the period 1911 to 1993 for the Swedish counties, Andres *et al* (1996) for the OECD countries, Coulombe (2000) for Canada and Tsionas (2000) for the United States

individual countries. Over the years, the European Union provided a perfect example in order to test for convergence within an integrated area and it became evident that integration would produce winners as well as losers and regional policy institutions within the Union slowly became a central part of European institutions.

Regional economic disparities in Latin America are significant, both within countries as well as between countries. The issue of regional convergence has never been properly addressed for the region. However, a new wave of regional trade agreements has spread in the last decade, of which MERCOSUR is the most significant one, both in terms of surface, economy and population. Further, the Free Trade Area of the Americas (FTTA) initiative, launched in 1994, aims to create an area with all American nations. Having this in mind, disparities will play a central role in this integration process and institutions will have to be created in order to smoothen the transition.

In this paper, I study the development of disparities in Argentina and Brazil, as well as MERCOSUR and the European Union in order to identify variables that might affect the process of convergence. The EU experience will be useful to illustrate what happens with regional disparities in an integrated area and what should be considered beforehand. This paper is outlined as follows. Section II discusses the empirical methodology that will be followed in this paper, the sigma and beta convergence analyses. Section III describes the origin of disparities and studies the development of disparities in both Argentina and Brazil for the last decades, dividing the period into sub-periods and relating this to macro and political factors. In section IV the same analysis is replicated for the four member countries of MERCOSUR as well as a review of the European Union (EU) experience in terms of disparities. The final section of this paper contains the concluding remarks.

II. EMPIRICAL METHODOLOGY

The standard methodologies for analysing the convergence hypothesis are the sigma and beta analyses as introduced in the literature by Sala-i-Martin (1990) and further discussed in Barro and Sala-i-Martin (1991). The sigma convergence shows how the dispersion of real per capita income (in logarithms) across a group of countries (or regions) evolves over time. Therefore, if the dispersion- as measured by the variance of income per capita- decreases, there is sigma convergence between the countries (regions). Both Barro and Sala-i-Martin (1991) and Sala-i-Martin (1996) derive the relation between sigma and beta and show that beta convergence is a necessary but not sufficient condition for sigma convergence to occur, therefore sigma convergence analysis is often used as a first approximation to the existence of beta convergence.

Absolute beta convergence tests the neo-classical hypothesis that poorer countries (or regions) grow faster that richer ones. If this is the case, there will be a negative relationship between the initial level of income and the average rate of growth of income for the period under consideration[2]. Conditional beta convergence, as opposed to absolute beta convergence, analyses the incomes per capita of countries (or regions) that have identical structural characteristics and converge in the long run to their own steady states. In order to test for conditional convergence you can either introduce explanatory variables or study sets of economies for which it is safely assumed that they have similar steady states. The latter has been performed by Sala-i-Martin (1996) for different developed countries and Andres *et al* (1996) for the OECD countries. Conditional beta convergence can also be analysed by introducing variables that account for differences among the regions or countries. These can include education levels, infant mortality rates, participation of agriculture and industry in total GDP, fiscal deficits, among other variables that might be considered relevant for this analysis.

The impact of both macro and political variables on disparities has attracted increasing attention in the literature over the last few years. Berry (1988) argued that business cycles are often associated with spatial concentration; therefore economic cycles would begin at those poles of concentration of economic activity and thus intensifying disparities. Conversely, in times of recession, the centres would be hit harder than the periphery and thus inequalities would be reduced. Andres *et al* (1996) present evidence of macro variables having a significant impact on growth, particularly in periods of instability and

[2] The regression equation would then be: $\ln (y_{i,t}/y_{i,t-1}) = \alpha + \beta \ln (y_{i,\,t-1}) + u_{i,t}$

low growth; which they argue would explain the slowdown of growth in the OECD countries in the seventies. Barro (1998) includes a proxy for price distortions and found it to be linked negatively to growth. When analysing sub-periods, differences in terms of convergence that can be related to macroeconomic conditions can be found. Tavera (1999) concluded that there are periods of divergence that alternate with periods of divergence in the European Union, as will be seen later.

The impact of political variables on convergence has also been explored. Scully (1988) argues that if there is uncertainty regarding the rule of law, this will, in turn, affect growth. Barro (1991) included variables that account for political instability. In particular, he considered the number of coups per year and the annual number of political assassinations per million inhabitants and found that these have a significant impact on growth. Knack and Keefer (1995) considered several additional variables and found an increase in the significance of the variables once institutional variables are included into the analysis. Petrakos and Tsoukalas (1999) found a strong link between spatial concentration in Greece and the deviation from democracy. Tavera (1999) associated the low growth of the Spanish economy in the period 1970-75 with the political instability of that period [3]. However, none of these hypotheses has been tested for Latin American countries. I will try to do this for Argentina and Brazil in the following sections of this paper.

III. DISPARITIES IN ARGENTINA AND BRAZIL

Disparities in both Argentina and Brazil have been analysed by other authors but this has not been done by dividing into sub-periods or by looking at the potential impact of

[3] Though not linking to any political variables directly, Jian *et al* (1996) mention that in the case of China, the period with the highest disparities (1965-1978) corresponds to that of the Cultural Revolution, which was a period characterized by political violence and the absence of the rule of law. Moreover, they also associate regional convergence in China with the degree of openness of the economy.

economic and political variables on the process of convergence[4]. Both countries display significant income disparities, more accentuated in Brazil, which can be associated with the models of development followed since independence. There are two main phases that can be recognised in Latin American economic development[5]. The export-led model based on primary products, followed at the end of the nineteenth century and until 1930 emphasised the role of foreign markets. Therefore, in terms of regional disparities, those areas close to international ports and to the centres of production gained importance at the expense of the interior. During the inward-looking phase, countries followed import substitution industrialisation policies and this stage extended until the 1960s. At this time, disparities worsened given that the centres were those most favoured (Buenos Aires and Sao Paulo), characterised by large migration flows to the main cities from the interior. In this section I will be studying the development of disparities in Argentina and Brazil over the last few decades.

The main reason why I will be analysing Argentina and Brazil but not Uruguay and Paraguay is due to their significance in terms of land area, population and economy. While the population of both Argentina and Brazil account for 96% of MERCOSUR population (17% and 79% respectively), Paraguay and Uruguay have only 2% each. In terms of total GDP, again Brazil and Argentina comprise 96% of total MERCOSUR GDP (the former accounting for 70% and the latter accounting for 26% of total GDP).

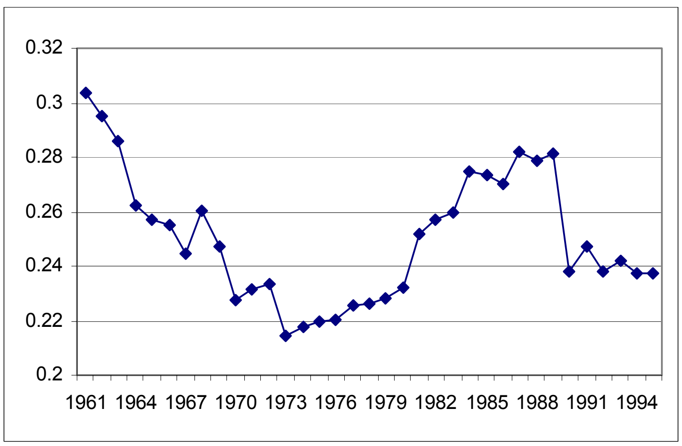
In this section I will study the convergence among the Argentine provinces and Brazilian states over the last few decades in order to try to determine not only whether there has been convergence among them, but if so, how strong it was, whether sub-periods of convergence were followed by those of non-convergence and finally whether any link between convergence and macroeconomic and political variables can be established.

[4] Studies on convergence in Argentina have been performed by Utrera and Koroch (1998, 1999), Marina (1998, 1999) and Marina *et al* (2000); while disparities in Brazil were mainly studied by Azzoni (1996, 1997, 2000), Ferreira (1998, 1998b) and Ferreira and Diniz (2000)
[5] Bulmer-Thomas (1994)

Argentina

Convergence of regional incomes in Argentina will be tested for the period 1961-1995[6]. When performing a sigma analysis it can be seen in Figure 1 that three main different sub-periods can be identified. The first one comprising the sub-period 1961-1973, where the variability of incomes per capita of the Argentine provinces decreased, indicating convergence. The second period extends from 1973 until 1989 in which the indicator increased until reaching its maximum value in 1989. The last period refers to the first half of the nineties; where following a dramatic initial decrease of the indicator, disparities seem to remain mostly unchanged for the rest of the sub-period.

FIGURE 1



Source: own calculations

When performing beta convergence analysis for the whole period, it can be seen in Table 1 that the hypothesis of convergence cannot be rejected, with a negative and significant coefficient for 1961-1995. Given that sigma is often used as a first approximation to investigating the existence of beta convergence, I divided the sample into four different sub-periods, those three breaks seen in Figure 1 and an extra one to allow for the beginning of democracy in 1983. It can be seen that some sub-periods display convergence while others divergence. In particular, for the first sub-period a negative and highly significant coefficient is found, implying strong convergence. This is in

[6] The data used in this analysis is from Universidad Nacional de la Plata (1999)

accordance with the sigma analysis. Moreover, the sixties was a period in which there was an increase in the concern for regional disparities and economic development, with national planning playing a more important role in national policies. During the second half of the sixties in particular, major industrial projects were subsidised[7] and there was a concern for improving both physical and social infrastructure, which is consistent with a declining trend in disparities. By contrast, the following sub-period (1973-1983) displays a positive beta coefficient, which, in spite of being only marginally significant at 10%, suggests non-convergence during that decade. The economic policy followed in this period relied on the liberalisation of the labour markets, foreign trade and finance and a high deficit, which was financed with foreign debt, resulting in an overvaluation of the currency as well as large current account deficits. The hypothesis of convergence does not hold in the third sub-period either, in spite of having a negative coefficient, given that the coefficient on initial income is not significant. The eighties were a period characterised by price instability and high inflation rates, which resulted in the hyperinflation in 1989. Finally, the last sub-period (1990-1995) is one of no convergence, with a negative but not significant coefficient. In this last sub-period, the economy was more open and inflation was controlled.

Following the theoretical studies described in the previous section, the hypothesis I will try to test is whether political and macroeconomic stability (instability) imply convergence (divergence). Therefore, I have used military versus democratic periods as a proxy for political instability; given the absence of the rule of law and violence. I have chosen the sub-periods 1976-1982 and the democratic one 1983-1995. On the other hand, in order to test for the impact of macroeconomic variables on convergence, I have used inflation rates as a proxy for economic instability. The sub-periods chosen were 1961-1974 and 1975-1990, the former corresponding to low inflation rates and the latter to high ones[8].

[7] Schvarzer, J. (1987) has a good review of industrial promotion in Argentina

[8] The period of low inflation (1961-1974) had an average rate of inflation growth of 28% with a maximum of 60% in 1973 and a minimum of 7.6% in 1969. By contrast, the period of high inflation (1975-1990) the average rate of inflation growth was 570%, ranging from a minimum of 90% in 1986 and a maximum of over 3,000% in 1989)

TABLE 1

Period	Beta	R^2
1961-1995	-0.26 (-0.14)	0.13
1961-1973	-0.17 (-0.08)	0.19
1973-1983	0.13 (0.09)	0.09
1983-1989	-0.01 (0.09)	0.001
1990-1995	-0.05 (0.07)	0.03
1976-1982	0.12 (0.07)	0.12
1983-1995	-0.19 (0.09)	0.17
1961-1974	-0.16 (0.08)	0.16
1975-1990	-0.06 (0.12)	0.01

Note: The standard errors are given in parentheses

Source: own calculations

The results are also reported in Table 1. The first result when comparing the military period 1976-1982 with the democratic one 1983-1995, is that both sub-periods have significant coefficients (although it is more significant for the later than for the former) and while this indicates divergence in the military period, there is convergence for the democratic one. A more formal test needs to be carried out, however, in order to test if the coefficients are statistically different, i.e. whether the differences can be attributed to the political regime. When performing a dummy variable analysis to test the hypothesis that both coefficients are statistically different, the results show that it is accepted[9].

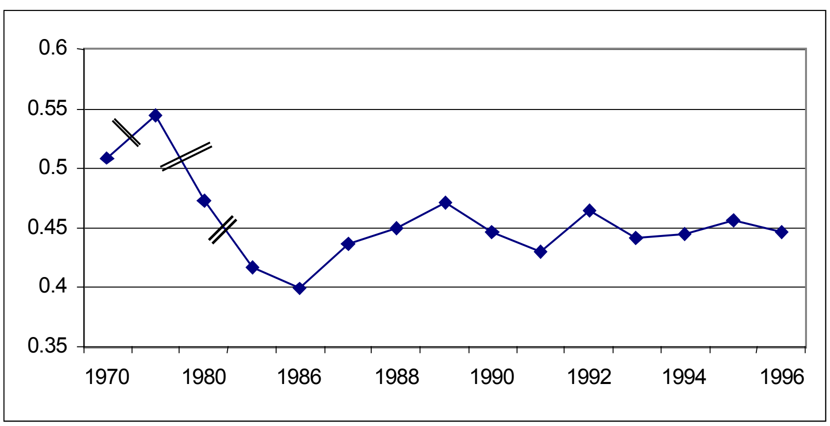
[9] The results display a highly significant coefficient (coefficient: -0.22; standard error: 0.08)

Regarding the macroeconomic conditions, it can be seen that between 1961-1974 there was absolute beta convergence between the Argentine provinces with a negative and significant coefficient on initial income. In the period 1975-1990, however, although the coefficient is negative it is not statistically significant. Nevertheless, a formal test was also carried out and although the coefficient has the expected sign it is not statistically significant and therefore the hypothesis of the two periods being different cannot be rejected[10].

Brazil

In the case of Brazil, data on income per capita has been considered for the period 1970-1996[11]. When looking at Figure 2, the sigma convergence indicator reveals that the period can be further sub-divided as well. The decade starting in the mid-seventies is characterized by a decline in the indicator, representing a decrease in disparities in that decade. From then until the end of the eighties the indicator increased and then remained mostly stable until the end of the period.

FIGURE 2



Note: The double lines indicate that there is a break in the series between 1970, 1975, 1980 and 1985
Source: own calculations

[10] The coefficient was positive (0.10) but not significant (standard error 0.13)
[11] Brazilian data is from IBGE, different years

When absolute beta convergence is performed for the whole period, convergence is found, with a negative and significant coefficient (Table 2). However, when dividing into sub-periods, convergence and divergence alternate again. As in the case of Argentina, I have used the breaks suggested when doing the previous sigma analysis. The first sub-period (1975-1985) displays strong convergence, with a negative and highly significant coefficient, confirming the preliminary results of the sigma analysis. The late seventies, as opposed to the late sixties and early seventies, is a period often associated with economic growth and relatively low inflation in Brazil, where re-distributive social policies were implemented and improvements in the distribution of income took place.. For the following decade (1986-1996) a negative though non-significant coefficient is found, indicating non-convergence. This period was mainly characterised by an increase in both the concentration of income and poverty levels. Moreover, macroeconomic instability and fluctuations were the rule with inflation rates higher that even in Brazil.

TABLE 2

Period	Beta	R^2
1970-1996	-0.21 (0.09)	0.18
1975-1985	-0.28 (0.07)	0.44
1986-1996	-0.07 (0.07)	0.01
1970-1985	-0.18 (0.08)	0.15
1970-1986	-0.19 (0.08)	0.18
1987-1994	-0.07 (0.07)	0.05

Note: The standard errors are given in parentheses

Source: own calculations

When investigating the link between political and macroeconomic stability and growth, the results are not as significant as in the case of Argentina. In the case of Brazil, I have divided the period into military (1970-1985)[12] and democratic governments (1986-1996). When looking at inflation rates, the two sub-periods that can be identified almost coincide with the political ones. The first one, with extends from 1970 to 1986 has low inflation rates, while the second one, which covers the period 1987-1994 is one of high inflation rates[13]. During the military sub-period 1970-1985, convergence is found (with a negative and significant coefficient), while for the democratic period 1986-1996 the hypothesis of convergence cannot be accepted given that the coefficient is not significant. When looking at the macroeconomic variables, the sub-period with low inflation rates displays convergence, while that of high inflation rates is not significant. When performing formal econometric tests to both hypotheses, none is significant and although the political and macroeconomic influence cannot be entirely ruled out, it is not significant enough to explain differences between periods[14]. Furthermore, it should be noted that the sub-period of military government almost coincides with that of low inflation rates. Moreover, the period 1969-1973 registered an unprecedented growth in Brazil, often referred to as the Brazilian economic "miracle". It is then difficult to isolate the effect of either political or macroeconomic variables for that period and more data is needed.

Summary

As it was seen in this section, disparities in both Brazil and Argentina have not been significantly reduced in the recent decades. When looking at both countries' sigma analyses, there were periods in which the variability of the indicator increased and others characterised by increases in the variability between states (provinces). Moreover, when looking at absolute beta convergence, although the overall indicator suggests convergence, when analysing different sub-periods, both convergence as well as

[12] Although the military coup in Brazil was in 1964, data used in this analysis starts in 1970

[13] The period 1970-1986 had an average rate of inflation growth of 95% with a maximum of 200% in 1984 and a minimum of 35% in 1976;while the period 1987-1994 had an average of 1,300%, ranging from 248% in 1987 to 2,300% in 1990

divergence appear. In particular, Argentina experienced convergence through the sixties and up until 1973, when a decade of divergence began. The eighties, on the other hand, do not have strong convergence and, if any, only weak convergence. In the case of Brazil, the period with no convergence was precisely in the eighties while between the mid-seventies and the mid-eighties there was strong convergence. The reason for this, as mentioned before, is mainly because of the Brazilian economic "miracle". When considering political and macroeconomic variables, for the case of Argentina the results are compatible with the theory much more than in the case of Brazil. Overall, it can be concluded that political and macroeconomic variables do seem to have an effect, although there is no conclusive evidence in the case of Argentina and Brazil.

IV. THE EUROPEAN UNION AND MERCOSUR

In this section I will describe both MERCOSUR and the European Union in terms of disparities. Both areas are facing important challenges at the moment, given that enlargement and deepening integration are significant issues in each region's agenda. While MERCOSUR has incorporated Bolivia and Chile as associate members, the European Union is also facing significant challenges. Not only has the EU been deepening its integration (with the strengthening of institutions and monetary integration) but also going ahead with the enlargement to the Eastern European countries. On the other hand, the Free Trade Area of the Americas is an ambitious initiative, which poses great challenges in terms of policy and integration that will have to be addressed. In this context the European experience in terms of disparities will not only be useful for the member countries of MERCOSUR but should also be considered for a possible FTAA.

Disparities within MERCOSUR

The Common Market of the South (MERCOSUR) was created in 1991 with the signing of the Treaty of Asuncion between Argentina, Brazil, Paraguay and Uruguay. The objective was the creation of a common market by 1995. MERCOSUR stands out in

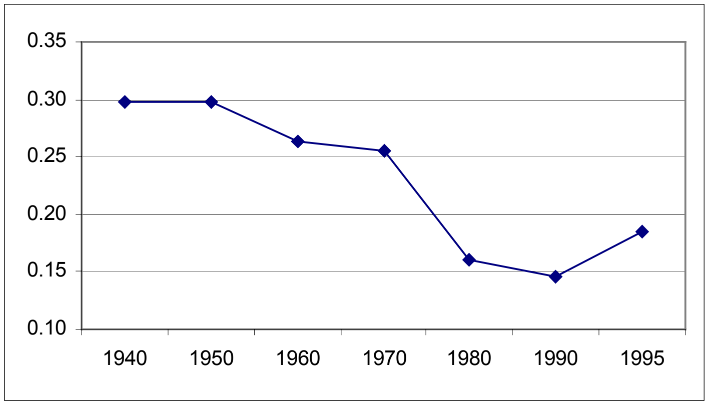
[14] For the political variables the coefficient was positive (0.08) and not significant (0.14). For the macroeconomic variables the coefficient was also positive (0.04) but again not significant (0.16)

importance in Latin America, since it accounts for more than half of the GDP, one third of the population and seventy percent of total land in South America. Moreover, disparities between the four member countries are pronounced. While Argentina and Uruguay are both about 20% above the average MERCOSUR income per capita in 1995; both Paraguay and Brazil are below the average by more than 40% for the former and by 20% for the latter.

As opposed to the European Union, there are no common institutions that deal with regional policy issues. In fact, MERCOSUR lacks regional institutions and supra-national bodies. Much of the negotiation process relies merely on the political willingness to negotiate. Although since the creation of MERCOSUR trade flows between the member countries and particularly between Argentina and Brazil have increased; these are mostly determined by the macroeconomic conditions of both countries and given that there is a serious lack of coordination on macro policy, this hinders the integration efforts.

I have performed sigma and beta analyses for the four member countries since 1940 to 1995. It can be seen in Figure 3 that the variability of income per capita, as measured by the logarithm of GDP, has decreased continuously between 1940 and 1990 and finally increased in the first half of the nineties. The most significant drop in the indicator is during the seventies. Caceres and Sandoval (1999) also performed a sigma analysis on the Latin American countries and divided it into areas. Regarding MERCOSUR, they found a decrease in the sigma indicator extending from 1952 until 1982; which was particularly strong in the seventies given the high growth of Brazil during the fifties, sixties and seventies, Paraguay in the sixties and seventies and the low growth rates of both Argentina and Uruguay, the countries with highest income per capita at the beginning of the period. Robson and Ramlogan (2002) also find evidence of convergence for the seventies (although they only study Latin America as a whole). For the eighties, however, they find evidence of divergence at the end of the eighties. They explain this by the fact that while all countries suffered severely of the recession in the eighties, in the second half growth returned to some economies, usually the richer ones and therefore convergence came to a halt. In the nineties, despite the introduction of reforms, the countries most favoured by these were the richer ones and therefore divergence seems to be the rule.

FIGURE 3



Source: own calculations

An absolute beta convergence analysis reveals that there is convergence for the whole period with a negative coefficient on initial income, which is significant only at the 10% level (Table 3). However, when dividing the whole period into two sub-periods extending from 1940-1970 and 1970-1995 it can be seen that for the first sub-period there is no convergence (the coefficient is negative though not statistically significant) while the second one displays convergence. When further analysing into decades[15], it can be seen that the only two periods that have a significant coefficient are the seventies and the first half of the nineties. During the seventies, a highly significant coefficient is found, implying strong convergence for the period. By contrast, in the period 1990-1995 there is strong divergence.

These results coincide with the preliminary ones as seen in the sigma analysis. Robson and Ramlogan (2002) also performed beta convergence for Latin America as a whole. They found convergence for the period 1960-1990 although the coefficients were not significant. However, they conclude that the period in which convergence rates were highest was between 1970 and the early 1980s, while from then onwards convergence seems to have disappeared. Although no formal analysis of the impact of macroeconomic

[15] Only the results of the two decades in which the coefficient is significant are presented on Table 3

and political variables has been performed here, macroeconomic conditions do seem to have an impact on convergence.

TABLE 3

Period	Beta	R^2
1940-1995	-0.54 (0.32)	0.58
1940-1970	-0.29 (0.35)	0.26
1970-1995	-0.26 (0.12)	0.72
1970-1980	-0.38 (0.12)	0.93
1990-1995	0.25 (0.08)	0.84

Note: The standard errors are given in parentheses

Source: own calculations

Although there seems to be convergence between the MERCOSUR countries for the period 1940-1995, it must be noted that, once again, when dividing into sub-periods, the only one that displays strong significant convergence is the seventies, in accordance with the sigma indicator found by Caceres and Sandoval (1999) and the beta convergence results of Robson and Ramlogan (2002), which although for Latin America as a whole also apply to this. The reason for this strong convergence in the seventies can be found partially in the results of the previous section, since during the seventies, the two most important economies of MERCOSUR (Argentina and Brazil) experienced divergence and convergence respectively and while Argentina (the country with initial highest income per capita) slowed its growth, Brazil increased its GDP per capita in that period.

The European Union

In 1958, when the European Economic Community (EEC) was created, disparities between the original six members were few. The country with the lowest percentage of

EEC-6[16] average income was Italy, 18% below, while the highest was Luxembourg that was 40% above average. By the time of the first enlargement to Denmark, the United Kingdom and Ireland, the country with the lowest income was Ireland, 40% below Community average income. With the further addition of Greece (1981) and Spain and Portugal (1986), disparities in the community were further enlarged[17]. Although the further enlargements that included Austria, Sweden and Finland did not represent a major challenge in terms of disparities, the proposals in Agenda 2000 for an enlargement towards the Eastern European Countries will add a further pressure in terms of disparities[18].

Several institutions for tackling the regional problem were implemented in the EU along the years. However, regional institutions expanded primarily in response to developments within the EU, in particular after the enlargements. At first, the Treaty of Rome did not include this issue since it was left primarily to national governments. After the first enlargement and particularly after the second and third ones it became evident that a stronger institutional framework would be needed. The European Regional Development Fund (ERDF) was created in 1975 with a further strengthening in 1988 to adapt to the increase in disparities. The Treaty of Maastricht in 1991 introduced the concept of cohesion as one of the three pillars of the new European Union and the major innovation was the creation of the Cohesion Fund[19]. The growing importance of regional policies within the EU can also be seen by the funds devoted to structural policies. While this accounted for 3.7 billion ECU (European Currency Unit) in 1987, it increase to 18.3 billion in 1992, reaching 36 billion by 1999[20].

[16] EEC-6 refers to the period 1958-1973 and includes the original six members of the EU. Consequently, EEC-9 and EEC-12 comprise the periods 1973-1988 and 1988-1995 respectively and include the member countries in those periods. The sub-periods were defined not in terms of membership but in terms of regional developments in the EU.

[17] These three countries increased the community's surface by 48% and population by 22% but only added 15% to GDP, CEC (1997)

[18] This enlargement will increase surface by 34%, population by 29% and GDP by only 9%. Moreover, the average GDP per capita of the applicant countries is estimated at 38% of EU average (that of the nowadays four less favoured members is calculated at 74%), CEC (1997)

[19] For more in-depth analysis of regional policies in the EU see Chapter 13 of Glöckler (1998) and Lopes Porto (1997) Part IV.

I have performed sigma and beta analyses to three sub-periods within the European integration process, EEC-6 (from 1960 to 1973), EEC-9 (from 1973-1988) and EEC-12 (from 1988-1995)[21]. The main conclusion in the European experience is that convergence of regional disparities has been hard to achieve[22]. Even after fifty years of integration, regions seem to be more reluctant to converge than countries. While both countries and regions converged in the first period, this convergence was stronger in the case of the countries. The convergence found in the first period for the regions is often associated mainly to migration flows. In the period 1973-1988 while countries seem to converge (probably reflecting the decrease seen in the sigma analysis for the late seventies), regions display a non-significant coefficient. In the last period, again countries converge while regions have non-significant coefficients, albeit of the right sign. Therefore, disparities within the European regions seem to have remained mostly unchanged in this last period, despite of Community efforts in terms of regional disparities. This does not mean that regional policies did not have positive results but that convergence among regions are harder to achieve that those between countries and it takes a longer time to reduce them.

Tavera (1999) has also analysed disparities in the EU between member countries for the period 1960-1995 and overall, he found convergence. However, there was no evidence of convergence for the period 1975-1985 and the author relates this slowing down in the process of convergence to economic crises such as the oil shocks. Studies associating macro and political variables are very recent and have not yet been performed for specific areas, with Europe not being an exception. Although there are no formal studies, a few authors suggest the link between them. Petrakos and Tsoukalas (1999) find evidence of increases in spatial concentration in Greece associated with the country's deviation from democracy. Moreover, Tavera (1999) attributed the poor growth of the Spanish economy in the period 1970-1975 to major political changes causing internal imbalances.

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[20] Selected Committee on the European Communities, 1996/1997

[21] Data used in this analysis is from Eurostat, NUTS 1 classification

[22] These results are not reported in this section but in the Appendix since they are not part of the main analysis.

Challenges for the MERCOSUR countries

The main lesson that can be derived from the European Union experience is mainly that convergence is hard to achieve, despite policy efforts, particularly between regions. However, disparities in MERCOSUR are much more pronounced than in the European case. When considering Argentina and Uruguay's percentage of average MERCOSUR income per capita, they would represent the case of Luxembourg in the European Union. On the other hand, Brazil could be compared with Italy in the seventies and Paraguay to Portugal and Greece.

One of the most important differences between both areas is the rationale for integration. In the case of the EU, war provided a strong political will that would enable to delegate national power to supranational institutions and sort obstacles for integration. In the case of MERCOSUR, however, the rationale behind forming an economic area was to insert the economies into the world markets. Therefore, in MERCOSUR, the integration efforts are more dependent on the political leaders' willingness to negotiate rather than an integration effort as such. This explains the lack of institutions and supranational bodies.

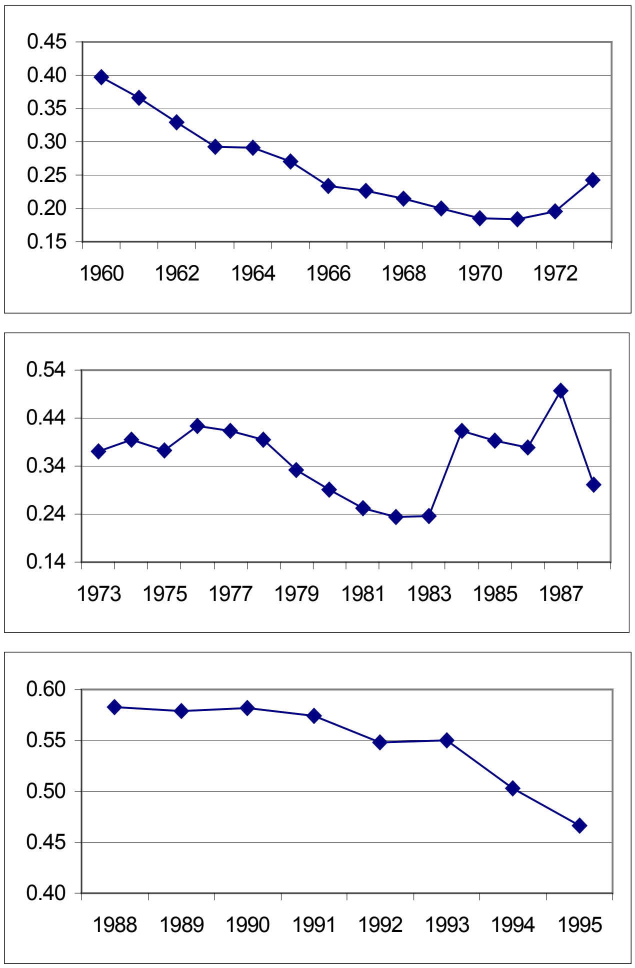
V. CONCLUDING REMARKS

In the case of Argentina and Brazil, converge has proved hard to achieve and there has been little but indicative evidence of a negative impact of instability (both macro and political) on convergence. When looking at the four countries that form MERCOSUR, it can be seen that again convergence seems to differ according to the sub-period chosen for the analysis. On the other hand, in the case of the European Union, although evidence of convergence is generally found between countries, this also varied according to the sub-period chosen. A link between political and macroeconomic variables with convergence is again not conclusive but suggestive. Moreover, disparities between European regions were proved harder to converge than those among countries.

The European experience in terms of disparities is extremely useful to derive conclusions for MERCOSUR given that despite the importance that community regional policies have received over the last years, convergence was not an immediate result. Also, neo-classical theories are not valid and given that disparities are not automatically reduced, regional policies should be implemented. As mentioned before, MERCOSUR lacks any community policies and supra-national bodies. The importance of regional policies that can redistribute income within the region as well as supra-national entities that can coordinate policies in order to avoid instabilities that may hinder the convergence process in the region becomes crucial. This conclusion is even more significant if one thinks in terms of the Free Trade Area of the Americas initiative that will comprise all 34 American economies, with larger disparities. The issue of regional policies should therefore be included in these agendas if integration is to be successful.

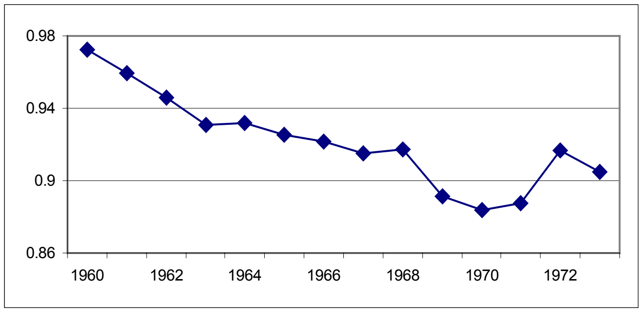
APPENDIX: Sigma And Beta Convergence Analyses In The European Union (By Countries And Regions)

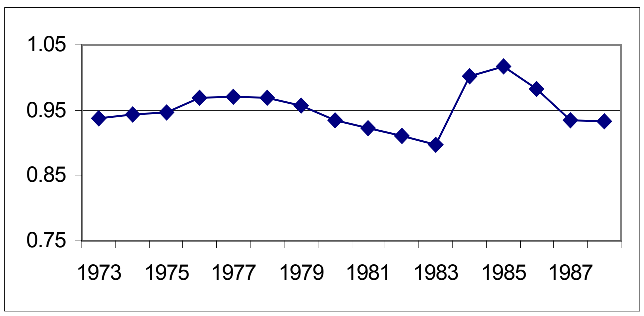
SIGMA CONVERGENCE : EU COUNTRIES

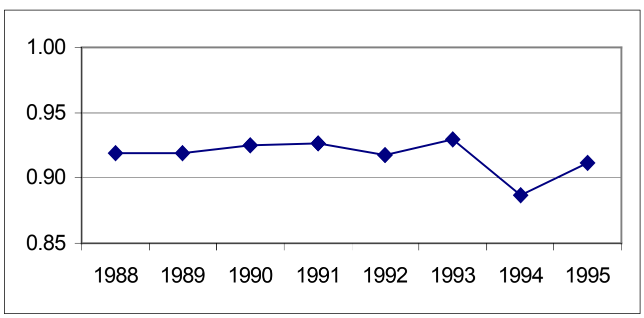


Source: own calculations

SIGMA CONVERGENCE: EU REGIONS







Source: own calculations

BETA CONVERGENCE IN THE EU (COUNTRIES AND REGIONS)

Period	Beta	R^2
Countries		
1960-1973	-0.45 (-0.14)	0.73
1973-1988	-0.28 (0.05)	0.82
1988-1995	-0.24 (0.08)	0.49
Regions		
1960-1973	-0.1 (0.04)	0.18
1973-1988	-0.04 (0.04)	0.02
1988-1995	-0.1 (0.1)	0.1

Note: The standard errors are given in parentheses

Source: own calculations

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