EUROPEAN UNIVERSITY INSTITUTE
DEPARTMENT OF ECONOMICS

EUI Working Paper **ECO** No. 2004 /26

The Impact of Regional Integration on Economic Convergence and Growth

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Published in Italy in October 2004
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The Impact of Regional Integration on Economic Convergence and Growth*

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September 2004

*I would like to acknowledge the participants to the First Conference of the *Euro-Latin Study Network on Integration and Trade* for their comments, in particular the speakers Gino Gancia, Hubert Kempf, Nicole Madariaga and Jacques Thisse, and the discussants Gabriel Felbermayr, Renato Flores, Eduardo Loyo, Pablo Sanguinetti and Cristina Terra for their contributions. A first version of this paper was presented at the Foro "Aportes academicos de la primera reunion de la red Euro-Latinoamericana de estudios sobre integracion". I would like to acknowledge Federico Sturzenegger for his comments. I would also like to thank the precious assistance of Gabriel Felbermayr and Davide Sala.

1 Introduction

The main objective of this paper is to analyze the role of regional integration agreements for growth and convergence, by reviewing some recent contributions in the field and, in particular, by relating it to the papers presented at the 1st Conference of the *Euro-Latin Study Network on Integration and Trade*. The past World Word II era has been characterized by an increasing international integration of goods markets, with the salient characteristic of developing countries joining the world economy during the last two decades. It has being associated also to the development and expansion of regional integration agreements, covering a larger fraction of international trade. The move towards free trade is the result of an important change on the views of both economists and policymakers concerning trade policies, from supporting *import substitution* to support *export-oriented outward-looking* policies.

In the last decade, a huge amount of evidence has been accumulated showing a significant correlation between growth and other variables as trade, openness, quality of institutions, and geography. However, the causal relations are still controversial and case studies tend to show a huge diversity on the relation between economic policies oriented to trade openness and economic performance. This is particularly true for the relation between regional integration agreements and growth. The European Union, for example, has been successful in helping Ireland and South European countries to converge to the living standards in leading countries. EU acceding countries have faced high growth rates in the recent years and they expect to converge to the per capita GDP level of rich European countries in the near future. It is then important to understand what are the relevant conditions under which such integration agreement have played the role of a feasible growth strategy, while other regional integration experiences have not. This could be of a great importance for Latin America, involved in deep processes of regional integration, as NAFTA and Mercosur, and challenged by the creation of the FTAA.

2 Integration and growth: The evidence

2.1 Global market integration

There is virtually no dispute over the fact that the international integration of goods markets has increased steadily during the entire post World War II era. Figure 1 shows world output and world exports over the last fifty

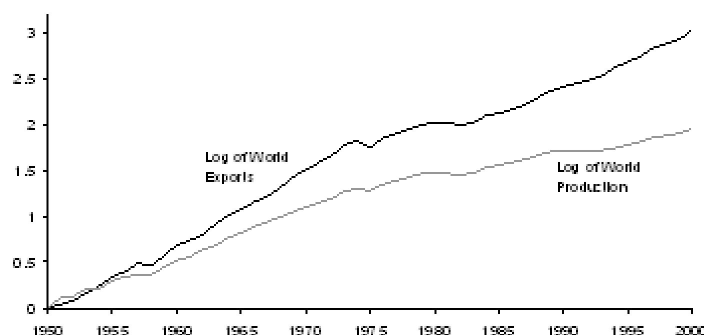

Figure 1: Indices of world production and exports (relative to 1950).

years.[1] Two things stand out. Firstly, exports have been growing faster than production. While the index of world production has increased 6-fold, the index of world exports has been multiplied by 20 in the 1950-2001 period. Secondly, the evolution was not smooth. We observe two periods during which global integration increased strongly, 1950-74 and 1986-2001, and one period of relative stagnation. We now use two different indicators of the degree of global integration to understand what events characterize these three subintervals.

The world average of total trade flows (imports and exports) as a share of GDP, from the Penn World Tables, reveals a pattern that looks quite similar to the one described in Figure 1.[2] In Figure 2, it appears that current and constant price measures of the trade share move very much in line throughout the whole time span, with the exception of a major shift which occurred from 1971 to 1974. This pattern is a direct implication of the oil-price shock which triggered a sharp increase in the price of tradeable goods relative to non-tradeables.

Having attributed the jump in the early seventies to the increase in oil prices, the next question that arises is: what happened around 1985? The answer is that developing countries have joined the world economy. To illus-

[1] Source: World Trade Organization, World Trade Statistics, table II.1 "*World merchandise exports, production and gross domestic product, 1950-01*", available from www.wto.org. Note: World merchandise production differs from world GDP in that it excludes services and construction.

[2] See Heston et al. (2002). In Figure 2, we use openk and openc variables in the Penn World Tables mark 6.1. The sample consists of 107 countries that are observed over the entire time span. While earlier releases of this data (the PWT mark 5.6. for example) only provided a measure of the share of trade in GDP in current prices, the new data also provides an index in constant (1996) prices.

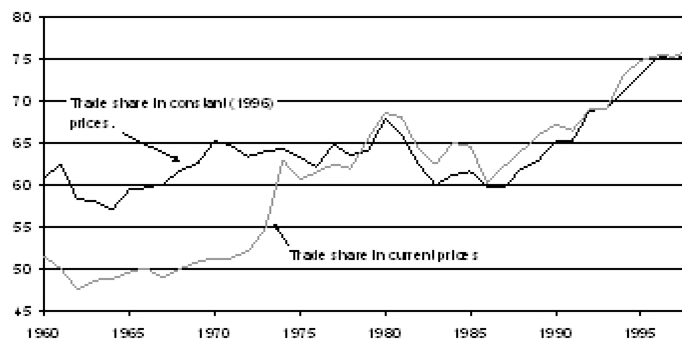

Figure 2: Exports plus imports over GDP in current and constant (1996) prices, 1960 to 1998, cross country averages.

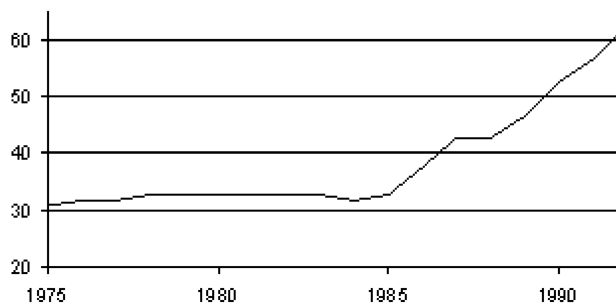

Figure 3: The share of open economies in a total of 101 countries (percentage), 1975-1992. Source: Sachs and Warner (1995).

trate this fact, we use the openness index introduced by Sachs and Warner (1995), henceforth SW, and updated by Easterly et al. (2003). This index classifies an economy as closed if at least one of the following criteria is met: (i) a black market premium larger than 20 percent, (ii) the government has a purchasing monopoly on a major export crop, (iii) the country is socialist, (iv) own-imported-weighted average frequency of non-tariff measures (licenses, prohibitions, and quotas) on capital goods and intermediates is larger than 40 percent, (v) the own-imported-weighted average tariff on capital goods and intermediaries is greater than 40 percent.

Figure 3 shows how the fraction of countries classified as open evolves over time. This ratio was approximately constant until 1985 and then started to rise. Strikingly, if one looks at the identity of countries, it turns out that almost all open countries up to 1985 are the current, as of 2003, OECD

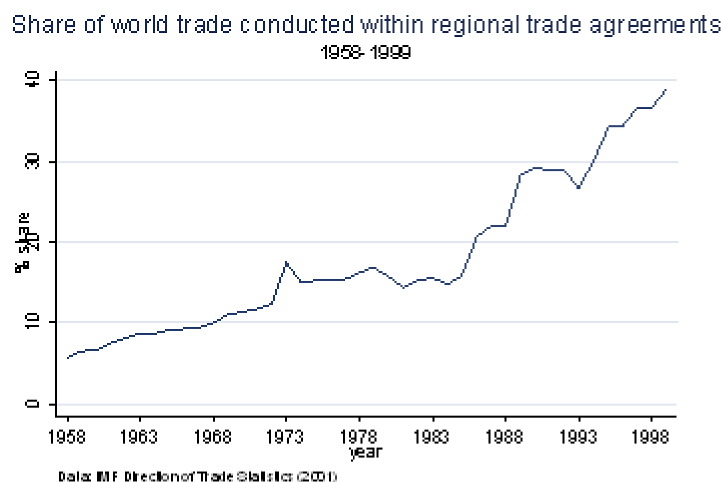

Figure 4: Share of trade conducted within regional trade agreements.

members. Thus, 1985 marks the entry of developing countries into the world economy.

2.2 The increasing importance of RIAs

A regional integration agreement (RIA), or regional trade agreement, is an institutional arrangement, through which two or more countries engage on some common institutions, involving in particular trade and non trade barriers. It can range from a *Free Trade Area,* designed to reduce or eliminate trade barriers among members, to a *Monetary Union* where independent nations agree on sharing a common currency, on amount of a highly integrated common market with free mobility of production factors.

Regional integration agreements have steadily become more and more important in the post World War II era. Figure 4 tracks the share of total world trade conducted within regional trade agreements since 1958. This share is increasing for two main reasons. Firstly, the number of regional trade agreements has being permanently increasing from the seventies, with an important acceleration at the beginning of the nineties.

Secondly, trade between countries in regional trade agreements has been growing faster than trade between countries outside such agreements. Table 1 below looks at the average growth rate of bilateral trade volumes (in 1996 dollars) of countries that have been part of the same regional trade agreement. Trade between countries, which did not belong to the same RIA

was expanding at a rate of 3.70% per year, while trade between countries belonging to the same RIA typically grew at a rate much larger than this.

It is also important to notice in Figure 4 that the share of world trade conducted within RIAs accelerates around 1985, showing the importance of RIAs for the globalization phenomenon described in the previous section.

Table 1[3]
Average growth of bilateral trade flows

	avg. growth of trade
EU/EC	6.50%
USIS	6.81%
NAFTA	8.65%
CARICOM	4.23%
ANZD	4.25%
CACM	7.64%
MERCOSUR	7.48%
ASEAN	14.18%
No RTA	3.71%

Source: IMF Direction of trade statistics

2.3 Openness and growth

There is clear evidence on a positive correlation between growth and trade shares in cross country studies. However, the existence of a causal link is under debate, implying that there is no general agreement on the observed impact on growth of different economic policies oriented to trade openness. Frankel and Romer (1999) support the optimistic view by claiming that increasing the trade share by 1% point, raises GDP per capita by 2.4%.

As stressed by Baldwin (2003), economists and policymakers have changed their views concerning trade policies from supporting *import substitution* during the 50s and 60s to support *export-oriented outward-looking* policies from the 70s. Trade liberalization and openness to foreign direct investment are among the recommendations of the Washington Consensus. The large increase in trade openness reported in section 2.1, in particular from the middle of the eighties, is a clear implication of this change in policy recommendations. But, are policies addressed to open a country to international trade growth enhancing? As claimed by Wacziarg and Welch (2003), even if trade liberalization has, on average, robust positive effects on growth, there is a

[3]USIS: United States - Israel, CARICOM: Caribbean Common Market, ANZD: Australian - New-Zealand Free Trade Agreement, CACM: Central American Common Market.

considerable amount of heterogeneity in countries' experiences with trade reforms. They claim that successful cases are related to trade reforms that were *sustained*, i.e., countries continued to deepen trade reform after the time of liberalization, *broad-based,* of which trade liberalization was only a part, and implemented under *political stability.*

Rodrik (2003b) analyzes the recent growth experiences and takes some general lessons for growth and development. His conclusions are close to those by Wacziarg and Welch (2003). In order to understand the clues of successful economic policies he defines what he calls a *growth strategy*, i.e., "economic policies and institutional arrangements aimed at achieving economic convergence with the living standards prevailing in advanced countries." He claims that growth promoting policies tend to be context specific, implying that cross-national growth regressions do not provide reliable and unambiguous evidence. Moreover, from the study of national experiences he concludes that first-order economic principles do not map into unique policy packages. To support this argument, he observes that polices undertaken by high performing East Asian countries exhibit significant departures from the Washington Consensus, at the time that Latin America made the most determined attempt at remaking itself in the image of it, but reaping little growth benefits. He points out that a successful growth strategy should be based on "microeconomic policies aim to achieve static and dynamic efficiency in the allocation of resources. Macroeconomic policies aim for macroeconomic and financial stability. Social policies target poverty reduction and social protection."

In particular, concerning trade liberalization, Rodrik claims that it is good for economic performance only if some side conditions are met. Let me refer to some of these conditions:

- Liberalization must be *complete.*
- If there are some market imperfections, *second best policies* must be applied.
- The income *redistributive effects* should not be judged undesirable by society at large, otherwise a compensatory scheme must be implemented.
- The liberalization must be politically *sustainable and credible*, so that agents do not fear a reversal.

Finally, Rodrik stresses the importance of high-quality institutions for long run growth, a crucial problem for developing countries. As reported

by Rodrik (2003a), there is clear evidence on a relationship between the quality of institutions, the degree of integration and geography on one side and economic growth on the other. Rodrik et al (2002) claim that there is primacy of institutions over geography and integration in economic growth.

2.4 The impact of RIAs on growth

As stated by Venables (2000), the traditional effects of RIA's membership include the benefits and costs of trade creation and trade diversion, its impact on foreign direct investment, and the gains from a large scale and competition. Venables points out that in a world of market failures, the welfare effects of RIAs may be positive or negative, as a direct application of the second best principle. The global reduction of all trade barriers allow firms and consumers to buy from the cheapest sources, which is welfare improving. However, the partial reduction in barriers generated by the creation of a RIA shifts discrimination between sources of supply, which may divert trade from a cheap to a more expensive source.

The recent explosion of RIAs has been extensively analyzed over the last years. Fernandez (1997) classifies the main factors behind it in traditional and non traditional gains from regionalism. The non traditional gains include political factors and institutions. Regional integration raises reciprocal trust, contributing to create a peaceful environment. It also avoids the time inconsistency problems typically associated to unilateral trade liberalization, which helps improving the conditions for stable institutions. Finally, it works as an insurance against any form of trade war, which is particularly beneficial for small and poor countries by providing them with a more stable international environment. These are the basic arguments in Venables and Winters (2003) to explain the success of the European Union, as referred below in section 2.6.

2.5 Currency Unions and growth

In the recent years, a bunch of papers have estimated the impact on trade and growth of *currency unions*. Frankel and Rose (2002) claim that currency unions promote trade, by reducing the costs of international transactions, and by eliminating the possibility of exchange rate changes between members of the currency union. In a cross country study, they use a two stage approach to estimate the impact of currency unions (and currency boards) on trade, and then through trade on growth. Data on bilateral trade are used to estimate *gravity models*. They find that belonging to a currency union triples trade with other currency union members, but that sharing both a currency and

a political system increases trade by twenty times. They do not finding evidence of trade diversion. In a second stage, they find that a one percent increase in a country's trade (relative to GDP) raises income per capita by at least one-third of a percentage point. Consequently, accession to a currency union would have a large impact on per-capital income through trade creation.

Frankel and Romer's results have been criticized for two fundamental reasons. Firstly, most currency union members in their sample are poor and small countries. Secondly, estimations are affected by endogeneity bias: it may be the case that countries join currency unions constituted by trade partners. In a more recent paper, using panel data estimators to circumvent the possibility of reverse causality in gravity models, Micco et al (2003) estimate the impact on bilateral trade of European Monetary Union membership. Controlling for European Union membership, they show that affiliation to the EMU has a positive effect on bilateral trade, even if the estimated effect is much smaller than the one estimated by Frankel and Rose.[4] This result is particularly interesting, since the EMU is an extreme case of regional integration agreement, which goes far beyond trade policies, and in many respects fulfills the side conditions postulated by Rodrik in order to trade liberalization be growth enhancing.

2.6 The European experience

The integration process undertaken initially for some few European countries with the main objective of preventing a future conflict in Europe has converged in our days to the most successful regional integration agreement observed during the last century. In a recent paper, Venables and Winters (2003) stress that the success of the EU is largely based on the following pillars:

1. In the process of creating the European Union, a *deep microeconomic integration* has been built step by step, making it almost impossible to regress or exit.

2. The establishment of *common political institutions* (the European Commission and the European Central Bank, among others), playing the role of the *guardians* of integration, has been crucial to persist on the integration process even in the most difficult periods.

[4] Gravity models are in a large extent supported by economic geography arguments. Among the variable included are size, measured in terms of GDP or population, distance, common borders, common language. See Ottaviano and Thisse (2003).

3. The Union is based on the principle of generalized *reciprocity*, which entails *redistributive policies* in particular to new acceding countries.

Among the achievements of the EU, I would like to stress its role as a *growth strategy*. Ireland, Portugal and Spain reached the status of developed countries after acceding to the EU. Greece and the new acceding countries have the same hope. South acceding countries benefit from trade creation, at the time that they import good and stable institutions and profit from regional redistributive policies. The accession to the EU gives national governments the unusual possibility of introducing a large number of reforms without facing an important social resistance. This is the key role of the so-called *aquis communautaire*, complemented by the use of the Structural and Cohesion Funds. Accession is conditional to a certain number of reforms, which local government can implement because the national society gives a high value to membership and European transfer payments facilitate the use of redistributive policies. More important, these reforms are politically sustainable, given that the reversal is unlikely. Most of the credibility problems faced by economic policy in developing countries are counterbalanced by the prospect of European stable institutions. The Euro is the best example. Since the signature of the Maastricht Treaty, the historical experience of high inflation in some countries does not seem to matter for expectations any more, allowing national inflation rates to converge to very low values. Finally, the prospect of convergence in per capita GDP is supported by transfers to the poor regions, the Structural and Cohesion Funds referred to above.

3 The role of Institutions

There is a large agreement among economists on the existence of a positive relationship between the quality of institutions and the economic performance of a society. The sense of causality, however, is still controversial. One of our duties, as economists, is to advice policy makers on the efficiency of both existing institutions and alternative reforms. The standard analysis we carry out in order to accomplish this duty is normative. We use economic theory to evaluate the efficiency of different institutional arrangements, and eventually provide a quantitative evaluation of reforms. When we perform this type of analysis, we assume that institutions are exogenous and cause economic performance, and we look for the appropriate formulation of the relevant economic mechanisms associated to the institutions under evaluation.

However, the ways in which societies decide on their own institutions are endogenous and highly related to economic performance itself. A positive

theory of institutional change is then required, in which the appropriate mechanisms from growth to institutions needs to be conveniently modeled.

These general principles apply to the evaluation of the relation between RIAs and growth. From the normative point of view, we are interested in understanding the impact of different integration agreements on economic performance and growth. From the positive side, we are interested in understanding the (economic) conditions under which such agreements are a political equilibrium.

Are RIAs good institutions? What is the optimal design of a RIA? How do they affect the economic performance of a society? Under which conditions do we expect countries to decide to become part of a RIA? How economic conditions affect the design of RIAs? Gancia (2003) and Kempf and Rossignole (2003) provide a (partial) answer to these questions. Gancia does it from the normative side and Kempf and Rossignole from the positive side.

3.1 The normative role of economic institutions

A good understanding of the normative role of institutions is of a great importance for economists and policymakers. This principle is particularly true for the development problem, where the well functioning of economic institutions is a crucial requirement for growth.

Gancia (2003) is a good example of the joint impact of integration and institutions on economic growth. His paper focuses on one of the most important institutions fostering innovation activities: the protection of intellectual property rights (hereafter IPR). Under the assumption that *South* countries provide in general low protection to IPR, the paper shows that trade openness has two main effects. Firstly, it shifts technical change in favor of *North* countries, since some rents from innovation are lost in Southern industries due to low protection of IPR. As an implication of this reallocation of economic activities, and the associated increase in the relative intensity of R&D in North countries with respect to South countries, between-country income inequality may change in favor of North countries. Secondly, trade openness may reduce growth even in North countries. This result is a direct application of the *second best* principle. The removal of a distortion (trade barriers) is not necessarily good for growth and welfare in a world where IPR are not fully protected. The most important normative lesson for regional integration is that, if market integration goes with protection of IPR, trade benefits dominate and integration is good for growth.

Gancia's results are based on the following assumptions. Sectorial productivity is decomposed in an exogenous country specific term, determining

comparative advantages, and a current state of technology, which results from R&D activities, may be adopted by any country and is subject to IPR protection. North countries provide full protection to IPR, but South countries provide partial protection, which affects negatively patent owners producing in the South country. The world is Ricardian and North and South countries specialize in the production of those goods for which they have comparative advantages.

In his report, Renato Flores makes some interesting suggestions. In particular, he points out that Gancia's framework may be extended to analyze the WTO's Agreement on Trade-Related Aspects of IPRs (TRIPS). One of the two basic principles of the TRIPS Agreement is the *national treatment* condition, establishing that foreigner goods must receive the same treatment as national goods. This principle must be recognized by the local legislation, which can be easily monitored. However, another important issue of the TRIPS Agreement is how to deal with *enforcement* of the local legislation. Flores suggests to separate legislation from enforcement, by taking into account that enforcement is costly and difficult to monitor by third parties. This would help to understand the normative implications of the TRIPS Agreement.[5]

The theoretical results in Gancia are consistent with the evidence in Rodrik et al (2002) and Easterley and Levine (2002), showing that the correlation between trade and growth disappears after controlling for the quality of institutions and addressing endogeneity issues. Additionally, Gancia provides some empirical evidence on a positive effect on growth of the interaction between IPR protection and openness.

As a general lesson, we should read Gancia's paper as a defense of the simultaneous use of trade liberalization and economic reforms that look for the promotion of good economic institutions. Protection to intellectual property rights is a particular case. As an application to North-South RIAs, it supports the view that trade integration should be followed by a deep integration process helping South countries to import stable, good economic institutions from North countries. This is in line with the side conditions put forward by Rodrik (2003b) and with the pillars of the European Union described by Venables and Winters (2003).

[5] Gancia assumes that the degree of protection depends on industry location. Imports in South countries are fully protected, since they are produced in the North, but exports to the North countries are partially protected, since they are produced in the South. Alternatively, the degree of protection may apply to goods consumed in the local market irrespective of the origin. Under this assumption, the TRIPS Agreement makes sense, since South countries may protect their own industry by imposing different degrees of IPR protection to national and foreign goods, or by having different degrees of enforcement.

Gancia stresses that free trade needs efficient institutions and that institutional quality has global repercussions (the failure of Southern IPR protection also reduces Northern growth). Thus, countries should have an incentive to adopt common institutions, such as in a RIA. These institutions are essentially public goods. Kempf and Rossignole (2003) discuss the political economy dimension of this issue.

3.2 The political economy of integration

Normative considerations on the welfare gains of RIA membership are not enough to guarantee that countries actually want to integrate. The process of creation of the European Union is a good example. The support to new treaties is voted at the national level, with some well known cases of rejection. To avoid stagnation in the advance of the integration process, the Union has followed in some occasions a *two-speed* strategy, in which some few countries do not adopt a new treaty. It has been the case of the Maastricht Treaty, the creation of the European Central Bank and the adoption of the Euro. The enlargement of the EU faces a similar difficulty, as it is the case of the creation of the Free Trade Area for the Americas. A deep analysis of the conditions under which countries would like to be part of a RIA is of fundamental relevance.[6]

Kempf and Rossignole (2003) analyze the political economy of integration. In their paper, economic integration yields dynamic benefits, but at the same time it entails distributional outcomes.[7] Consequently, even in a world where integration is efficient, its impact on the distribution of income may create national resistance. Kempf and Rossignole also claim that integration agreements are highly irreversible, implying that when adopted such an institutional reform is stable.

In an endogenous growth framework with scale effects, Kempf and Rossignole take the benefits of integration as granted, and analyze the national decisions to integrate in a two country model of the median voter. Technology is constant returns to scale on capital and labor, and total factor productivity depends on public goods, giving rise to an endogenous growth model of the AK type with scale effects. The government rises income taxes to finance the production of the public good and the political system decides on the magnitude of the tax rate. Individuals have different (initial) non-human wealth, and consequently different preferences on the tax system. Poor agents pre-

[6] This is related to the recent literature on the number and the size of nations. See Alesina and Spolaore (1997).

[7] Kempf and Rossignole (2003) is highly related to the literature on RIAs referred in section 2.4.

fer high taxes, paid mostly by rich individuals, which allow the government to produce a high amount of the public good, increasing labor productivity and wages. In Kempf and Rossignole the world economy is formed by two countries having the possibility of integrating in a Union if both national median voters agree on it. Integration has three effects on the welfare of the national median voters. The first, the *efficiency effect*, is strictly positive since integration has a positive scale effect. The second is called the *status effect*. Integration may remove the key policy-making position of the national median voter, which is unambiguously costly for him. The last is the *position effect*, which is related to the change in the median voter's position on the income distribution, in particular with respect to the Union's median voter. This last effect is ambiguous. Consequently, it may be the case that both national median voters do not agree simultaneously on the creation of a Union, which basically depends on the relative size of countries, on how unequal countries are in terms of initial wealth and on how unequal national median voters are.

Pablo Sanguinetti, in his comments, pointed out that the proposed model applies mainly to problems of *regional economic integration*, where efficiency gains are the result of lower tariffs and extended markets, and redistributive costs are associated to changes in sectorial rents and relative wages. In particular, this theory has some predictions for North-South integration agreements: gains are potentially large for South countries, but relatively small for North countries. In the recent history of the European Union, where most countries voted in referenda whether to support the Maastricht Treaty, major resistance came from rich (North) countries.

A key open question is why the European Union is still interested in enlargement, in particular to the East. The core countries have created the union to render a new war impossible, but they are still promoting enlargement. Are scale effects from enlargement large enough for rich European countries promote it? On the other side, it seems clear that Eastern European countries are highly interested in acceding, because they expect major gains from converging to the level of welfare in most rich European countries. Differences in wealth with respect to the average EU member are so large that the position effect should be positive and combined with the efficient effect they should dominate the status effect. Similar questions can be raised concerning the creation of the FTAA, taking into account the large asymmetry between the rich and large US and the highly heterogeneous, relatively poor Latin American countries.

4 The role of geography

In the process of economic integration of independent nations, geography plays a crucial role. Most integration agreements are geographically based, since the interaction of economic activities across national borders tends to be as important as within national borders when countries are relatively open to trade. Over Europe, there are many examples of economic regions overlapping two or more nations. The increasing economic importance of Mexican regions in the US borders, after the signature of NAFTA, is another example. Moreover, one of the main consequences of RIAs is that economic activities shift national borders and are reorganized after the signature of the integration agreement. As pointed out by Venables and Winters (2003), one of the pillars of the European Union is the achievement of a deep microeconomic integration. This is based on a simultaneous process of agglomeration and decentralization of sectorial activities with an important increase in both intersectorial and intrasectorial trade. For these reasons, the analysis of RIAs is highly related to the new developments in economic geography.

Ottaviano and Thisse (2003) is an original survey of the recent literature on the so-called *New Economic Geography* (hereafter NEG), connecting elements of trade theory with the theory of location. The aim being to understand what are the economic forces that emerge as the outcome of human being's actions (the *second nature*) to improve upon the physical characteristics of different geographical sites (the *first nature*). Based on the *spatial Impossibility Theorem*, establishing that in a spatial economy there is no competitive equilibrium involving transportation, the NEG studies the effects of location externalities and market imperfections on the location of economic activities. In a general equilibrium framework with market failures, the NEG analyzes the interplay between agglomeration and dispersion of economic activities across the space. As an implication of the spatial impossibility theorem, non-trivial allocations of economic activities across the space are inefficient, giving place to public intervention. The design of second-best regional policies requires a good understanding of the main economic forces behind agglomeration and dispersion. This is of a great importance for the analysis of regional integration.

Agglomeration of economic activities is at the heart of the NEG. The *home market effect*, according to Helpman and Krugman (1985), establishes that imperfectly competitive industries tend to concentrate their production in large markets and export to small markets, once transportation costs are taken into account. This is the gravitation force behind the *gravity model* extendedly used in the empirical trade literature, as in Frankel and Romer (1999), where bilateral trade is explained by the size and the distance between

countries. The *core-periphery* theory, by assuming that labor is a mobile factor and workers spend their income in the region they work, predicts a stronger agglomeration of economic activities. The mobility of workers multiplies the initial advantage of large markets, amplifying the home market effect.

Finally, Ottaviano and Thisse propose two alternative models to understand the *bell-shaped curve of spatial development*: in the time evolution of the spatial distribution of population and industries "the emergence of a core-periphery structure would be followed by a phase involving interregional convergence." In particular, they argue that heterogeneous preferences on the attachment of workers to the local region may predict a bell-shaped relation between agglomeration and transportation costs. In their theoretical model, Madariaga et al (2003) has a similar prediction, but starting from a different assumption. They suppose that the poor region pays a small salary. Differences in wages introduce a *competitiveness effect* which promotes dispersion of economic activities and may eventually more than counterbalance the tendency to agglomeration of the home market effect. In Ottaviano and Thisse, heterogeneous preferences on the attachment to the local region generates differences in salaries of the type assumed by Madariaga et al, since agglomeration forces move to the rich region those workers that are less attached to their own region, implying that the remaining workers would receive a small salary, the difference in wages being related to the difference in local attachments between those emigrating and those remaining.

As stressed by Cristina Terra in her comments to Ottaviano and Thisse's paper, economic geography is a good instrument to analyze regional economic integration. It should help to understand the location decisions of firms, highly related to foreign direct investments, as well as the benefits associated to economies of scale when goods, capital and labor are allowed to move freely across national borders. In particular, it should help to understand the factors promoting agglomeration and dispersion of economic activities, and how to correct them in order to promote an equilibrate and efficient assignment of resources across countries and regions. For example, the design of redistributive policies, as the Structural and Cohesion Funds, may be evaluated from this perspective.

This is a promising research area, which would help policymakers to design good policies addressed to correct the undesirable side effects of agglomeration and dispersion, naturally associated to any process of regional integration.

4.1 Agglomeration and regional convergence

As stated in the previous section, the theoretical starting point of Madariaga et al (2003) is the bell-shaped relationship between transportation costs and agglomeration of economic activities, in a two country economy –one poorer than the other. On the empirical side of the paper, they build different measures of agglomeration of economic activities across regions in NAFTA and Mercosur separately, with the objective of measuring the effect of regional integration on agglomeration and economic convergence.

Madariaga et al (2003) measure the trends in agglomeration of economic activities across regions using different concentration measures. In a second step, they use these concentration measures in otherwise standard convergence regressions. Using a Gini index on three different variables (land area, population and sectorial activity) they find some evidence on divergence across regions in NAFTA and agglomeration in Mercosur –even if the process in Mercosur slowdown after 1991. By including the obtained agglomeration measures in otherwise standard convergence regressions, the authors claim that there is a positive relation between the growth rate and the density of economic activities. Finally, they conclude from these regressions that "NAFTA did not play a significant role in the convergence process between Mexico and the US," at the time they observe convergence across countries in the Mercosur over the period 1985-2000, with an acceleration after 1994.

As pointed out by Eduardo Loyo and Gabriel Felbermayr in their comments, the theoretical model in Madariaga et al sheds light on agglomeration and dispersion of economic activities between a poor and a rich country. However, the empirical part of the paper focuses on agglomeration across regions within a RIA. Whether movements in regional agglomeration are due to changes between country or changes within country is not analyzed, but the proposed model only has predictions concerning the former. An interesting theoretical extension would be a four location model (Northern and Southern regions within both the North and South countries). From the empirical side, it would be interesting to understand if agglomeration forces move economic activities to the borders, as suggested by Hanson (1998).

5 Lessons for Latin American

The main challenge faced by Latin American countries is to find a growth strategy, in the sense of Rodrik, allowing them to converge to the living standards in advanced countries. Paradoxically, during the last two decades LA has introduced substantial *orthodox* reforms, but they have not delivered

measurable economic benefits.

The main question we would like to answer in the framework of the Euro-Latin Network is whether regional integration would be a growth strategy for LA. In particular, we would like to see if something can be learned from the European integration process. Of course, we must take into account that "Institutional innovations don't travel well," as claimed by Rodrik.

In a recent paper, Venables and Winters (2003) draw out some lessons from European integration experience for the FTAA. On the economic side, they claim that even if the Americas offer a greater potential for trade creation and economic development, they may suffer greater economic divergence due to its initial large differences in economic levels. On the political side, they claim that integration requires a deep political commitment and the existence of institutions aimed to promote and protect integration from the inevitable frictions with national goals. This role is being played in Europe by the Franco-German axe and the Brussels institutions. They claim that it is hard to see what their equivalents in the Americas might be.

In the same direction, Levy Yeyati and Sturzenegger (1999) analyzes whether it makes sense for Mercosur to create a monetary union similar to the EMU. They claim that from the point of view of the theory of optimal currency areas, Mercosur is far from achieving the necessary pre-requisites for a monetary union. In particular, trade flows within Mercosur countries are relatively low, when compared to EMU members, partially due to the closed nature of Mercosur economies. Moreover, countries endowments in Mercosur are too similar to obtain much benefits from trade, implying that Mercosur will have a limited effect on regional trade. Secondly, they stress that an important lesson from EMU is that Germany has provided the necessary credibility of monetary and fiscal discipline. There is no such candidate for Mercosur, implying that a monetary union should generate limited benefits in terms of credibility. A monetary union should include a country like the US, but setting up a monetary block between the US and Latin American countries does not seem to be very realistic.

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