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Regional integration and foreign direct investment: The potential impact of the FTAA and the EU-MERCOSUR agreement on FDI flows into MERCOSUR countries[1]

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REGIONAL INTEGRATION AND FOREIGN DIRECT INVESTMENT: THE POTENTIAL IMPACT OF THE FTAA AND THE EU-MERCOSUR AGREEMENT ON FDI FLOWS INTO MERCOSUR COUNTRIES

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1) Introduction

Although studies on regional integration agreements (RIAs) have often been concentrated on their trade impact, it may be expected that RIAs have also consequences on other areas. One of those areas is foreign direct investment (FDI).

In fact, the interaction between RIAs and FDI has been recently examined in several studies, which, as a whole, tend to suggest that there is a positive impact of the former on the latter (see, among others, Blomström and Kokko, 1997; Dunning, 1997; Neary, 2002; Globerman, 2002; Levy Yeyati *et al*, 2003).

The fact that MERCOSUR's creation in the early 90s was associated with a significant increase in FDI inflows to the region might be taken, *prima facie*, as a confirmation of the abovementioned relation between RIAs and FDI.

As seen in table 1, MERCOSUR countries received around U$S 267 billion of FDI inflows between 1990 and 2003. In a scenario of booming FDI flows in the world as a whole, MERCOSUR share of total FDI inflows grew from 1.8 to 4.4 per cent between the second half of the 80s and the second half of the 90s, to later fall in 2001-2003 mainly due to the sharp decline in FDI to Argentina after the severe crisis suffered by that country.

Argentina and Brazil attracted almost 99% of FDI inflows to MERCOSUR[2]. While Argentina gained a lead until 1995, from that year on Brazil was the main host country in the region, recovering the primacy it had in previous decades (which was mainly due to its larger domestic market and its higher growth rate during those decades). The different timing of privatizations in both countries[3] contributes to explain the above-mentioned sequence but other macroeconomic and institutional determinants were also in place.

Table 1: FDI inflows by host region and economy, 1984-2003, current U$S million and percentages

Country / Region	1984-1989 %	1990-1995 %	1996-2000 %	2001-2003 %	1990-2003 U$S M
World	100	100	100	100	
Developed Countries	80,5	64,8	71,7	69,5	
NAFTA	44,5	23,8	28,7	17,5	
United States	38,3	18,1	23,7	12,3	
E.U.	31,1	37,8	40,5	49,9	
Developing countries	19,4	32,5	25,5	26,7	
Latin America and the Caribbean	6,4	9,3	10,3	9,2	
MERCOSUR	1,8	2,5	4,4	2,6	267.026
Brazil	1,2	0,9	3,0	2,4	181.187
Argentina	0,6	1,5	1,4	0,2	81.978
Uruguay	0,0	0,0	0,0	0,0	2.192
Paraguay	0,0	0,0	0,0	0,0	1.669

Source: Own elaboration on the basis of UNCTAD data.

[2] According to Bittencourt and Domingo (2001), official figures for Uruguay's FDI inflows are underestimated. However, even assuming that real FDI inflows in Uruguay during the last decade doubled those officially reported, the joint share of Argentina and Brazil would anyway be close to 98 per cent.

[3] In Argentina, this process took place almost entirely in 1990-1993, while in Brazil most privatizations occurred in the late 90s.

As it is well known, developed countries are the most important source of FDI flows. The same pattern is replicated when analyzing FDI inflows into MERCOSUR, which are mainly from the U.S. and Europe[4]. The bulk of the FDI arrived to the region has been, hence, "North-South". However, Chile has also been a relevant source for FDI in the region –especially in Argentina[5]-. At the same time, around 30 per cent of FDI inflows into Paraguay and Uruguay came from Argentina and Brazil. Hence, "South-South" FDI flows also took place after regional integration in MERCOSUR.

As said before, coincidence in time of MERCOSUR creation and the increase of the region's share in world FDI flows could lend support to the hypothesis that RIAs induce higher FDI inflows. However, in a previous study it was found that MERCOSUR as such has not seemingly played a significant role in FDI attraction except in the case of Argentina -the promise of free access to the large Brazilian market would have been a relevant factor in this regard- (Bittencourt and Domingo, 2002)[6].

At present, MERCOSUR countries are negotiating simultaneously two large regional agreements: the Free Trade Area of the Americas (FTAA) and the EU-MERCOSUR Regional Association Agreement. Although so far some studies have been made regarding the potential trade impact of those agreements, much less has been done on the FDI area. This paper aims at contributing to fill that gap.

The analysis of the potential impact of the FTAA and the EU-MERCOSUR agreement on FDI flows to MERCOSUR will be made on the basis of a gravity model with data for several developed as well as developing countries. The database includes countries that belong and not belong to a RIA.

First, we will analyze the impact of the existing agreements on FDI. Later, we will use the obtained results to extrapolate what could happen to MERCOSUR countries in terms of FDI attraction in case they enter the FTAA and/or reach an agreement with the EU.

We first revise the theoretical framework that has been proposed to understand the relations between RIAs and FDI (section 2). Then, the available empirical evidence on the subject is briefly assessed (section 3). The empirical specification and econometric issues are discussed in section 4. Section 5 includes the empirical results of the analysis of the impact of existing RIAs on FDI flows between 1984 and 2002. On the basis of the results exposed in section 5, section 6 analyzes the potential impact of the FTAA and the EU-MERCOSUR agreement on FDI inflows received by MERCOSUR countries. In section 7 the main conclusions are presented.

[4]. More than 80 per cent of FDI inflows to Argentina between 1992 and 2002 came from US and Europe. In Brazil, the respective figure is 70 per cent. However, the real share of both regions has been probably higher considering that in Argentina, as well as in Brazil, around 10 per cent of FDI inflows are from "unknown origin". In Brazil, another 10 per cent is registered as coming from Caribbean fiscal havens –a large part of these inflows presumably comes from US and Europe-.

[5] 4 per cent of FDI inflows to Argentina between 1992 and 2002 came from Chile.

[6] According to the authors, whose findings are based on a panel data model with information for 1960-2000, the size and growth rate of each country have been significant factors of attraction for FDI, but exports growth also played a relevant role. Macroeconomic stability as well as trade liberalization also fostered FDI inflows. Regulations and restrictions on FDI activity negatively affected FDI entry, especially in smaller member countries. Privatizations and debt capitalization schemes, on the contrary, had a positive role in this regard.

2) The theoretical Framework

In this section we first present the main stylized models of multinational activity. We start with vertical and horizontal FDI. Then we introduce the knowledge-capital model, which has stimulated econometric work in a gravity type framework. After introducing these models, we show the channels through which regional integration can affect FDI.

a) Models of multinational activity

i) Vertical FDI

In vertical FDI models, firms separate their production processes in order to take advantage of factor price differentials across countries[7]. Hence, Transnational Corporations (TNCs) activities are split according to their factor intensities. It is generally assumed that labor division within the TNCs is organized around an often skills or capital-intensive 'headquarter' activity and a usually labor-intensive plant production abroad[8] (Di Mauro, 2000)[9].

One of the key implications of these models is that only differences in relative factor endowments across countries (often proxied by GDP per capita in empirical estimations) matter for the location of TNCs affiliates. It is easily seen that these models aim at explaining North-South FDI flows. Conversely, if only vertical FDI existed no FDI would be observed between countries with similar endowments, an implication that is obviously at odds with the international experience -remember that since World War II the bulk of FDI flows has been North-North- (Levy Yeyati *et al.*, 2003).

ii) Horizontal FDI

Among developed countries most FDI is motivated by "market-access" reasons, rather than by differences in factor prices. This variety of FDI is termed 'horizontal', because similar types of production activities take place in different countries[10] (Di Mauro, 2000)[11].

A key assumption in the horizontal model is the presence of economies of scale at the firm level, which are the source of the advantage of TNCs over domestic firms. Given that firm-level scale economies exist, multinational activity in the horizontal model depends on the interplay between them and trade costs. In the absence of the latter, there would be no reason for multinational production, since firms could concentrate their production in the home country, taking advantage of economies of scale and serving the foreign market through trade. As trade costs[12] increase, multinational production arises as long as plant-level economies of scale are not too high.

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[7] Helpman (1984) and Helpman and Krugman (1985) proposed the first models of vertical FDI.

[8] While in its stylized version the vertical model incorporates just the firm's headquarters and a single plant, the concept can be extended to encompass all forms of multinational activity involving vertical integration across international borders (Levy Yeyati *et al*., 2003).

[9]. The concept of vertical FDI is similar to that proposed by Dunning (1993) to understand the type of investments that are attracted by the availability and/or cost of natural and human resources. Dunning terms this type of FDI as "resource-seeking".

[10] Brainard's (1993) and Markusen and Venables' (1998) models account for this type of FDI.

[11]. Horizontal FDI may be assimilated to what Dunning (1993) calls "market-seeking" investments, which aim at exploiting the host country's market. The size and growth prospects of that market, the existence of physical barriers and/or high transport costs, and the host country's economic policies –including the degree of protection of the domestic market- are key influences for this type of FDI.

[12]. Trade costs include tariff and non-tariff barriers, but also other factors such as transport costs, domestic regulations, etc.

Although the idea of "horizontal FDI" was originally proposed to explain North-North investment flows, North-South or South-South FDI may also be horizontal. This is the case when trade barriers are high enough as to induce "tariff-jumping" FDI –as it happened during the import substitution industrialization model in Latin America- (Levy Yeyati *et al*, 2003).

While all the models discussed above assume that firms produce a homogenous good, horizontal FDI may also take place with affiliates producing different varieties of a final good that are both consumed in the local market and exported. This case corresponds to what Levy Yeyati *et al.* (2003) call "horizontal FDI in differentiated goods" (which is different from the traditional kind of horizontal FDI in which affiliates make homogenous goods to attend each domestic market where they locate) and it is similar to what Dunning (1993) defines as "efficiency seeking" FDI[13].

iii) Knowledge capital model

The "knowledge-capital model" aims at providing a coherent framework for explaining FDI flows in a world where both horizontal and vertical TNCs co-exist. It emphasizes the importance of headquarter services, which provide knowledge-based and knowledge-generating activities (Markusen 1995, Markusen and Venables 1998). Examples of headquarter services include R&D, financial management, technology know-how, marketing skills, and so on. It is assumed that these intangible assets can be transferred and shared by multiple production facilities with little cost.

In a two-country, two-factor, two-good setup, three types of firms can arise: horizontal firms with plants in both countries and headquarters in one, vertical firms with a plant in one country and headquarters in the other, and national firms with plant and headquarters in one country that serve the other through trade (Levy Yeyati et al., 2003). The "proximity advantage" stems from 'firm-level' economies of scale, whereby the headquarter services are transferable to affiliates and allow TNCs to be closer to the foreign market. The "concentration advantage" derives from traditional 'plant-level' economies of scale, which make it more profitable to concentrate production in one location and then export. Whenever the former outweigh the latter, foreign investment will take place, and this will be more likely the higher are intangible assets relative to fixed costs of opening up an affiliate and the higher are transport costs, which are assumed to be positive and an increasing function of geographical distance in this model.

The knowledge capital model has stimulated econometric work in a gravity type framework. Recent examples include Brainard (1997), Barrios *et al*. (2001) and Carr *et al*. (2001). All these studies find support for gravity variables driving cross-border investment (Görg and Greenaway, 2002).

[13] Investments made by TNCs affiliates aimed at increasing the efficiency of their activities by integrating assets, production and markets to better exploiting economies of scale and scope are called "efficiency seeking" investments. These investments usually take place as a result of changes in the competition conditions within host countries (due to trade liberalization, economic integration with neighbor countries, the appearance of new competitors, etc.), but could also be fostered by changes in the global or regional strategies of TNCs. According to the received literature, this kind of investments has an increasing relevance *vis a vis* the traditional forms of FDI (Dunning, 1994). Regional integration processes, the reduction in transport costs and the new developments in telecommunications and information systems do favor this type of strategies, since they are usually materialized through productive, technological and commercial complementation within the network of affiliates of each TNC.

b) Regional integration impact on FDI

To analyze the relations between regional integration and FDI we need to take into account that the impact of the former on the latter will depend, among other things, on the specific nature of the agreement involved[14], the characteristics of the member countries, the kind of economic policies adopted before and after the integration in each country as well as in the region as a whole and the type of FDI already existing in them (i.e., horizontal/vertical, import-substituting/export-oriented, etc.). It is also reasonable to expect that RIAs will have different impacts on intra-regional *vis a vis* extra-regional investors.

Naturally, the impact on FDI of integration between developed countries (North-North) may differ from that of integration between developing countries (South-South) or between countries at different levels of development (North-South), also depending on how competitive and/or complementary the economies are. The time dimension may also be important, so that static effects differ significantly from dynamic effects. The degree of integration before the agreement and the significance and nature of the changes brought about by the RIA also matter (Blomström and Kokko, 1997).

In the light of the multiple factors that may affect how RIAs impact on FDI there is a need to undertake empirical studies to examine how those factors work in different scenarios. However, at the theoretical level it is possible to suggest some hypothesis about the RIAs' impacts on intra and extra-regional FDI, as well as to highlight some issues regarding how FDI inflows may be distributed among member countries of the RIAs.

i) Intra-regional FDI

On one hand, RIAs, insofar as they involve a reduction in intra-regional trade barriers, can lead to a reduction in horizontal FDI that is based on tariff-jumping objectives. Firms that previously supplied foreign markets through FDI could, after the integration, replace FDI with exports from their home countries. In this case, we would expect a decrease in intra-regional (horizontal) FDI (de Sousa and Lochard, 2004).

On the other hand, RIAs can stimulate vertical FDI among member countries when firms are able to geographically fragment production at low cost (Blomström and Kokko, 1997). This involves exporting back to the source country, so in this case FDI and trade are complements. RIAs may thus encourage intra-regional (vertical) FDI (Levy Yeyati *et al.*, 2003).

Regarding "horizontal FDI in differentiated goods", to the extent that RIAs facilitate trade among member countries, this variety of FDI should rise since it would be easier for TNCs to specialize each of their affiliates within the region in order to exchange a portion of their respective production with other affiliates through intra-firm trade. So, unlike horizontal FDI, this type of FDI would be fostered by a decline in trade costs.

As stated by Levy Yeyati *et al.* (2003), since the different effects of RIAs on intra-regional FDI have opposite signs, one can only learn their net impact through empirical analysis. However, we may think that, beyond the sign of that impact, a RIA can have the effect of changing the

[14]. For instance, whether the RIA is a Free Trade Area, a Customs Union or a Common Market. Other relevant factors are the existence or not of investment provisions (i.e., national treatment, expropriation clauses, performance requirements, etc.), rules of origins, non-tariff barriers, etc. See Te Velde and Fahnbulleh (2003) and Te Velde and Bezemer (2004) for a detailed analysis of these factors.

composition of intra-regional FDI from horizontal to vertical (or to "horizontal in differentiated goods").

ii) Extra-regional FDI

In the case of horizontal or "market seeking" FDI the increase in the size of the market resulting from a RIA may generate new investment opportunities. Extra-regional horizontal FDI may also increase as a consequence of a RIA if trade barriers with the rest of the world are still high enough –i.e., "tariff-jumping" FDI does not necessarily fall after integration- (Levy Yeyati *et al*, 2003).

Vertical FDI from outsiders should also increase since the RIA reduces the costs of disintegrating production in different locations within the region. The same happens with "horizontal FDI in differentiated goods". However, we must take into account that in the case of vertical FDI that does not involve production fragmentation among RIAs member countries, but the location of a production plant within one country to later make extra-regional exports, the existence of the RIA should normally not have any positive effect. Moreover, if as a result of the RIA trade barriers with thirds partners increase, we could have a negative impact on extra-regional vertical FDI as a result of the agreement. However, on balance, the theory predicts that, whatever the form it takes, FDI from non-member countries will increase as a result of regional integration.

Given the aim of our work, it is interesting to mention that Markusen (2003) has applied his theoretical framework to analyze –from a conceptual point of view- the potential effects of the FTAA on extra-regional FDI. According to the author, insofar the FTAA involves the integration among southern Latin American developing countries, it will open "horizontal" investment opportunities for third-country TNCs to serve the enlarged southern market with local production. As the FTAA also means South-North integration, it gives third-country TNCs the opportunity to exploit local advantages of the southern countries to produce for exporting to North America ("export-platform" FDI). However, Markusen states that the same advantages of integration are conferred to US and Canadian TNCs that have the additional advantage of supplying services and intermediate goods to southern affiliates at lower cost than the third-country TNCs. This "competitive effect" from insider firms suggests weaker benefits for third-country TNCs than a simpler approach might predict. This effect should be stronger the higher the substitutability between the goods of "insider" and "outsider" TNCs and weaker to the extent that they are supplying quite different goods and services.

iii) Distributional issues

As we have seen above, RIAs could increase extra-regional as well as intra-regional FDI. However, there are some "distributional" issues that we have to keep in mind. First, regional integration might not only affect member countries but also non-members countries –insofar as the former become relatively more attractive for FDI- ("FDI diversion"). Second, FDI flows to a member country could decrease if a source partner joins a RIA with a third country ("FDI dilution"). Third, the additional FDI attracted by members of RIAs could not be (and normally would not be) "evenly" distributed. Moreover, existing FDI could be relocated among member countries. Hence, "winners" and "losers" may arise within the same RIA (Levy Yeyati *et al.*, 2003)[15].

[15] There could also be winners and losers within each member country of a RIA (see for instance, Iammarino and Santangelo, 2000).

The regional distribution of FDI will depend on certain characteristics of the host countries that make them relatively more or less attractive than their partners as a potential location for FDI. This includes factors such as transport costs, the relative market size of member countries, the quality of their institutions and infrastructure, their factor endowments, etc.

For instance, trade liberalization within the bloc decreases the "tariff jumping" incentive to operate more than one plant within the region, and so encourage plant consolidation –since from one plant it is possible to have an "export platform" to the other member countries- (see Neary, 2002)[16]. On this basis, Levy Yeyati *et al.* (2003) suggest that medium-sized countries could be the main losers if market size considerations prevail (since small countries could have been supplied by trade before the integration anyway). However, given the number of determinants at stake it is clear that this is not the only possible outcome (the above mentioned findings of Bittencourt and Domingo, 2002, on FDI exit from Uruguay after integration in MERCOSUR confirm this argument).

iv) A brief digression on FDI in services and regional integration

Although the terminology employed by the proponents of the knowledge-capital model often suggests that they are mostly thinking on FDI in goods-producing sectors, there seems to be no difficult in employing that model when analyzing FDI in services.

Most of that FDI falls under the horizontal variety (i.e., public utilities, construction, retail and wholesale trade, hotels, etc.), although vertical FDI in services also exists (for instance, IT outsourcing), and presumably is increasingly important *pari passu* the opportunities opened by the diffusion of the information and telecommunications technologies.

However, when it comes to regional integration and FDI in services –take into account that most FDI in MERCOSUR, especially in Argentina and Brazil, went to services-, so far there has been relatively little analysis on the linkages between both variables. First, there are some services sectors in which FDI is hardly affected by regional integration (at least directly): supermarkets are a good example[17]. Second, FDI in some services may "follow"· investments in goods-producing sectors (when those services are part of the "value-chain" of those sectors). Third, while, as seen before, regional integration may imply a relocation of productive activities among member countries, it may occur that some formerly production affiliates may turn into services and/or commercial affiliates.

Fourth, in many services sectors the impact of regional integration on FDI will depend on the provisions related to intra-regional and extra-regional trade in services. For instance, FDI in insurance may be stimulated if citizens of each member country of a RIA are not able to contract policies in foreign countries. Since the relevance of services related provisions is very high for many sectors (such as construction, banking, transport, etc.), the impact of RIAs on FDI in those sectors will differ according to the nature of those provisions –besides other international obligations that each member country may adopt in other arenas-.

[16]. The trend towards plant consolidation would only materialize if two conditions which are not always present in South-South integration agreements are met: i) the regional agreement must be perceived as long lasting (that is, no or very few possibilities of reversal in integration are foreseen); ii) member countries are politically and economically stable enough (if they aren't, diversification of risk considerations could lead to keep more than on plant in the region).

[17]. Naturally, if regional integration leads to higher growth in member countries, this could derive in larger FDI inflows in services as a consequence of increasing domestic demand.

v) The gravity setting

As we have seen above, to learn about the specific impact of a RIA on extra and intra-regional FDI flows we need to undertake empirical work. The empirical links between economic integration and FDI have been investigated extensively within a gravity framework, which is based on Newton's gravitational model that states that the attraction between two bodies is proportional to the product of their masses and inversely related to the square of the distance between them. In the case of regional integration, the "pull" forces are generally proxied by market size, while the "resistance" effect is represented by the distance between the respective countries.

In its early days, gravity modeling in economics was used mainly in trade flows analysis, since the necessary data are quite simple and easily available and the results are quite consistent with the facts (Filippini and Molini, 2003). Since the evolution of FDI over the past three decades shares some common features with the evolution of trade, the gravity model also became useful in modeling regional patterns of FDI (Brenton *et al*., 1998).

According to Görg and Greenaway (2002), the application of gravity models to FDI issues has received theoretical foundations by the development of the knowledge-capital model. One key prediction of the model is that FDI becomes more dominant relative to domestic production and trade as countries become more similar in terms of relative size and endowments. The model also yields predictions for trade costs. Where factor endowments between countries are relatively similar, higher trade costs result in more horizontal production (and higher affiliate sales). By contrast, high trade costs when factor endowments are dissimilar discourage multinational vertical production (see Carr *et al*, 2001).

3) A brief assessment of the empirical evidence on RIAs and FDI

a) The evidence

Studies on how regional integration impacts on FDI have been made with different techniques and methodologies, covering most of the exiting RIAs. In this section, we concentrate on those studies that use a gravity setting, which may be classified in two groups.

The first group includes studies on the impact on FDI of a specific RIA. De Sousa and Lochard (2004), comparing the intra and extra regional impact on FDI of two European Union (EU) enlargements (Spain and Portugal in 1986, and Austria, Finland and Sweden in 1995), show that Spain and Portugal did not benefit from more FDI, whereas the 1995 enlargement generated additional foreign investment in the new member countries.

In turn, according to Sekkat and Galgau (2001), the European Single Market increased FDI inflows into EU countries from other EU member states, but it did not significantly affect FDI inflows from non-EU member states. Regarding intra-regional FDI inflows, regional integration had a strong positive impact in small EU countries, while its impact was more subdued in large EU countries, where country specific structural factors played an important role in attracting FDI. When it comes to extra-regional FDI, whereas no effect was found for the EU as a whole, the authors state that the Single Market had significantly increased FDI inflows from non-EU countries into some EU members. Again, this effect was stronger in small countries.

Blomström and Kokko (1997), on the basis of a descriptive analysis, attribute increased FDI in Mexico largely to increases from non-NAFTA countries. In contrast, using a cross-section analysis, Waldkirch (2002) finds that NAFTA raised investment in Mexico from the partner countries, the United States and Canada, but not from the rest of the world. In turn, Monge Naranjo (2002) states that NAFTA gave a significant advantage to Mexico with respect to other Central American countries regarding FDI attraction. This advantage was clear *vis a vis* poorer countries in Central American due to NAFTA bias in the treatment of lower-skill intensive exports. According to the author, that explains why Costa Rica was not affected by Mexico's entrance in NAFTA since it attracted FDI in higher-skill sectors for which NAFTA did not represent a bias in favor of Mexico.

Within the second group, we include studies that evaluate the impact on FDI flows of different RIAs that are simultaneously at operation at a specific period in time. Levy Yeyati *et al*. (2002b and 2003) belong to this group. They use the OECD database containing bilateral FDI stocks between developed countries and between developed and some selected developing countries (see annex I). Their results suggest that regional integration, on average, contributes to attracting FDI, but the benefits are unlikely to be distributed evenly.

They find that common membership in a RIA with a source country increases FDI from that source by around 27 percent. Countries that were more open, and whose factor proportions differed more from those in the source country were likely to benefit more, as they tended to receive FDI of the vertical variety. They also find that the increase in the size of the market associated with regional integration contributes to attract more FDI to the RIA as a whole. However, only member countries that offer a more attractive overall environment for FDI were likely to be winners in this game[18]. Finally, they find evidence of a small FDI diversion effect that affects on average to non-member countries.

Vallejo and Aguilar (2002) also use the OECD database but they complete it with ECLAC's information for those cases where no data was available. They construct a dummy for each agreement and look for intra-regional and extra-regional investment creation[19] and for FDI diversion/dilution effects. As they find that each RIA has different effects on FDI[20], their results confirm the abovementioned statement that no general *a priori* claims about the relation between regional integration and FDI may be made.

The authors of some of the studies included in the second group use their results to analyze the potential impact on FDI of future RIAs. For instance, Levy Yeyati *et al*. (2002b) make a simulation and find that the FTAA would clearly increase FDI from US and Canada and from the rest of the world to Latin America. However, the specific impacts might differ according to the characteristics of the different host countries. The authors also suggest that as the preferential access of Mexico to the US would be diluted by the FTAA, part of the FDI located in that country might go to new members of the larger agreement that have similar advantages.

[18] See Stein and Daude (2001) for an evaluation of how host country characteristics (they mainly focus on the quality of institutions) impact on the distribution of FDI among RIAs' member countries.

[19]. The terms investment creation and investment diversion (which was introduced above) have been borrowed from the trade-related literature, although their meaning is not exactly the same in each case –and in fact both terms are more precisely defined in the case of trade than when they are used in relation to FDI-. By investment creation Vallejo and Aguilar simply mean the attraction of increasing FDI as a consequence of a RIA.

[20]. This result differs from those of Levy Yeyati *et al*. (2003) who find a positive, significant and robust effect on FDI with only one dummy for all the RIAs. On one hand, this difference is due to the fact that Vallejo and Aguilar work with one dummy for each RIA. On the other hand, the authors suggest that it may also be attributed to the use of different sets of control variables in each study.

b) How can the integration impact be detected and measured?

Many of the abovementioned studies capture the impact of regional integration with a 0/1 dummy. This variable is used both in works that only analyze the impact on FDI of a specific RIA as well as in papers that consider many RIAs (in this case, it could be one dummy for each RIA or one dummy for all the RIAs together).

For instance, Levy Yeyati *et al*. (2003) use a dummy that takes a value of 1 when the source and the host countries belong to the same RIA. According to the authors, this variable captures a combination of channels: tariff-jumping, international vertical integration and the potential effect of investment provisions on FDI. The authors complement the 0/1 dummy with two additional variables aimed at capturing the "extended market" host and source effect. The *Extended Market Host* variable is constructed as the log of the joint GDP of all the countries to which the host has tariff-free access due to common membership in a RIA. The authors expect the coefficient of Extended Market Host to be positive, regardless the motive for FDI. Meanwhile, the *Extended Market Source* is measured as the log of the joint GDP of the source country plus all the countries that are RIA partners of the source country. This variable captures FDI diversion/dilution effects and it is expected to have a negative sign, suggesting that FDI to a host country diminishes when firms in the source country have other RIA partners in which to locate their investments.

Other authors introduce dummy variables to identify the direction of the FDI flows. For example, de Sousa and Lochard (2004) use three dummies to identify specificities in intra-European FDI, outward investments from non-EU countries into EU members and investments from EU countries into non-member countries. Thus the pairs of non-EU countries were their benchmark.

Regional integration could be also proxied through other variables. For instance, Di Mauro (2000) uses exchange rate variability (ERV), tariff barriers and non-tariff barriers (NTBs). Furthermore, some authors aim at capturing the effect of the different provisions considered by each RIA. In this regard, Dee and Gali (2003) construct a Member Liberalization Index for two types of provisions: traditional merchandise (agriculture and industrial products) and "new" age provisions (services and general measures). In turn, Te Velde and Bezemer (2004) include a variable that measure the degree of implementation of investment provisions within the RIAs.

In this paper we will employ dummy variables to capture the effect of regional integration on FDI. This is because insofar our main objective is to explore the potential effects on FDI of the FTAA and the EU-MERCOSUR agreement –whose investment provisions, tariff liberalization schemes, etc. are so far unknown-, it is impossible to go beyond the dummies to capture those effects.

4) Econometric Analysis and Data

The aim of this paper is to estimate the impact of the FTAA and the EU-MERCOSUR agreement on FDI inflows to MERCOSUR countries. To do this, we will extrapolate the impact of previous RIAs on FDI to each of the scenarios of interest for our work. Hence, first we need to present the methodology followed to estimate the impact of existing RIAs as well as the database with which we have worked.

(i) Econometric specification

In our regressions we use the following form of the basic gravity model to explain FDI flows to country *i* from country *j*:

$$FDI_{ij,t} = \gamma\, RIA_{ij,t} + \eta\, GDP^{RIA\text{-}S}{}_{ij,t} + \beta_i\, GDP\ Host_{\mathbf{i,t}} + \beta_j\, GDP\ Source_{\mathbf{j,t}} + \phi\, ICRG_{i,t} + \lambda\, Priv_{i,t} + \delta\, INFLATION_{i,t} + \varphi_t + \alpha_{ij} + u_{ijt}$$

Where $\mathbf{FDI_{ij,t}}$ stands for bilateral FDI flows (from country *i* to country *j*) at time t[21]. As it is standard practice in the gravity model, we will take the logs, rather than the level, of FDI flows as the dependent variable[22].

$\mathbf{RIA}_{ij,t}$ is a set of different country dummy variables as follows.

In a first specification, we construct a dummy that takes the value one at time t if the host country is member of one of the following regional integration agreements: MERCOSUR, North American Free Trade Agreement (NAFTA), Andean Community (CAN), Central American Common Market (CACM), Caribbean Community (CARICOM), Australia-New Zealand Free Trade Area, Central European Free Trade Agreement (CEFTA), European Union, European Free Trade Association (EFTA). Gulf Cooperation Council (GCC) and Association of Southeast Asian Nations (ASEAN)[23], and zero otherwise.

Next, we divide the RIA variable into intra and extra-regional FDI, now having two dummy variables. The $intra\text{-}RIA_{ij,t}$ variable takes the value of 1 if the host and the source country are part of the same agreement at time t, and zero otherwise. While the $extra\text{-}RIA_{ij,t}$ takes the value of 1 if the host country is member of one of the RIAs and the source country is not member of it at time t, and zero otherwise. If the coefficient of *intra-RIA* (*extra-RIA*) is positive, it therefore captures intra-regional (extra-regional) "investment creation".

In the third specification, we divide the host countries members of a RIA into three groups depending on which RIA they belong to:

1) RIA1: CACM, CAN, CARICOM, MERCOSUR and NAFTA (in this case, the host countries are candidates to enter into the FTAA)

2) European Union (EU)

[21] According to UNCTAD, in the case of TNCs associates and subsidiaries, FDI flows include the net sales of shares and loans (including non-cash acquisitions made against equipment, manufacturing rights, etc.) to the parent company plus the parent firm's share of the affiliate's reinvested earnings plus total net intra-company loans (short- and long-term) provided by the parent company. For TNCs branches, FDI flows consist of the increase in reinvested earnings plus the net increase in funds received from the foreign direct investor. FDI flows with a negative sign (reverse flows) indicate that at least one of the components in the above definition is negative and not offset by positive amounts of the remaining components.

[22] Levy Yeyati *et al*. (2002a) give several reasons for doing this. First, the log specification provides a useful normalization that reduces the weight of pairs with very large FDI flows. Second, it allows interpreting the coefficients of the continuous variables as elasticities. Lastly, it has typically provided the best fit in gravity equations.

[23] Regarding the date to be considered as marking the beginning of the integration processes, we will follow Montenegro and Soloaga (2004) and Levy Yeyati *et al*. (2003), which use the year of their creation (or re-launching, when a existing RIA is reformed so as to expect a significant change in trade and investment patterns). The years considered for each agreement are as follows: MERCOSUR (1991), NAFTA (1994), CAN (1991), CACM (1991), CARICOM (1973), ASEAN (1992), Australia-New Zealand Free Trade Area (1983), Gulf Cooperation Council (1982), CEFTA, EFTA and EU (various years depending on the country involved). For Canada and the United States, we have also considered the CUFTA (1989). Naturally, we have taken into account the effective date of entrance of each country to the respective RIAs.

3) Others: ASEAN, EFTA, Australia-New Zealand Free Trade Area, GCC and CEFTA.

Next, we interact the intra-RIA and extra-RIA dummy variables used in the second specification with three dummy variables associated with the abovementioned groups of RIAs. Hence, we will have the following dummy variables: intra-$RIA1_{ij,t}$, intra-$EU_{ij,t}$ and intra-$other_{ij,t,}$ extra-$RIA1_{ij,t}$, extra-$EU_{ij,t}$ and extra-$other_{ij,t}$.

BIT$_{ij,t}$ is a variable that takes the value of one if the host and the source countries have a bilateral investment treaty signed between them[24] and zero otherwise. In this way, the group of host countries with neither RIAs nor bilateral investment treaties with FDI home countries will be our benchmark.

GDP$^{RIA\text{-}S}_{ij,t}$ is the *GDP Extended RIA Source* variable used by Levy Yeyati *et al*. (2003). This variable is measured as the log of the joint GDP of the source country plus all the countries that are RIA partners of the source country (excluding the host country). If the coefficient is negative, this variable captures FDI diversion/dilution. As said before, this suggests that FDI to a host country decreases when the source country has other RIA partners in which to locate its investments.

GDP$_{i,t}$ is the logarithm of the real GDP of the host country[25]. We would expect a positive correlation between positive variations of the market size[26] and bilateral FDI flows[27].

GDP$_{j,t}$ is the logarithm of the real GDP of the source country. We would also expect a positive correlation between this variable –which captures GDP variations in source countries (see footnote 26)- and bilateral FDI flows.

ICRG$_{i,t}$ is a variable that aims to capture the political and institutional environment in host countries, under the assumption that a good environment has a positive influence on FDI attraction. It is based on the Political Risk Index elaborated by the International Country Risk Guide (ICRG). The Index ranges from 0 to 100 points and is built with 12 weighted variables: Government Stability, Socioeconomic Conditions, Investment Profile, Internal Conflict, External Conflict, Corruption, Military in Politics, Religion in Politics, Law and Order, Ethnic Tensions, Democratic Accountability and Bureaucracy Quality. The higher the Index, the lower the host country risk.

Priv$_{i,t}$ is the amount involved in privatizations made in the host country at period t. Privatizations could be associated with significant FDI inflows, as well as with structural reforms in host countries that could also favor FDI.

[24] Many RIAs contain investment chapters. However, the BIT variable only captures investment treaties entered into force independently of broader regional integration agreements.
[25] We used GDP data in constant US$. Obtained results do not change when using GDP measured in PPP.
[26] Since we are working with fixed effects, our estimates capture the effects on FDI of time variations in GDP, and not those coming from differences in GDP levels (size).
[27] This variable aims mostly at capturing "horizontal FDI". It would also be interesting to include one or more variables aimed at capturing vertical (as well as "horizontal in differentiated goods") FDI determinants. However, in our judgment, the most commonly employed variable in the case of vertical FDI (differences in GDP per capita) is far from being a good proxy of differences in factor endowments. Other (more relevant) candidates include variables related to labor costs, human capital or natural resources. However, data in these fields are not available for the whole period under analysis. Anyway, to some extent country pair fixed effects could capture some of the (time invariant) bilateral determinants of vertical FDI.

Inflation$_{i,t}$ is the annual inflation rate of the host country at period t, to control for macroeconomic instability. We should expect a negative relation between inflation rates and FDI flows.

φ_t are year dummy variables for the 1984-2002 period. These variables pick up the effects of any factors affecting bilateral investments that vary over time, are constant across pairs and have not been included in the list of explanatory variables. In our case, they help to control for the spectacular increase in FDI over time[28].

α_{ij} are the country pair fixed effects. Our specification relies on panel data and includes country pair fixed effects in order to isolate the time series dimension of the integration process on FDI, and leave out the cross-sectional variation. Hence, these country pair fixed effects will subsume time-invariant pair-specific variables such as distance, borders, common language, or colonial links[29]. To some extent, these effects could also give account of those differences in factor endowments not varying in time –for instance, those associated to natural resources- that could induce bilateral "vertical" FDI flows.

(ii) Data

We have constructed a FDI database for the period 1984-2002. In a first step, we considered the outflows from OECD countries to nearly 60 developed countries and developing countries on the basis of data extracted from the International Direct Investment Statistics Yearbook (OECD, 2004). Since that source has only information on outflows from the OECD countries to just 10 of the 34 countries that would join the FTAA, we decided to complete the database with information for the other 24 countries using UNCTAD and ECLAC's information[30] (see annex I to learn about the methodology employed). These sources also provide data for FDI inflows coming from non-OECD countries (naturally including Latin American ones) to potential FTAA members. On this basis, we have 1495 pairs that represent 14291 observations[31,32].

GDP and inflation data come from the World Bank (World Investment Indicators). Privatization data for 1980-1999 are based on the Transaction Database of the World Bank. Data for more recent years come from OECD, Privatization Barometer, Revista América Economía and the Private Investment in Infrastructure Database of the World Bank.

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[28] In general, the estimations of these dummy variables coefficients are not reported. The table below that report our econometric estimations shows F tests results for time dummies as a whole.

[29] According to de Sousa and Lochard (2004), this methodology has several benefits. First, it reduces the risk of co linearity between explanatory variables. Second, it allows controlling for the correlation between some explanatory variables and the error term. It also prevents estimation biases related to the specification of FDI invariant determinants (like the distance variable, a common border or a common language dummy) since these determinants are accounted for in the bilateral specific effect (Pakko and Wall, 2001). Finally, since it focuses on the time series dimension, it allows capturing the dynamic relation between integration and FDI. Thus, it answers the "good" economic policy questions (Glick and Rose, 2002; Micco *et al.*, 2003): Do countries that decide to form or join an integration process invest more in other member countries? Do countries that decide to form or join an integration process receive more FDI flows from non-partner countries?

[30]. We found information for other 16 countries, so our database includes 26 potential future FTAA members.

[31] We worked with an unbalanced panel data, as long as information for some bilateral FDI flows is not available. This may be due to the fact that those flows are zero, are too small to be recorded or are not provided due to confidentiality reasons. That is why we decided not to work with a dynamic panel data. However, we included a dynamic element using the time dummy variables.

[32] The total annual sum of bilateral FDI in our database is nearly 77% of the world FDI outflows in 1986, 83% in 1991, 90% in 1996 and 82% in 2001.

Table 2 includes descriptive statistics on the investment flows among different RIAs on the basis of information from our database. Naturally, no conclusion at all may be taken from this table, which is presented just for information purposes. In the next section the econometric analysis will allow us to learn about the relation between RIAs and FDI flows.

Table 2: FDI flows between RIAs (U$S million)

		Source RIAs					
Host RIAs:		MERCOSUR	NAFTA	EU	CAN	CACM	CARICOM
MERCOSUR	1986	-0.4	347.4	415.2	-0.3	.	.
	1991	35.2	1369.5	814.7	0.2	.	.
	1996	144.9	4618.1	7320.0	.	.	74.3
	2001	306.1	-228.2	15301.0	6.7	0.3	16.2
NAFTA	1986	-3.0	4945.6	23157.4	.	.	0.0
	1991	72.1	5450.0	17100.5	3.0	5.0	.
	1996	-59.4	16108.2	33446.1	147.8	0.3	.
	2001	-265.1	49530.4	136252.3	336.3	.	.
EU	1984	.	4958.2	5755.5	.	.	.
	1986	.	5640.9	15243.9	.	.	.
	1991	.	18219.7	55466.7	.	.	.
	1996	.	34871.8	86214.3	.	.	.
	2001	.	60268.4	193430.3	.	.	.
CAN	1986	-5.6	-10.0	39.7	-13.3	-0.3	.
	1991	0.6	1305.1	116.0	0.7	.	0.1
	1996	367.8	1780.2	2038.1	79.8	3.0	50.9
	2001	282.2	1278.1	3432.3	28.5	3.7	5.0
CACM	1986	.	5.5	.	.	.	.
	1991	.	-76.9	3.0	.	.	.
	1996	-5.7	189.0	26.1	1.2	30.3	-7.0
	2001	-2.4	-83.9	135.5	8.6	99.9	.
CARICOM	1986	.	.	.	.	.	.
	1991	.	-86.0	7.8	.	.	.
	1996	.	271.0	46.6	1.9	.	.
	2001	.	461.0	1.1	.	.	.

Nearly 9.7% of our sample FDI data entry is zero, normally due to levels of FDI that are too small to be recorded[33]. It also includes a 13,3% of negative flows of FDI[34]. This is a typical problem in gravity equations when one wants to use the double log specification. There are different ways to deal with it (see Levy Yeyati *et al*., 2002a and 2003).

1) Omission of the zero and negative pairs from the data set. A problem with this approach is that zero and negative values may convey important information (specially, if zero and negative observations are associated with host countries that do not belong to any RIA) and dropping them could bias our results.

[33] These generally involve countries that, by virtue of their small size and/or remoteness, would be expected to have little flows with each other. It is not always possible, though, to ascertain whether their bilateral flows are actually zero or are very small as to be reported by home or host country sources.

[34]. Differently from what happens with trade flows, negative FDI inflows may exist. This situation takes place when foreign firms disinvest in host countries (as it often occurs during economic crisis).

2) Another approach is to use Tobit instead of OLS, which can be justified either by assuming that zero values are due to the presence of fixed costs of investing abroad, or by assuming that flows below a certain threshold value are incorrectly recorded as zeros.

We considered that these assumptions could not be applied to our sample. First, as we not only have zero but also negative values, we would have to assume the same for the latter. Second, as our host and source countries include developing countries, it does not seem to be implausible to think that there could not be bilateral flows at all or that they are nil or negligible.

There are also practical disadvantages of working with a Tobit model, since it is difficult to work with pair dummy variables and Tobit together as there is a limit to the number of dummy variables that the program (Stata) will accept when running Tobit. Furthermore, results are difficult to interpret because the constant elasticity relationship is lost.

3) Eichengreen and Irwin (1995, 1997)[35] proposed a *log(1+FDI)* transformation to deal with the zeros preserving the advantages of the double-log model. In this way, regression coefficients can still be interpreted as elasticities when the values of FDI are large, since *log(1+ FDI) ≈ log(FDI)*, but share the properties of the semi-log as *log(1+FDI) ≈ FDI*[36] for small values of the dependent variable. As we measure all our variables in dollars, adding 1 is equivalent to adding one dollar to FDI flows, so the unit does not have an important impact on the computed elasticities.

While the Eichengreen and Irwin transformation adequately deals with the zeros, it cannot deal with the problem of the negative values (negative values are not a problem for trade data). So we decided to deal with this problem using a transformation proposed by Levy Yeyati *et al*. (2002a):

$$LFDI = sign\,(FDI)\,\log\,(1 + |FDI|)$$

Note that the coefficients from an OLS regression using this transformation have the same properties of the transformation adopted by Eichengreen and Irwin (1997) and can still be interpreted as elasticities for large values of the dependent variable. In addition, the function is continuous (see below) and its derivative with respect to FDI is symmetric around zero and always bounded between zero and one.

$$1 \geq \frac{\partial LFDI}{\partial FDI} = \frac{(sign(FDI))^2}{1+|FDI|} = \frac{1}{1+|FDI|} \geq 0$$

[35] Actually, their work was concerned with trade, but their suggestion is still valid for FDI.

[36] In fact, any transformation of the type $x = log\,(a + x)$ with $x > 0$ would work. However, $a = 1$ is a natural choice because it yields a fixed point at zero, i.e., $log\,(1+x) = x$ at $x = 0.13$.

5) Empirical Results[37]

In table 3 we present the results of our estimations for six different specifications of our basic model[38]. These are aimed at analyzing the impact of RIAs on FDI from various points of view and will be useful for having a more complete picture about the potential effects of the FTAA and the EU-MERCOSUR agreement (which will be studied in section 6).

Column I to III include the results for the three specifications of the RIA dummy variables described in the previous section, while in Column IV we differentiate the NAFTA effect from those of the South-South RIAs in force in the American continent. In Column V we interact the RIA dummy variables with the log of the joint GDP of all the countries that are RIA partners of each host country[39]. This is to capture the "extended market" effect from joining a RIA on FDI attraction.

As seen below, in section 6 we will assume that the impact of the FTAA might be similar to those of existing RIAs in the American continent, while that of the EU-MERCOSUR agreement could resemble the EU enlargement effect on FDI. In column VI we excluded the cases of Spain and Portugal from the intra-EU and the extra-EU dummies in order to capture the specific effect of those countries entrance into the EU. So in this case we have two additional variables (one for intra-regional and another for extra-regional FDI inflows) that take the value of one if the host countries are Spain or Portugal after their entrance in the EU in 1986 and 0 otherwise. The logic behind this estimation is that, given the fact that the EU-MERCOSUR agreement would be a North-South RIA, its impact on FDI might be similar to that observed when Spain and Portugal entered the EU –considering the fact that those countries were relatively more backward than the others that entered the EU after 1984-.

The coefficients of the control variables have in most cases the expected signs and are statistically significant; their magnitude, in turn, proved to be quite stable across our different specifications.

GDP variations in host countries do not seem to have a positive correlation with FDI variations[40,41]. By contrast, the coefficient of the variable that represents GDP variations of the source country shows a positive and statistically significant elasticity. Low inflation rates, privatizations, BITs and low political risk also have a positive and statistically significant impact on FDI inflows.

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[37] Since this study analyzes issues already studied in some previous papers (notably, Levy Yeyati *et al.* 2002b; 2003) it is important to highlight the differences among them. First, previous studies work with FDI stock whereas we use FDI flows. While Levy Yeyati *et al* use the OECD database, we completed that source with information from UNCTAD and ECLAC, which allowed us to have a larger database. Additionally, we divide the impacts of RIAs in intra and extra-regional ones and we analyze the specific impacts of different RIAs. Finally, we add some control variables such as BITs and the political risk index.

[38] We performed the Hausman test to learn whether fixed or random effects should be employed for our estimation. Remember that under the null hypothesis of that test both estimators are consistent but the random effects estimator is more efficient. In our case, the null hypothesis is decisively rejected in all estimations. Hence, all reported results are based on fixed effect estimations.

[39] In the case of Brazil, for instance, this variable comprises the GDP of their partners in MERCOSUR. The same procedure is repeated for each host country belonging to a RIA.

[40] If we consider only the positive values of the FDI variable, the variable corresponding to the GDP of the host country becomes positive and statistically significant. The same result is obtained if we do not consider any type of bilateral or country-fixed effects.

[41] In order to understand this result that is seemingly in conflict with most of the received literature on the subject, we need to take into account that using bilateral fixed effects, all variables are transformed into deviations from individual means. Hence, the average sizes of the host and source markets are captured by the bilateral fixed effect, while the GDP host variable captures the deviations in market size from its mean.

As long as the F-test of joint significance for the time dummies indicates that they are significant at the 1% level in all the specifications, our work confirms the relevance of global shifts in FDI trends for explaining bilateral FDI flows. Moreover, the F-test for the joint significance of the bilateral fixed effects rejects the hypothesis that they are jointly equal to zero. This means that country pair specific and time invariant determinants of bilateral FDI flows are relevant, and their non-inclusion may lead to biased results.

What happens with the dummy variables used for measuring the impact of RIAs on FDI?

In Column I we introduce a dummy that takes the value of one if the host country is member of a RIA. The coefficient of this variable is positive and statistically significant. This means that, if other things did not change, a country joining a RIA would have an increase in FDI inflows compared to a situation in which it did not enter into any agreement[42].

In Column II, we differentiate between intra-regional and extra-regional FDI. Again, both coefficients are positive and statistically significant. This means that, other things being equal, after joining a RIA intra as well as extra-regional FDI inflows to a host country would increase. We find some evidence that RIAs seemingly have a larger impact on intra-regional than on extra-regional FDI inflows[43].

In Column III, as anticipated in the previous section, we divide each dummy of the second specification into three variables. In the three cases studied joining a RIA has a positive and statistically significant impact on the attraction of intra-regional FDI. The same happens when it comes to extra-regional FDI. While in the case of RIA1 host countries the impact on intra-regional FDI flows is higher than on extra regional ones, the contrary occurs in the case of the EU countries[44].

Within RIAs in force in the Americas, we found it relevant to distinguish between the impact of the NAFTA and other South-South RIAs. The coefficients for intra and extra NAFTA FDI flows are positive but not statically significant –meaning that the entrance of Mexico into NAFTA in 1994 did not seemingly have, *per se*, a positive impact on FDI flows to that country-[45], while the ones of the South-South RIAs remain positive and statistically significant (column IV). In other words, the positive and statistically significant coefficients of the intra and extra RIA1 variables would be reflecting the impact of South-South agreements, while becoming a NAFTA partner by itself does not seem to have induced statistically significant additional FDI inflows to Mexico.

Column V of Table 3 reports the results when we interact the integration dummy variables with the joint GDP of the host country's RIA partners. The coefficients keep the sign and the

[42] As we made a special transformation to deal with the problem of negative values, we decided not to read the impact of the variables in the common way done with logarithm specifications.
[43] The p-value for testing the null hypothesis of intra-RIA=extra-RIA in column II is 0.0003, thus the hypothesis is rejected.
[44] The p-value for testing the null hypothesis of Intra-RIA1=extra-RIA1 in column III is 0.4349, while for Intra-EU = Intra-EU is 0.1127. Hence, the hypothesis is rejected in both cases.
[45]. Note must be taken that our study does not aim at analyzing the impact of NAFTA on FDI flows to Mexico. Hence, more research is needed on this result, which contrasts with the findings of other papers in the received literature. Particularly, it would be interesting to learn, for instance, whether FDI to Mexico had already jumped before 1994 in the expectation of NAFTA's signature.

statistical significance of the third column[46]. This means that the "extended market" effect derived from joining a RIA has a positive impact on FDI attraction.

In Column VI, we observe that Spain and Portugal's entrance to the EU did not have any significant impact on intra-regional FDI inflows to those countries[47]. However, the coefficient for extra-EU flows is positive and statistically significant. It is interesting to remark that the intra-EU and extra-EU dummies without Spain and Portugal still maintain their signs and significance.

[46] While the magnitude of the estimated coefficients might suggest that the impact of the market size enlargement on FDI attraction is small, we must take into account that changes in market size due to the creation of RIAs tend to be rather large. For example, when Mexico entered NAFTA its extended market increased by a factor of 18 (Levy Yeyati *et al*., 2003).

[47] De Souza and Lochard (2004) found that Spain and Portugal's entrance in the EU did not contribute to attract more FDI to those countries. According to the authors, these results suggest that the increase in FDI inflows to those countries in the first years after joining the EU was offset by a decline after 1992.

Table 3: Results from the econometric estimations

	I	II	III	IV	V[48]	VI[49]
RIA	1.758***					
	(0.418)					
Intra RIA		2.016***				
		(0.740)				
Intra-RIA1			2.944**		0.106**	2.953**
			(1.369)		(0.051)	(1.369)
Intra-Nafta				0.006		
				(2.556)		
Intra-RIA1 South				4.098***		
				(1.600)		
Intra-EU			2.224**	2.236**	0.072*	2.593**
			(1.116)	(1.116)	(0.038)	(1.235)
Intra-Others			3.175**	3.200**	0.113*	3.284**
			(1.597)	(1.598)	(0.059)	(1.617)
Extra RIA		1.754***				
		(0.418)				
Extra-RIA1			1.855***		0.066***	1.862***
			(0.513)		(0.019)	(0.513)
Extra-Nafta				1.028		
				(0.751)		
Extra-RIA1 South				2.422***		
				(0.634)		
Extra-EU			3.733***	3.733***	0.124***	3.754***
			(1.254)	(1.254)	(0.043)	(1.387)
Extra-Others			1.117*	1.143*	0.039	1.159*
			(0.664)	(0.664)	(0.025)	(0.670)
Intra-EU flows Spain-Portugal (1986)						0.834
						(2.024)
Extra EU flows to Spain-Portugal (1986)						4.409*
						(2.557)
GDP Extended Source	-0.616***	-0.640***	-0.448*	-0.459*	-0.444*	-0.451**
	(0.216)	(0.223)	(0.242)	(0.242)	(0.242)	(0.242)
BIT	1.297**	1.310**	1.290**	1.189**	1.306**	1.283**
	(0.558)	(0.559)	(0.561)	(0.564)	(0.561)	(0.561)
GDP Host	-0.848	-0.819	-0.619	-0.593	-0.603	-0.591
	(1.148)	(1.150)	(1.170)	(1.170)	(1.170)	(1.170)
GDP Source	5.928***	5.988***	5.603***	5.778***	5.597***	5.597***
	(1.596)	(1.602)	(1.612)	(1.617)	(1.613)	(1.613)
Political Risk	4.941***	4.945***	5.097***	4.813***	5.147***	5.144***
	(1.138)	(1.138)	(1.144)	(1.156)	(1.145)	(1.145)
Privatizations	0.038**	0.038**	0.038**	0.035**	0.038**	0.038**
	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)
Inflation	-1.023***	-1.027***	-0.983***	-0.949***	-0.987***	-0.985***
	(0.273)	(0.273)	(0.275)	(0.276)	(0.275)	(0.275)
Cons	-129.97***	-131.68***	-132.76***	-136.58***	-133.29***	-133.48***
	(50.482)	(50.642)	(50.825)	(50.908)	(50.854)	(50.836)
Obs	14291	14291	14291	14291	14291	14291
Groups	1495	1495	1495	1495	1495	1495
F	9.81***	9.45***	8.47***	8.42***	8.39***	8***
F pair	2.42***	2.37***	2.32***	2.32***	2.32***	2.32***
F time	7.47***	7.49***	7.45***	7.45***	7.39***	7.45***

Standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%

[48] In this column the integration dummies variables are interacted with the joint GDP of the host partners'.

[49] In this column we excluded from the Intra-EU and Extra EU dummies the cases where Spain and Portugal are the host countries and built two new dummies that capture those cases.

Finally, the coefficient of the *GDP Extended RIA Source* variable is negative and statistically significant in all the specifications. This may suggest a FDI diversion/dilution effect.

In sum, we have found that FDI inflows are larger the higher the source country's GDP growth and the lower the inflation rates and the political risk in host countries. FDI inflows are also attracted by privatizations. Country pair factors invariant in time (such as distance, factor endowments, colonial links, common language, etc.) also impact on FDI inflows. Regarding RIAS, they have a positive influence on intra-regional as well as on extra-regional FDI flows. FDI diversion and dilution effects may also arise as a consequence of RIAs[50].

In sum, our results suggest that RIAs have had, on average, a positive and statistically significant effect on intra-regional as well as on extra-regional FDI inflows. FDI diversion and dilution effects may also arise as a consequence of RIAs[51]. Additionally, we have found that positive variations in the source country's GDP, BITs, low political risk and privatizations contribute to increase FDI bilateral flows, while high inflation rates contribute to reduce them.

In what follows, these results will be employed for estimating the potential impacts of the FTAA and the EU-MERCOSUR agreement on FDI inflows to MERCOSUR countries.

6) Potential impact of the FTAA and EU-MERCOSUR agreement on FDI to MERCOSUR

The purpose of this section is to estimate the potential impact of the FTAA and the EU-MERCOSUR agreement on extra and intra-regional FDI inflows to MERCOSUR countries based on the experience of previous RIAs –which has been studied in the preceding section-. As both RIAs bases are still being negotiated, our results are contingent on the nature of the agreements finally enacted. Notwithstanding this, in general our predictions assume a deep integration process in both cases[52].

A first approach to the estimation of the impact of the FTAA and the EU-MERCOSUR agreement on FDI flows consists in changing from 0 to 1 the intra-RIA dummy variables for each bilateral pair of new partners. From the results obtained in the previous section, we could expect, on average, a positive impact on FDI flows to MERCOSUR countries in case one or both agreements are signed.

Our sample contains 26 of the 34 host countries that are scheduled to launch the FTAA. Considering Column III of table 3, we could estimate the potential FTAA impact on FDI to MERCOSUR countries assuming that it could be to some extent similar to that generated by

[50] Note must be taken of the fact that, besides the estimations here presented, we have worked with alternative specifications and different sets of control variables. Although the magnitude of the estimated coefficients is sensitive to those changes, the variables representing RIAs keep their sign and statistical significance in almost all cases. For instance, our results are robust for a sample which does not include the observations above or below two standard deviations from the mean for each year.

[51] Note must be taken of the fact that, besides the estimations here presented, we have worked with alternative specifications and different sets of control variables. Although the magnitude of the estimated coefficients is sensitive to those changes, the variables representing RIAs keep their sign and statistical significance in almost all cases.

[52] Given the speculative nature of any simulation scenario, the sensitivity of the magnitude of the RIAs-associated coefficients to changes in the econometric specifications and the fact that we do not know the specific nature of the agreements under analysis, we decided to not present simulation scenarios based on quantitative forecasts, but a general discussion on the probable impacts on FDI of both agreements.

already existing RIAs among potential future FTAA members. As the FTAA would be, at the same time, a North-South and a South-South agreement, this procedure can be justified insofar our estimation was based on some South-South RIAs (CAN, CARICOM, MERCOSUR, CACM) and one North-South RIA (NAFTA).[53] Since the intra-RIA1 coefficient is positive and statistically significant, we could predict that MERCOSUR countries would have significant increases in FDI coming from the United States and the others partners in case the FTAA is enacted. Regarding extra-regional FDI flows, the "extended market" effect would also imply an increase in those flows. However, on the basis of the results obtained in section 5, the magnitude of the latter increase would be clearly lower than that estimated for intra-regional flows. In other words, the FTAA would mainly benefit "insiders" FDI.

Nevertheless, in the fourth specification we have found that RIAs between Latin American countries encouraged additional FDI flows from partners and non-partners, while entrance of Mexico into NAFTA did not seemingly have any effect, *per se*, on FDI to that country. Therefore, we could conclude that Latin American countries signing a RIA with the US would not receive higher FDI inflows, while the creation of a Latin American Free Trade Zone would increase both intra as well as extra-regional FDI flows in the region.

If we look at column V of table 3, when the effect of market size increases is taken into account, the FTAA impact on FDI would depend on the relative size of the RIA in which the host country is now being part. Specifically, other Latin American countries would be more benefited than MERCOSUR countries in terms of FDI attraction, since its current joint market size is smaller –for instance, this is the case of countries that are members of the CAN or the CACM-. Given that Mexico it already partner of the largest American economies, in that case the "extended market effect" would be the lowest among Latin American countries.

On parallel, to estimate the impact of the EU-MERCOSUR agreement we consider the effects on FDI of the EU enlargement after 1984. In this case, the variables that change are intra-EU and extra-EU[54]. According to the results obtained in section 5, MERCOSUR countries would receive higher FDI inflows from EU as well as from non-EU countries (in the latter case, probably under the logic of "export-platform" to the European continent). The increases would be higher in the case of non-EU countries.

However, note must be taken that in section 5 we showed that the entrance of Spain and Portugal to the European Union failed to have a significant impact on intra FDI inflows to those countries. Hence, if we assume that MERCOSUR countries are more similar to Spain and Portugal than to others (more developed) European countries that joined the EU during

[53] Note must be taken that the RIAs considered for estimating the impact of regional integration on FDI for potential future FTAA members include agreements that have different characteristics and depth (for instance, MERCOSUR is a Customs Union while NAFTA is a Free Trade Agreement). If, for instance, we assume that Customs Union might have a larger impact on FDI than Free Trade Agreements, and this influence is to some extent captured by estimations presented in section 5, hence the predicted results on the impact of the FTAA on FDI to MERCOSUR countries could be overstated, since the FTAA will not be a Customs Union.

[54] Note must be taken that the EU-MERCOSUR agreement would not confer MERCOSUR countries the status of EU members. Therefore, our results could be interpreted as the best potential impact, while the actual impact would depend on the level of integration that would be finally agreed upon. In the same vein. a hypothesis to be studied in future research is that European countries joining the EU were able to attract more extra-regional FDI since they had not only access to an extended market, but were also well located to serve other European countries already members of the EU. However, this could not be the case of MERCOSUR countries, since they are far from the larger European markets.

the period under analysis[55], the EU-MERCOSUR agreement would not contribute to attract additional FDI inflows from the new partners.

Furthermore, although seemingly Spain and Portugal entrance in the EU contributed to attract more FDI from third countries, we must consider that both countries were granted full EU members status, received significant funds from the EU and are located in the European continent. None of these conditions will be met by MERCOSUR countries even if they reach an agreement with the EU. Hence, it is not clear that FDI from non EU-countries would increase in the event of a EU-MERCOSUR RIA.

In addition, the FTAA and the EU-MERCOSUR agreement would tend to promote "FDI diversion" and "FDI dilution" effects. For instance, in case the FTAA is enacted, flows from FTAA members to non-FTAA countries would decrease (diversion effect). Moreover, the only Latin American country that would receive less US FDI flows is Mexico, since it would lose the privilege of having a preferential access to the North American market (that is, it would suffer a FDI dilution effect)[56]. Similarly, other Latin American countries would suffer a "FDI diversion" effect in the scenario of a EU-MERCOSUR agreement since MERCOSUR member countries would become more attractive for European investors.

Finally, the FTAA will likely contain an investment chapter, which is negotiated on the basis of the existing bilateral investment agreements. Hence, if the 34 countries signed the same Investment Chapter, they would have a multilateral investment treaty among them. Our sample includes pair of future FTAA countries that already signed bilateral investment agreements and it has been mentioned that BITs have had a positive effect on FDI flows. Therefore, we could infer that the FTAA could have a weaker impact in the United States flows to Argentina than to other MERCOSUR countries because United States and Argentina signed a bilateral investment agreement in 2002[57]. Moreover, the EU-MERCOSUR agreement will also probably deal with investments. The same comment applies here, since Argentina is the only MERCOSUR country that has bilateral investment agreements with EU countries.

7) Conclusions

After controlling for all the relevant variables that can be expected to have an impact on FDI flows –which, in our different estimations, have in almost all cases the expected signs and statistical significance-, we conclude that RIAs induce higher FDI inflows to host member countries, that result being confirmed both for the European Union as well as for most of the integration agreements in force in the American continent.

Hence, *prima facie* the results of our empirical study suggest that MERCOSUR countries could expect increases in FDI inflows as a result of their entrance in the FTAA and the EU-MERCOSUR agreement, being the magnitude of the increases depending on the final nature and depth of the RIAs to be enacted. A closer examination of our results, in the light of the

[55] Remember that during the period under study, only Spain, Portugal, Austria, Sweden and Finland joined the EU. Hence, the assumption that, among those countries, Spain and Portugal are those more similar to MERCOSUR countries in terms of their economic development level (take into account that we are estimating the impact of Spain and Portugal entrance to the EU in 1986, when those countries were relatively more backward than nowadays) seems reasonable.

[56] Levy Yeyati *et al.* (2003) reach the same result.

[57]. Since in the other MERCOSUR countries the positive effect of BITs on FDI would be added to that of the RIA.

received theory and the available evidence on FDI flows determinants, may give us some hints about the type and origins of the additional FDI that could be received by the region.

If we consider the case of the FTAA, from our econometric estimations it follows that it could foster increases in extra as well as especially in intra-regional FDI inflows to MERCOSUR. Our results suggest that Latin American South-South flows could be strongly stimulated by that kind of agreement. However, we should not expect that MERCOSUR countries would become more attractive for "export-platform" FDI to the US and Canada in the event the FTAA is signed, considering their geographical location[58] and the fact that entrance into NAFTA *per se* did not seemingly have a significant effect on FDI received by Mexico (see footnote 44 for a qualifying comment on this result). In turn, MERCOSUR countries could attract more FDI from Northern countries to take advantage of their access to other Latin American partners in the FTAA.

In this regard, the results of the econometric estimations presented in section 5 suggest that a Latin American and Caribbean RIA would have roughly the same effects on FDI received by MERCOSUR countries that the FTAA[59], while signing bilateral RIAs with the US would not foster more FDI inflows.

What could happen in the event the EU-MERCOSUR agreement is signed? It would encourage more FDI inflows from non-EU countries than from EU countries. In fact, if we assume that the impact of an agreement with the EU for MERCOSUR countries would be similar to that observed in Spain and Portugal after their entrance in the Union in 1984, the EU-MERCOSUR agreement would only foster non-EU FDI inflows[60].

This result implies that MERCOSUR countries would attract export-platform FDI aimed at serving European markets. However, this could only be the case if the agreement includes better market access for agricultural goods produced by MERCOSUR countries –MERCOSUR countries are not well located as to serve as an export-platform to the EU on the basis of labor costs-. Furthermore, MERCOSUR countries would receive neither full EU-member status nor the amount of funds available for backward countries joining the EU. Hence, there is the possibility that the EU-MERCOSUR agreement might fail to foster increases in FDI inflows received by MERCOSUR countries.

Finally, as bilateral investment treaties have a positive impact on FDI attraction it is probable that, insofar both RIAs under analysis may include investment chapters, for countries that have already signed BITs with the U.S. and EU countries the increase in FDI inflows could be lower than for the other countries –in MERCOSUR, Argentina is the only country belonging to the first group-.

Summing up, while it seems reasonable to foresee a positive impact on FDI received by MERCOSUR countries in case one or both RIAs are signed, caution is needed when

[58] Geographical distance is an obstacle for export platform FDI in manufacturing but not for FDI in some type of services sectors –that is the case of FDI related to outsourcing of information technology services, for instance-. However, changes in FDI in services would presumably be more closely related to the eventual existence of provisions in services in the FTAA and the EU-MERCOSUR agreement than to trade barriers reductions –being mainly the effect of the latter factor the one that is captured by our integration-related dummy variables-.

[59]. Naturally, the same conclusion does not necessarily apply to other Latin American countries that could be more apt to serve as an export-platform to the US.

[60]. This assumption is based on the fact that Spain and Portugal were relatively more backward than other countries joining the EU during the period under analysis (remember that we are not considering the recent entrance in the EU of Eastern Europe countries).

forecasting its probable magnitude as well as the origins and nature of additional FDI inflows to be received. In particular, our study confirms the argument of Vallejo and Aguilar (2002) that the impact of regional integration on FDI may differ according to the nature of the regional agreement, the countries involved, etc. Hence, clearly more research is required on the subject.

Additionally, there is a need to study which could be the impact of both agreements in terms of FDI inflows in each MERCOSUR member country (i.e. the “winners and losers” issue). Finally, we have not analyzed which sectors would be more attractive for foreign investors. More generally, we have not discussed “FDI quality” aspects when analyzing the potential impacts of the FTAA and the EU-MERCOSUR agreement, an issue that is highly relevant when discussing the effects on FDI on economic development objectives in host countries.

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Annex I: Methodology employed for the elaboration of our FDI database

For this study we constructed a database with information on FDI flows for the period 1980-2002. In a first step, we included the outflows from OECD countries to nearly 60 developed countries and developing countries on the basis of data extracted from the International Direct Investment Statistics Yearbook (OECD, 2004). This database is our main source of information.

However, it has only information on outflows from the OECD countries to just 10 of the 34 countries that participate in FTAA negotiations. Hence, we decided to complete the OECD database with information from other sources: UNCTAD and ECLAC. The UNCTAD has data for the period 1990-2004 and ECLAC for the period 1980-1992. Since there is an overlapping between UNCTAD and ECLAC's databases for the period 1990-1992, in case of disagreement on any specific figure between both bases, we decided to employ the UNCTAD's information, since it is more updated.

The UNCTAD and ECLAC's databases were also employed in those cases in which there was no information in the OECD database for a country pair, and the UNCTAD/ECLAC's bases have, at least, data for one period regarding that pair.

Additionally, our database includes information for FDI inflows coming from non-OECD countries to American nations –the source of this information are the already mentioned UNCTAD and ECLAC's databases-.

On this basis, we have 1495 country pairs that represent 14291 observations on bilateral FDI flows. In the table below we show the source of information for those country pairs. For each host country (first column) we show the number of pairs coming from the OECD database (second column) and those coming from the UNCTAD/ECLAC's databases (third column).

Number of pairs for each host country according to the data source

	OECD	UNCTAD /ECLAC
Algeria	3	-
Argentina	24	1
Australia	24	-
Austria	22	-
Bahamas	-	10
Belgium-Luxembourg	24	-
Bolivia	-	29
Brazil	23	30
Bulgaria	19	-
Canada	10	-
Chile	23	24
Colombia	14	27
Costa Rica	3	19
Czech Republic	21	-
China	26	-
Denmark	22	-
Dominican Republic,	-	9
Ecuador	-	24
Egypt	17	-
El Salvador	-	19
Finland	20	-
France	26	-
Germany	26	-
Greece	20	-
Guatemala	-	7
Guyana	-	2
Haití	-	3
Honduras	-	13
Hong Kong	22	-
Hungary	22	-
Iceland	12	-
India	22	-
Indonesia	19	-
Iran	12	-
Ireland	24	-
Israel	17	-
Italy	25	-

OECD	OECD	UNCTAD /ECLAC
Japan	22	-
Jamaica	-	7
Korea	20	-
Kuwait	1	-
Malaysia	21	-
Mexico	20	25
Morocco	16	-
Netherlands	26	-
New Zealand	21	-
Nicaragua	-	5
Norway	19	-
Panama	6	4
Paraguay	-	19
Peru		33
Philippines	13	
Poland	23	-
Portugal	22	-
Rumania	18	-
Russia	25	-
Saudi Arabia	8	-
Singapore	21	-
Slovak Republic	22	-
Slovenia	14	-
Suriname	-	5
South Africa	21	-
Spain	22	-
Sweden	23	-
Switzerland	22	-
Thailand	21	-
Trinidad & Tobago	-	6
Turkey	20	-
United Kingdom	27	-
United States	23	26
Uruguay	-	13
Venezuela	16	19
TOTAL	**1116**	**379**

Annex II: Bilateral Investment Treaties signed and ratified by MERCOSUR countries

Argentina		Paraguay	Uruguay
Italy 1993	Korea, Republic of 1996	Taiwan 1992	Ecuador 1985
United Kingdom 1993	Malaysia 1996	Ecuador 1995	Romania 1993
Belgium/Luxemb 1994	Peru 1996	Romania 1995	Chile 1999
Canada 1993	Portugal 1996	Chile 1997	
Chile 1995	Australia 1997		
Germany 1993	Cuba 1997		
France 1993	Israel 1997		
Poland 1992	Ukraine 1997		
Spain 1992	Czech Republic 1998		
Sweden 1992	El Salvador 1999		
Switzerland 1992	Lithuania 1998		
United States 1994	Mexico 1998		
Austria 1995	Panama 1998		
China 1994	Guatemala		
Denmark 1992	Nicaragua 1998		
Egypt 1993	Greece 1999		
Netherlands 1994	Ecuador 1995		
Turkey 1995	Jamaica 1995		
Armenia			
Bulgaria 1997			
Finland 1996			
Hungary 1997			
Romania 1995			
Venezuela 1995			
Bolivia 1995			

Source: Own elaboration based on UNCTAD BIT on-line database.