DOES ECONOMIC INTEGRATION INCREASE TRADE MARGINS? EMPIRICAL EVIDENCE FROM LATIN AMERICA

Luis Marcelo Florensa- Instituto de Economía y Finanzas- Universidad Nacional de Córdoba, Argentina
Laura Márquez-Ramos-Departamento de Economía- Universitat Jaume I, España
María Luisa Recalde- Instituto de Economía y Finanzas- Universidad Nacional de Córdoba, Argentina
María Victoria Barone- Instituto de Economía y Finanzas- Universidad Nacional de Córdoba, Argentina

Abstract

This paper studies the effects of economic integration in Latin America on the margins of trade. The analysis is performed on eleven member countries of the Latin American Integration Association (LAIA). In order to do so, we use panel data for bilateral exports of goods from Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay and Venezuela to a large group of trading partners over the period 1962-2005.

We distinguish the effects of different levels of integration on trade margins; different "timing" (short and long-term) and different sectors (primary goods and agricultural manufactures; industrial manufactures and mineral fuels, lubricants and related materials). Our results provide evidence about the benefits of regional integration. Despite appearing to have contributed most to boosting exports of goods that were already exported rather than to diversification, regional trade integration is in line with LAIA members' development and industrialisation objectives, as trade margins have increased to a greater extent in industrial manufactures in the long term.

Keywords: Regional integration; extensive margin; intensive margin; LAIA; panel data

JEL: F14

Corresponding author: María Luisa Recalde, Institute of Economics and Finance, Universidad Nacional de Córdoba, Argentina. Phone: +94 3514437300, int.48569. Fax: Phone: +94 3514334436. E-mail lrecalde@eco.unc.edu.ar

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1. Introduction

The interest in determining whether an increase in a country's exports is due to maintaining and enhancing trade relations over time or to the appearance of new products and participation in new markets, has led to the study of the so-called intensive and extensive margins of trade. Also, the analysis of the consequences of Preferential Trade Agreements (PTA) on welfare gains among integrating countries has generated an important discussion in the trade literature.

Since the 1950's (Viner, 1950), many authors have contributed to this debate, especially in the early 1990's when there was a considerable increase in the number of studies based on gravity models (Eichengreen and Frankel 1995, Frankel et al. 1996, 1998; Soloaga and Winters, 2001, etc.).

The effect of PTA on international trade has generally been analysed by the gravity equation, where the dependent variable is the total value of exports (or imports) between two countries and the existence of PTA has been modelled by including a dichotomous variable among the explanatory variables.

Some of these recent studies considering aggregate trade flows are Carrère (2006), Magee (2008) and Martinez-Zarzoso et al. (2009). Recalde and Florensa (2009), and Recalde et al. (2010) can be mentioned as an application for the case of the Southern Common Market (Mercosur).

Most of these papers are based on a version of the gravity model that assumes homogeneous firms and consumer preference for variety. These two assumptions imply that all products are traded with all destinations.

However, empirical evidence indicates that only a few firms export and these exporters sell to a limited number of countries. This situation has led to the development of new theories regarding international trade based on the heterogeneity of firms (only the most productive export) and the existence of fixed exporting costs (Melitz, 2003).

Chaney (2008) shows that when goods are homogeneous and have a high elasticity of substitution, the intensive margin is sensitive to changes in trade barriers while the extensive margin is relatively minor. In contrast, when goods are differentiated and have low elasticity of substitution, lower tariffs on imports will allow firms with lower levels of productivity to enter new markets, thereby affecting the extensive margin.

As regards the studies that provide background to this work, it is worth mentioning Hummels and Klenow (2005), Hillberry and McDaniel (2003), Baier, Bergstrand and Feng (2011), hereafter referred to as BBF, and Bensassi et al. (2012).

Hummels and Klenow (2005) found that the extensive margin accounts for 60% of export growth in major economies, while others focus on the effects of regional trade integration on trade margins. Hillberry and McDaniel (2003) apply a decomposition of growth in trade that provides evidence about whether the United States trades more of the same products with partners in the North America Free Trade Agreement (NAFTA) since 1993, or whether they trade new products. Their results show that both margins coexist after the creation of NAFTA. BBF is the most closely related paper to our research. These authors analyse the effects of different economic

integration agreements on the intensive and extensive (goods) margins and distinguish between the short and long-term effects.

BBF did not perform an analysis distinguishing between exporters of specific geographical regions. Therefore, we focus on Latin America, as this analysis is relevant in a region where the commitment to economic integration is frequently questioned,[1] as proved by the recent suspension of Paraguay as a member of Mercosur and the incorporation of Venezuela[2]. Additionally, there have been a series of efforts to intensify trade relations between the European Union (EU) and Latin America. However, negotiations have been suspended, as a number of countries in the region feel that the EU pushes for concessions that would undermine domestic industries. Meanwhile, negotiations over an association agreement with Mercosur have been on hold since 2004.[3]

In order to analyse the effects of economic integration in Latin America on the extensive and intensive margins of trade, we follow the methodology introduced in BBF. The analysis is performed for all members of the Latin American Integration Association (LAIA) and their bilateral exports to a large group of trading partners over the period 1962-2005.[4]

We distinguish the effects of different levels of integration; different "timing" (short and long term) and different sectors. We first study whether the economic integration agreements (EIAs) signed by LAIA members have positively affected the intensive and extensive margins of trade and whether the deepest integration agreements have had a greater impact on trade margins. BBF has already explored the effects on trade margins of alternative types of EIAs, finding that deeper integration agreements have a greater impact on trade flows than shallower agreements. Therefore, customs unions are expected to have a more significant effect than partial trade agreements.

Second, we study relative effect of EIAs on trade margins. BBF found that the effect of EIAs on the intensive margin is higher in magnitude than the effect on the extensive margin (in the current period) as changes in volume do not entail start-up costs, which delay the emergence of new firms as exporters. Previous work showed that immediately after trade agreements come into force, the intensive margin is affected more than the extensive margin (Bernard et al, 2009).

Third, we consider differential "timing" and test whether positive effects are more persistent over time in trade margins among Mercosur and Andean Community countries, which have a deeper level of integration (CU; see Table A.1). Furthermore, other integration agreements in which developed countries are involved (PTA or FTA) could be beneficial for trade margins in the "long term", as other regional areas have shown greater commitment to signing economic integration agreements than Latin American countries (see, for example, the case of the European Union). BBF argues that EIAs are likely to have delayed impacts on trade flows, because they are "phased-in" over 5 to 10 years, delaying the full implementation of liberalization.

Fourth, we analyse the effect of Latin American agreements on different sectors. Chaney (2008) shows that the extensive margin and the intensive margin are affected in different directions by the elasticity of substitution. The impact of trade barriers is strong in the intensive margin for high elasticities of substitution (homogeneous products), whereas the impact is mild on the extensive margin.

[1] It is important to note that nowadays what is discussed is how the integration is manifested (for example, trade integration without political and productive density).

[2] See, for example, "El Mercosur suspendió a Paraguay y oficializó el ingreso de Venezuela", La Nación, 29 June 2012 (http://www.lanacion.com.ar/1486249-centrada-en-la-crisis-en-paraguay-comienza-la-cumbre-del-mercosur)

[3] "Brussels' commitment to Latin American integration questioned", EUobserver, 30 September 2009 (http://euobserver.com/economic/28749).

[4] Cuba has been a member since 1999, but it is not considered in the empirical analysis because trade data is available only for some years of the period.

Fifth we study if differential “timing” effects of EIAs on trade margins differs by type of product. Two possible effects might emerge; on the one hand, as LAIA countries have a comparative advantage in agriculture (see Márquez-Ramos, 2007), trade margins might be more time-sensitive to changes in trade liberalisation in primary goods and agricultural manufactures. On the other hand, trade liberalisation might be fostering growth in industrial manufactures to a greater extent, as trade margins in this sector would be more time-sensitive to changes in regional integration. The predominance of the first effect might be related to trade policy issues in multilateral discussions, as this type of goods was exempt until the Uruguay Round. Not much progress has been made in regard to import quotas, tariffs and subsidies even under the Doha Round. As a result, the effect of trade liberalisation in a highly protected sector tends to be stronger when a previous agreement in tariff matters has not been reached. Otherwise, the predominance of the second effect would provide evidence in favour of the welfare gains of EIAs in the Latin American countries, in line with the development and industrialisation objectives in the region.

Bensassi et al. (2012) found that the effect on the intensive margin is stronger for products in which the elasticity of substitution is higher within the Barcelona process. However, they only focused on manufactured products (categories 5 to 8, see Table A.4). In this paper, we consider three sectors: primary goods and agricultural manufactures (sector 1, codes 0, 1, 2 and 4, see Table A.4); industrial manufactures (sector 2, codes 5, 6, 7, 8 and 9) and mineral fuels, lubricants and related materials (sector 3, code 3).

This paper is divided into five parts: after the introduction, section 2 describes the methodology; section 3 reviews the process of economic integration in LAIA countries. The empirical analysis is carried out in section 4, which includes data and a brief description of the LAIA countries’ exporting performance, as well as the main results. Finally, section 5 concludes.

2. Methodology

Several empirical papers have studied the intensive and extensive margins of trade. The methodology in Hummels and Klenow (2005), hereafter referred to as HK, used bilateral trade flows at a high level of disaggregation of products seeking to explain the growth in exports by major exporting "quantities" of a particular good (intensive margin, or IM) or a wider range of goods (extensive margin, or EM). Among the studies that analyse the effects of economic integration agreements on trade margins, it is worth mentioning Hillberry and McDaniel (2002) and Kehoe and Ruhl (2009) for NAFTA; and Bensassi et al. (2012) for the effects of the Barcelona Process on North African countries.

The present paper uses the methodology in BBF to measure the effects of four types of economic integration agreements on the eleven member countries of LAIA (Frankel, 1997): a) Nonreciprocal or one-way Preferential Trade Agreements (NRPTA) generally entail concessions by an industrialised country to less developed countries; b) Reciprocal or two-way Preferential Trade Agreements, known as Preferential Trade Areas (PTA); c) Free Trade Agreements (FTA) if the members of a preferential area go so far as to eliminate all tariffs and quantitative import restrictions among themselves and d) Customs Unions (CU), whereby the members of an FTA go beyond removing trade barriers among themselves and set a common level of trade barriers for third countries.

By using a panel of bilateral trade flows of goods for a large number of countries and for the period 1962-2005, we will distinguish the effects of different levels of integration in the signed arrangements. The length of this period will allow us to study the short and long-term effects, as well as covering the proliferation of regional trade agreements after the World War II, while excluding the last international financial crisis.

In the recent literature on the use of gravity equations to estimate the effects of economic integration, at least three aspects worth considering and solving figure prominently.
The first is the endogeneity that occurs when regional integration variables are correlated with the error term; another important aspect is when the specification ignores the importance of relative prices known as "multilateral resistance"; finally the "timing" effect is also an important issue, as when the length of the panel is too short, long-term effects cannot be distinguished. BBF proposed the use of panel econometric techniques to deal with these three issues.
The present study considers the following gravity equation:

$$ln\left(\frac{X_{ijt}}{Y_{it}Y_{jt}}\right) = \beta_0 + \beta_1\left(lnDIST_{ij}\right) + \beta_2\left(CONTIG_{ij}\right) + \beta_3\left(COMLANG_{ij}\right) + \beta_4\left(EIA_{ijt}\right) - ln\Pi_{it}^{1-\delta} - lnP_{ji}^{1-\delta} + \varepsilon_{ijt} \quad (1)$$

Where ln denotes natural logarithms. X_{ijt} is the value of the aggregate export flow from country i to country j in year t, Y_{it} (Y_{jt}) is gross domestic product, or GDP, in country i (j) in year t, $DIST_{ij}$ is the bilateral distance between the economic centres of i and j; $CONTIG_{ij}$ is a dummy variable assuming a value of 1 if the two countries share a common land border (and 0 otherwise); $COMLANG_{ij}$ is a dummy variable that takes a value of 1 if the two countries share a common language; EIA_{ijt} is a variable indicating the level of integration between the two countries in year t, and $ln\Pi_{it}^{1-\delta}$ ($lnP_{ji}^{1-\delta}$) is exporter i´s (importer j´s) non-linear and unobservable multilateral price/resistance term.
Regarding estimating the effects of EIAs (β_4), if this variable is correlated with the error term, it is econometrically endogenous and ordinary least squares can lead to biased and inconsistent coefficient estimates for β_4. BBF argues that endogeneity bias[5] is due to self-selection of country pairs into EIAs. In order to eliminate endogeneity bias from the variable EIA, they propose the use of panel techniques and estimation by fixed effects (FE) of the following equation (Specification 1):

$$lnX_{ijt} = \beta_0 + \beta_1 EIA_{ijt} + \eta_{ij} + \delta_{it} + \psi_{jt} + \varepsilon_{ijt} \quad (2)$$

Where η_{ij} is a country-pair fixed effect to capture all time-invariant bilateral factors influencing nominal trade flows; δ_{it} and ψ_{jt} are exporter-time and importer-time fixed effects, respectively, to capture time-varying exporter and importer GDP, as well as all other time-varying country-specific effects that are unobservable in i and j and influence trade, including the exporter´s and importer´s multilateral price resistance terms.
In order to address the issue of the "timing" effects of EIA, BBF use two additional specifications.

$$lnX_{ijt} = \alpha_0 + \alpha_1\, EIA_{ijt} + \alpha_2\, EIA_{ijt-5} + \eta_{ij} + \delta_{it} + \psi_{jt} + \varepsilon_{ijt} \quad (3)$$

$$\Delta lnX_{ij,t-(t-5)} = \gamma_0 + \gamma_1\, \Delta EIA_{ij,t-(t-5)} + \gamma_2\, \Delta EIA_{ij,(t-5)-(t-10)} + \delta_{i,t-(t-5)} + \psi_{j,t-(t-5)} + \varepsilon_{ij,t-(t-5)} \quad (4)$$

[5] For a complete explanation of this issue see BBF and Baier and Bergstrand (2007).

First, Specification 2 (equation 3) generalises Specification 1 (equation 2) by including one lag of the EIA variable to distinguish between current and lagged effects (EIA_{ijt-5}). Second, Specification 3 (equation 4) is based on the first-differencing of Specification 2 and avoids the problems stemming from potential serially correlated errors and unit-root processes for RHS variables in specification 1 and 2. Following Baier and Bergstrand (2007) and BBF, we allow various types of EIAs, allow for lagged effects and then consider a five-year lag ($\Delta \mathrm{EIA}_{\mathrm{ij,t-(t-5)}}$: difeia) and a further lag ($\Delta \mathrm{EIA}_{\mathrm{ij,(t-5)-(t-10)}}$: difeialong). However, while Baier and Bergstrand (2007) and BBF worked with 5-year interval data, we work with yearly data for the entire period.
In the empirical analysis, we estimate Specifications 1, 2 and 3, whereby X_{ijt} might denote the value of exports of goods from country i to j in the year t (TRADE), the extensive margin (EM) or the intensive margin (IM).

In order to obtain the EM and the IM, we employ the methodology developed in HK[6]. If $\mathrm{X_{ijt}}$ is the value of country i´s exports to country j in year t, the extensive margin of goods exported from i to j in any year t is defined as:

$$EM_{ijt} = \frac{\sum_{m \in M_{ijt}} \mathrm{X}^{m}_{wjt}}{\sum_{m \in M_{wjt}} \mathrm{X}^{m}_{wjt}} \qquad (5)$$

Where X^{m}_{wjt} is the value of the world´s exports to country j in product m in year t; M_{wjt} is the set of all products exported by the world to country j in year t and M_{ijt} is the subset of all products exported from i to j in year t. Hence, EM_{ijt} is a measure of the fraction of all products that are exported from i to j in year t, whereby each product is weighted by the share that product represents of world exports to j in year t.
HK define the intensive margin of goods exported from i to j in year t as:

$$IM_{ijt} = \frac{\sum_{m \in M_{ijt}} X^{m}_{ijt}}{\sum_{m \in M_{ijt}} X^{m}_{wjt}} \qquad (6)$$

Where X^{m}_{ijt} is the value of exports from i to j in product m in year t. IM_{ijt} represents the market share of country i in country j´s imports from the world within the set of products that i exports to j in year t. One of the main properties of the HK methodology is that the product of the two margins equals the ratio of exports from i to j relative to country j's total imports.

$$EM_{ijt} IM_{ijt} = \frac{\sum_{m \in M_{ijt}} X^{m}_{ijt}}{\sum_{m \in M_{wjt}} X^{m}_{wjt}} = X_{ijt} / X_{jt} \qquad (7)$$

Where X_{jt} denotes j´s imports from the world. Taking the natural logs of equation (7) and some algebra yields:

$$lnX_{ijt} = lnEM_{ijt} + lnIM_{ijt} + lnX_{jt} \qquad (8)$$

This methodology concludes that the log of the value of trade flows from i to j in the year t can be decomposed linearly into logs of the extensive margin, the intensive margin and the value of j´s imports from the world.
Two aspects worth indicating when applying this methodology are: a) that due to using estimations with fixed effects and first differences in the empirical section, the term

[6] The methodology in HK makes it possible to compute the so-called "goods" margins of trade.

lnX_{jt} is included in the fixed time-importer effects ψ_{jt}; b) and following BBF, HK methodology can be used in a panel that permits the use of the indicators employed in the construction of EM_{ijt} and IM_{ijt} such that they vary over time.

3. The Latin American integration process

The group of eleven Latin American countries under analysis signed a significant number of EIAs over the period 1962-2005 (Tables A.1, A.2 and A.3 in the Appendix summarise this information).[7] First, the 1960 Montevideo Treaty created the Latin American Free Trade Association (LAFTA), signed initially by Argentina, Brazil, Chile, Mexico, Paraguay, Peru and Uruguay and by 1970, LAFTA had expanded to include four more nations: Bolivia, Colombia, Ecuador, and Venezuela. The signatories hoped to create a common market in Latin America and offered tariff rebates among member nations. LAFTA came into effect on January 1962 and was superseded in 1980 by the Latin American Integration Association (LAIA). Cuba was the last country to accede, becoming a full member of LAIA in 1999. LAIA is nowadays the largest Latin American integration group and includes all the eleven exporting countries included in the analysed sample of countries.

Second, the Andean Pact came into existence with the signing of the Cartagena Agreement in 1969 by Bolivia, Chile, Colombia, Ecuador and Peru. In 1973, the pact gained its sixth member, Venezuela. In 1976, however, its membership was again reduced to five when Chile withdrew. Venezuela announced its withdrawal in 2006, reducing the Andean Community to four member states. The Andean Community (or CAN, it was called the Andean Pact until 1996), is nowadays a customs union.

Third, the Southern Common Market (Mercosur) was created in 1991 by the Asuncion Treaty and was signed initially by Argentina, Brazil, Paraguay and Uruguay. It became a customs union in 1995. Bolivia and Chile have been associate members since 1996; Peru since 2003; Colombia and Ecuador since 2004. Venezuela has been incorporated, while Paraguay was suspended in 2012. Bolivia has been an accessing member since December 2012.

Recently, following the new cooperation agreement with Mercosur, the Andean Community gained four new associate members: Argentina, Brazil, Paraguay and Uruguay. These four Mercosur members were granted associate membership in 2005. Countries in other regions have also signed agreements with LAIA members. For example, over the time period considered, the EEA[8] has signed an integration agreement with Chile and Mexico, the CARICOM with Colombia and Venezuela, while Canada, Mexico and the United States have signed the NAFTA. Mexico also signed the G-3, an FTA with Colombia and Venezuela, although Venezuela withdrew from the agreement in 2006 (Table A.1).

Chile has signed the most bilateral agreements in the region: with Bolivia, Canada, Colombia, Costa Rica, El Salvador, Mexico, Korea, Peru, Venezuela and the United

[7] Table A.1 lists the trade agreements of LAIA members with other EIAs; Table A.2 lists the bilateral trade agreements of LAIA members with third countries and Table A.3 lists the countries involved in the Generalized System of Preferences.

[8] The European Free Trade Association (EFTA) is a trade block created in 1960 by Austria, Denmark, the United Kingdom, Norway, Portugal, Sweden and Switzerland. Finland became a member in 1961, Iceland in 1970 and Liechtenstein in 1991. Following the abandonment of EFTA and the entry into European Community of the United Kingdom and Denmark in 1973, Portugal in 1986, Austria, Sweden and Finland in 1995, the importance of EFTA diminished. Nowadays, this block consists of Switzerland, Iceland, Liechtenstein and Norway and they have a free trade area with the EU (European Economic Area, or EEA for its acronym in English).

States (Table A.2). In fact, Chile has undergone the most far-reaching liberalisation process in the Latin American region over the period 1994-2008 and together with Mexico seems to have liberalised relatively more within other integration agreements, such as the NAFTA and the EU, than within LAIA (Florensa et al, 2011). Mexico is also worth highlighting for having signed a number of important bilateral agreements: it signed EIAs with Bolivia, Chile, Costa Rica, Israel, Japan and Nicaragua (Table A.2).
An important number of developed countries have signed non reciprocal agreements with developing countries. For example, Japan and Norway in 1971; New Zealand in 1972; Australia and Canada in 1974; and Turkey in 2002 all signed the Generalized System of Preferences with all the LAIA countries (Table A.3).

4. Empirical analysis

4.1. Data

In order to perform the empirical analysis, two main sources of data have been used: bilateral trade flows and a polychotomous variable representing the level of economic integration the agreement entails.[9] For the construction of the database, bilateral trade flows for the period 1962-2005 were taken into account. Trade data for the period 1962-2000 were obtained from the NBER- United Nations trade data set, available at http://cid.econ.ucdavis.edu/data/undata/undata.html and documented in Feenstra et al. (2005), whereas WITS (COMTRADE) was used for the period 2001-2005. In both cases, the data are classified according to 4-digit Standard Industrial Trade Classification (SITC), Revision 2. The exporting countries are the 11 members of LAIA (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, Paraguay, Venezuela and Uruguay) while the importers are the 161 destination countries (see Table A.5 in the Appendix). In addition, we had to build a database with the same characteristics (period and classification of goods) considering the world as an exporter and the 161 destination countries as importers in order to calculate the margins of trade.
The variable indicating the level of integration between country pairs takes the form of a polychotomous index built by BBF and is available at www.nd.edu/jbergstr/. BBF's polychotomous indexes were checked by the documents available in this database and also by the EIA set out in the website of the World Trade Organization (WTO).
The index is defined as follows: (0) when there is no EIA; (1) when the agreement is asymmetrical or one-way (NRPTA); (2) corresponds to two-way preferential trade agreements (PTA); code (3) defines free trade agreements (FTA) and (4) refers to customs unions (CU). The dummy variables to complete the gravity equation presented in (1) (distance, contiguity and language) were obtained from the CEPII website[10].

4.2. Regional export performance

Figures 1-12 in the Appendix show the changes in export share by different sectors. Major differences are observed when each of the eleven countries is considered. Brazil and Argentina show greater export diversification manifested in a significant increase in the export share of industrial manufactures and a decrease in primary goods and agricultural manufactures. Chile displays the opposite trend. Exports have grown but with a tendency to a greater relative share of agricultural manufactures and declining importance of industrial manufactures.

[9] Polychotomous variables are categorical variables that can be classified into many categories.
[10] Distance is calculated using the geographical coordinates of the main countries´ population agglomerates.

Colombia and Ecuador have diversified their exports recording an increase in the share of industrial manufactures and mineral fuels, lubricants and related materials. Bolivia's exports have concentrated as mineral fuels, lubricants and related materials have risen to account for approximately 50% while a substantial fall is observed in the other two sectors.

In Peru, agricultural and industrial manufactures represent almost 50% of exports, the third sector, which had accounted for almost 25% in the 80s, registering a significant loss. Paraguay exports 80-90% of agricultural manufactures while the rest are industrial manufactures; this structure has remained unchanged throughout the period.

Mexico displays the most important change in the structure of its exports: 80% are industrial manufactures (at the beginning of the period, that sector only accounted for 20%) and agricultural manufactures do not even represent 10%; also, mineral fuels, lubricants and related materials, which accounted for 60% in the 1980s, have witnessed a decrease to only 12% in recent years. Venezuela has concentrated its exports in mineral fuels, lubricants and related materials (80%) and has recorded a slight increase in the share of industrial manufactures.

Figures 13-24 in the Appendix show the structure of exports by destination. Considering the eleven countries in the region (Figure 13), it appears that there was an increase in the share held by the USA and Canada as the main destination due to the relative importance of Mexico's exports. LAIA and the EU share similar percentages (15%); while Asian countries + Japan and China have a small stake in the group.

In Argentina (Figure 14), traditional markets such as the EU and the USA + Canada became less important as exports to countries in the region increased, especially in the 1990's, but with a subsequent stagnation. In recent years, new markets have emerged for Argentina, including ASEAN + Japan, China and Africa.

Figure 15 shows the main destinations for Bolivia exports. There is a significant decrease in the EU and a significant increase in the participation of LAIA as a destination. Towards the end of the period, Bolivian exports became highly concentrated within the region. Exports to the USA + Canada exhibit fluctuations throughout the period and stabilised at the end with a share of around 15%. The new destinations that appear in some of the other countries in the region, such as Asian countries, are relatively unimportant.

Brazil began the period with exports being highly concentrated in only two destinations (the USA + Canada and EU15). At the end of the period, destinations are more diversified as the USA + Canada, EU and LAIA share around 30% each. Brazil has not had a major market in the region like Argentina, Bolivia, Paraguay and Uruguay. ASEAN + Japan, China and Africa have remained stable over time and are less important as destinations for Brazilian exports (See Figure 16).

The situation in Chile is similar to that of Brazil. Chile's exports were highly concentrated in only two markets (the USA + Canada, and the EU) at the beginning of the period. LAIA participation as a destination for Chilean exports has fluctuated, reaching 30% in the 70s and finishing the period with only 15%.

The group of ASEAN countries + Japan appear as destinations earlier than in the rest of Latin American countries and their share has remained stable over the years, standing at 22% in 2005. Along with Brazil, Chile is the most diversified country in terms of export destination (See Figure 17).

The most important destination for Colombia´s exports is the USA + Canada (44% in recent years). Next in order of importance is LAIA, but only with 26%; the EU has reduced its share as a destination for Colombian exports from 32% to 15% (See Figure 18).

The USA + Canada have been an important destination for Ecuador exports. At the beginning of the period they accounted for 50% and later 70% before returning to a share of about 50% in 2005. Ecuador's exports to countries in the region have been very volatile, but have stabilised at around 20% in recent years, while the EU has lost ground as an export destination (See Figure 19).

Mexico is characterised by highly concentrated exports to USA + Canada; at the end of the period under study, 90% of Mexico's exports were bound for that market. The relative share of the EU and ASEAN + Japan has been declining over time to very small values (See Figure 20).
Paraguay sells the bulk of its exports to Latin America (about 70%). The EU and the USA + Canada, which shared the market equally at the beginning of the period, have witnessed a considerable loss in relative importance. In recent years, China and Asean + Japan appear as Paraguayan export destinations, but both only account for 7% of the market (See Figure 21).
Peru begins and ends the period with a highly diversified market for their exports. The EU has lost share, while the USA + Canada destination displays fluctuations, but was still the most important destination (37%) at the end of the period. LAIA countries were never very important export destinations for Peru; in recent years, they have represented about 20% (See Figure 22).
LAIA countries increased their share of Uruguayan exports from 8% at the beginning of the period to 60% in the 90s; the figure stood at 34% in 2005. The EU has lost importance as a destination for Uruguayan exports (from 65% to only 20%) while the USA + Canada has become a major destination and accounts for 24%. In recent years, ASEAN + Japan, China and Africa has emerged as an export destination (See Figure 23).
Venezuela is one of the countries in the region with a highly concentrated export market. The USA + Canada increased their relative importance and accounted for 68% by the end of the period. Only 11% of Venezuelan exports are bound for LAIA countries, while the EU has seen its share of exports drop to only 8% (See Figure 24).

4.3. Main Results

Tables 1-5 show the main results of our regressions. Each table reports the results for three alternative LHS variables: Bilateral Trade (Trade), Extensive Margin (EM) and Intensive Margin (IM), respectively. Additionally, we have vertically ordered the list of existing EIAs from shallower to deeper economic integration. Based on the characteristics of the EIAs, one would expect the degree of trade liberalisation to be deeper in Customs Unions (CU), next deepest in Free Trade Agreements (FTA) and shallowest in either Two-Way (PTA) or Non Reciprocal Preferential Trade Agreement (NRPTA), and then the deepest integration agreements (Mercosur and CAN) are expected to have a greater effect on trade margins than PTAs and FTAs.
Columns 1-3 in Table 1 show the results obtained when specification 1 is estimated, i.e. without lags for the variables of interest. The results show that the estimated coefficients for IM and EM of NRPTA and IM of PTA are negative. Negative and significant coefficients for shallower trade agreements are also obtained by BBF; this would require further investigation. However, for the deepest EIAs (CU), Trade, EM and IM coefficients are positive and statistically significant in Specification 1, and the effect on IM is larger than on EM.[11]
Table 1 also shows the results obtained when specification 2 is estimated, which includes lagged values of EIA dummies. The results obtained in columns 4-6 show a

[11] The estimated coefficients for the intensive and extensive margin of NRPTA and the intensive margin of PTA are negative and significant; however, they become non-significant in Specification 2 (excluding the case of the extensive margin of NRPTA) and 3.
Specification 1 has also been estimated using typical time-invariant bilateral gravity variables and excluding country-pair dummies, as in BBF. Similar conclusions hold for the variables of interest. Furthermore, the coefficient estimates for distance display similar values to those in the gravity-equation literature for aggregate trade flows and are statistically significant. The variable contiguity is not statistically significant and language is positive and significant on the extensive margin of trade. These results are available upon request from the authors.

positive and significant coefficient for the 5-year lag of PTAs on the extensive margin, the 5-year lag of FTAs on the intensive margin and the 5-year lag of the variable CU on the intensive margin. Results show that the CU has the largest positive effect on both margins of trade, but it is in the intensive margin of trade where the positive and significant effect of economic integration seems to persist after 5 years.

In particular, the sum of the estimated coefficients for the CU and L5.CU variables is 0.719 when the dependent variable is the logarithm of the intensive margin; so, if a Latin American country engages in a customs union, the intensive margin of its exports increases by 105% (($e^{0,719} - 1$) *100)), whereas bilateral trade increases by 146% (($e^{0,901} - 1$) *100). In the case of the intensive margin, most of the observed effect is achieved after five years.

Despite being a technique used in the literature (BBF), as a sensitivity analysis to ensure that the decision on the number of lags does not affect the main results, a variant of equation (3) that includes a 10-year lag is also estimated. The previous results are confirmed in columns 7-9 of Table 1; in addition, this set of regressions shows that the only 10-year lag that is significant is the one corresponding to FTAs on the IM. In particular, if a Latin American country engages in a free trade area, the intensive margin of its exports increases by 46.6% after 5 years (($e^{0,383} - 1$) *100) and by 54.5% after 10 years (($e^{0,435} - 1$) *100)). These results indicate that it is worth taking into account long-term effects when analysing the effect of regional integration in Latin American countries.

Table 1. Main results for Specification 1 and 2, all goods

	Specification 1: All goods			Specification 2: All goods			Specification 2: All goods		
	TRADE(1)	EM(2)	IM(4)	TRADE (5)	EM (6)	IM (6)	TRADE (7)	EM (8)	IM (9)
NRPTA	-0.322***	-0.043	-0.280**	-0.291**	-0.207**	-0.084	-0.304**	-0.189**	-0.115
	-2.763	-0.439	-2.526	-2.526	-2.238	-0.762	-2.565	-2.034	-1.016
L5.NRPTA				-0.014	-0.013	0.000	0.003	-0.023	0.026
				-0.082	-0.100	-0.002	0.02	-0.175	0.165
L10.NRPTA							-0.086	-0.167	0.081
							-0.434	-1.079	0.431
PTA	-0.078	0.180***	-0.258***	-0.183*	-0.089	-0.094	-0.211*	-0.149*	-0.063
	-0.973	2.693	-3.392	-1.86	-1.13	-0.999	-1.891	-1.698	-0.585
L5.PTA				0.13	0.152*	-0.022	-0.054	-0.148	0.094
				1.338	1.946	-0.238	-0.448	-1.579	0.826
L10.PTA							-0.017	0.098	-0.115
							-0.161	1.17	-1.128
FTA	0.232**	0.112	0.120	0.085	-0.064	0.148	0.037	-0.097	0.135
	2.205	1.276	1.203	0.782	-0.731	1.437	0.331	-1.101	1.25
L5.FTA				0.09	-0.154	0.244*	-0.051	-0.434***	0.383***
				0.611	-1.306	1.743	-0.336	-3.652	2.645
L10.FTA							0.619***	0.184	0.435*
							2.663	1.009	1.959
CU	0.824***	0.351***	0.473***	0.585***	0.342***	0.244*	0.435***	0.313**	0.122
	6.438	3.288	3.896	3.784	2.746	1.654	2.785	2.557	0.817
L5.CU				0.316*	-0.159	0.475***	0.029	-0.510***	0.539***
				1.745	-1.090	2.750	0.154	-3.442	2.985
L10.CU							0.173	-0.068	0.242
							0.643	-0.324	0.939
Number of observations	39739	39739	39739	28700	28700	28700	21838	21838	21838
R2	0.684781	0.4504699	0.4517053	0.6971317	0.5247483	0.5060955	0.6479584	0.5800728	0.5506534

Notes: ***, **, * indicate significance at 1%, 5% and 10%, respectively. T-statistics are provided below every coefficient.

In order to analyse the importance of the lagged effects in our regressions, we follow BBF in estimating the panel dataset by difference techniques. BBF use a first-difference specification as Baier and Bergstrand (2007) showed that the full impact of EIAs on trade flows took 10-15 years as most EIAs are "phased out" over 5-10 years.

Table 2. Main results for specification 3, all goods

	TRADE(1)	EM(2)	IM(3)
Difnrpta	-0.014	0.045	-0.06
	-0.105	0.400	-0.444
Difnrptalong	0.061	0.004	0.057
	0.326	0.027	0.31
Difpta	0.141	0.134	0.007
	1.147	1.318	0.059
Difptalong	0.064	-0.003	0.066
	0.508	-0.026	0.54
Diffta	0.189	0.042	0.147
	1.407	0.380	1.115
Difftalong	0.103	-0.160	0.262
	0.579	-1.091	1.51
Difcu	0.269	0.206	0.063
	1.399	1.294	0.336
Difculong	0.034	-0.333**	0.367*
	0.172	-2.051	1.905
Number of observations	21838	21838	21838
R2	0.4035097	0.491309	0.4595071

Notes: ***, **, * indicate significance at 1%, 5% and 10%, respectively. T-statistics are provided below every coefficient.

Table 2 shows the results obtained for specification 3. In this specification, the variables difnrptalong, difptalong, difftalong and difculong are associated with the further lag ($\Delta \mathrm{EIA}_{\mathrm{ij,(t-5)-(t-10)}}$: difeialong) and variables difnrpta, difpta, diffta and difcu with $\Delta EIA_{ij,t-(t-5)}$, for the set of all goods. The results obtained display a positive and significant effect on the intensive trade margin for the lagged change in the deepest integration agreements (CU), in line with results obtained in Specification 2. Nonetheless, for the lagged change, the existing CUs in Latin America have had a negative and significant effect on the extensive margin of trade. Consequently, the overall effect on trade is not statistically significant. The estimated coefficients for shallower EIAs are not statistically significant.

Table 3 shows the results obtained when specification 1 is estimated for the three sets of products. As in the case where all the goods are pooled together, the deepest integration agreements have a larger effect on the margins of trade than PTAs and FTAs for sector 1. If one Latin American country becomes a member of a customs union, its bilateral exports of primary goods and agricultural manufactures increase by

204% ($e^{1.113}$- 1)*100. Furthermore, the intensive margin is higher in magnitude than the extensive margin for sector 1 (79% and 70%, respectively). The coefficient of the deepest integration agreement (CU) has a positive and significant impact on the IM in sector 2. Finally, in mineral fuels, lubricants and related materials trade integration displays a positive and significant effect on the extensive margin of trade for NPTA, FTA and CU.

Table 4 shows the results obtained when specification 2 with the additional 10-year lag is estimated for sectors 1, 2 and 3. The results obtained show a positive and significant coefficient for the 10-year lag of PTAs on the extensive margin, the 10-year lag of the variable CU on the intensive margin and the 10-year lag of FTAs on both the EM and the IM for primary goods and agricultural manufactures. Results show that the FTA and CU have the largest positive effect on trade, although it is only in the intensive margin of trade where the positive and significant effect of economic integration in the form of a customs union seems to persist after 10 years. The sum of both coefficients (CU and L10.CU) yields a value of 0.948, which implies a total increase of 95%, most of which is in the long term. Long-term effects are positive and significant on the IM for FTAs and CUs (in the 5-year lag) in sector 2 and on the EM for PTAs and FTAs (in the 10-year lag) in sector 3. Unlike the results for all the goods pooled together, non-reciprocal agreements have a positive and significant effect on the intensive margin for primary goods and agricultural manufactures; however, this effect is negative in both the 5-year lag and the 10-year lag, which might offset the initially positive effect on trade margins. In summary, the different levels of EIAs register a positive and significant (and larger) coefficient on the intensive margin of trade in the sector of primary goods and agricultural manufactures. These results are in line with expectations, as the impact of trade liberalisation is stronger in the case of the intensive margin for goods with high elasticities of substitution (Chaney, 2008).

In Table 5, the results obtained for primary goods and agricultural manufactures show that both a positive effect of CU on the intensive margin and a negative effect of CU on the extensive margin coexist, but only in the short term. Therefore, the effect of trade liberalisation is felt sooner on trade margins in more homogeneous goods. These results also show the non-significant effects of shallower integration agreements on exports of primary goods and agricultural manufactures, as well as the positive effects of preferential trade agreements on the extensive margin in the long term in the case of industrial manufactures. Consequently, the differential "timing" effects of EIAs on trade margins are not robust to the specification.

Specification 3 provides partial evidence in favour of the welfare gains of EIAs in the Latin American region, as regional integration is in line with its development and industrialisation objectives. According to the results obtained, LAIA countries have increased their diversification of the industrial export matrix and hence the structure of domestic industrial production, as a consequence of becoming involved in preferential trade agreements with countries in other regions (increase in the EM). Furthermore, we show that "deep" Latin American trade integration has increased the concentration of the export matrix of primary goods and agricultural manufactures (increase in the IM). The fact that trade margins are more sensitive to changes over time in the liberalisation of the sector of primary goods and agricultural manufactures might be due, at least to some extent, to trade policy issues as regards sensitive goods in multilateral discussions. These issues were exempt until the Uruguay Round (1986-1994) and not much progress has been made in relation to import quotas, tariffs and subsidies even under the Doha Round. The effect of trade liberalisation in a highly protected sector tends to be stronger when an agreement in tariff matters has not been reached. These results complement those obtained by previous literature, where integration agreements in different regions and different types of goods are pooled together (BBF).

5. Conclusions

In terms of economic policy, the extensive margin in a *pure* sense of the term can be defined as those exports that provide new market entrants, while the intensive margin in a *pure* sense is due to continued growth in sales of old exporters to the same destinations. Albornoz (2011) highlights the distinction between old ("continuers") and new ("entrants") exporters, “continuers” might operate in new markets with old goods, in old markets with new goods and with new products in new markets. In this regard, it is important to highlight the potential growth of exporters that might have placed new goods or might have reached new markets, which would reflect more diversified international integration. However, this type of calculation would involve working with firm data and we focus instead on sectoral trade statistics.

This paper analyses the consequences of Latin American integration on trade margins by following a methodology recently introduced by BBF. To the best of our knowledge, no other studies have applied this methodology distinguishing exporters from specific geographical regions and using yearly trade data. Furthermore, differential “timing” (short and long term) is approached more accurately than in previous research.

Our results show that intensive and extensive margins of trade are positively affected by regional trade liberalisation in the case of deeper integration agreements. These results are in line with the previous literature, which uses a large number of country-pairs from different regions to analyse the effect of EIAs on trade margins (BBF).

Obtaining these results when LAIA countries are isolated is highly relevant to convince policymakers about the welfare gains of EIAs, as commitment to economic integration is frequently questioned in the LAIA region. Furthermore, when “deep” integration agreements such as the EU are included in the same dataset, results might be misleading.

Also where deeper integration agreements are concerned, EIAs have a larger impact on the intensive margin than the extensive margin. Moreover, when differential “timing” effects are considered, the positive effects of regional trade integration are found to be more persistent over time in the case of the intensive margin than the extensive margin. Hence, regional trade integration among LAIA members appears to have contributed more to increasing exports of goods that were already exported than exports of new goods.

Finally, unlike other papers which study the effect of integration agreements on trade margins only in industrial manufacturing, we focus on the differential impact of economic integration in three sectors: primary goods and agricultural manufactures; industrial manufactures and mineral fuels, lubricants and related materials. The results obtained show that deeper EIAs have a greater effect in the case of primary goods and agricultural manufactures than industrial manufactures in the short term, but regional trade liberalisation seems to foster the development of the industrial manufacturing sector to a greater extent in the long term. As a result, we provide evidence in favour of the welfare gains of EIAs in the Latin American region, as regional integration is in line with its development and industrialisation objectives.

Whether export growth in the region is due to a greater extent to the extensive margin or to the intensive margin has important policy implications. On one hand, an increase in the extensive margin can be understood as a diversification of the export matrix (and hence the structure of domestic production), while an increase in intensive margin can result in the concentration of the export matrix.

Overall, our results support the limited impact of shallower trade agreements. Consequently, it seems that further agreements which may lead to greater continuity in time and depth in the level of commitment and concessions is an optimal strategy to follow in Latin America.

In view of the economic instability that characterises the region, further research on different time periods would confirm whether the results for the whole period might be generalised or, otherwise, dissimilar according to the historical period under

consideration. In this sense, we are aware that trade liberalisation in LAIA countries might have had a different impact on trade in different periods (see, for example, Florensa et al. 2011 for a comparison before and after the Latin American crises). In this paper, we have focused exclusively on the consequences of different levels of integration on trade margins; taking into account different "timing" (in the short and long term) and different sectors over a long time period (1962-2005). In order to consider the effect of regional trade integration in LAIA countries after the Latin American crises, a longer time period should be completed, which would in turn require a larger dataset. We leave this issue for further research.

Table 3. Main results for specification 1, Sectors 1, 2 and 3

	Primary goods and agricultural manufactures			Industrial manufactures			Mineral fuels, lubricants and related materials		
	Trade(1)	EM(2)	IM(3)	Trade(4)	EM(5)	IM(6)	Trade(7)	EM(8)	IM (9)
NRPTA	0.223*	0.066	0.157	-0.262**	0.07	-0.332***	1.118***	0.618**	0.501
	1.824	0.691	1.413	-2.266	0.687	-2.794	2.904	2.56	1.554
PTA	0.259***	0.203***	0.056	-0.297***	0.037	-0.334***	-0.047	0.201	-0.248
	2.945	2.971	0.695	-3.718	0.524	-4.067	-0.175	1.194	-1.104
FTA	0.501***	0.107	0.393***	0.108	0.055	0.054	0.546*	0.445**	0.1
	4.542	1.249	3.924	1.054	0.604	0.51	1.791	2.331	0.392
CU	1.113***	0.533***	0.580***	0.474***	0.042	0.433***	1.053***	0.924***	0.129
	8.353	5.14	4.783	3.817	0.382	3.391	3.008	4.207	0.442
Number of observations	33424	33424	33424	33200	33201	33200	8753	8754	8753
R^2	0.6673989	0.4537278	0.3863943	0.7659336	0.5321316	0.534793	0.6569486	0.5439602	0.5543673

Notes: ***, **, * indicate significance at 1%, 5% and 10%, respectively. T-statistics are provided below every coefficient.

Table 4. Main results for specification 2, Sectors 1, 2 and 3

	Primary goods and agricultural manufactures			Industrial manufactures			Mineral fuels, lubricants and related materials		
	Trade(1)	EM (2)	IM(3)	Trade(4)	EM(5)	IM(6)	Trade(7)	EM(8)	IM(9)
NRPTA	0.131	-0.196**	0.327***	-0.292**	-0.111	-0.18	1.101*	0.061	1.040**
	0.979	-2.068	2.717	-2.354	-1.073	-1.424	1.705	0.142	2.021
L5.NRPTA	-0.039	0.156	-0.195	0.242	0.198	0.044	-1.627**	0.149	-1.775***
	-0.224	1.279	-1.256	1.445	1.412	0.257	-2.082	0.284	-2.853
L10.NRPTA	-0.351*	-0.239	-0.112	0.072	-0.177	0.249	-0.128	-0.092	-0.036
	-1.698	-1.638	-0.606	0.35	-1.031	1.187	-0.158	-0.169	-0.056
PTA	0.078	-0.209**	0.287**	-0.418***	-0.189**	-0.229*	-0.164	-0.244	0.08
	0.547	-2.085	2.249	-3.654	-1.974	-1.958	-0.245	-0.546	0.151
L5.PTA	-0.229	-0.155	-0.074	0.131	0.11	0.02	-0.33	0.226	-0.556
	-1.549	-1.485	-0.56	1.098	1.107	0.167	-0.531	0.543	-1.123
L10.PTA	0.423***	0.339***	0.084	-0.155	0.058	-0.213**	0.077	0.984***	-0.907**
	3.405	3.87	0.755	-1.458	0.653	-1.962	0.157	2.991	-2.316
FTA	0.315**	-0.14	0.455***	0.017	-0.142	0.159	0.968	-0.222	1.190**
	2.338	-1.477	3.769	0.146	-1.476	1.353	1.642	-0.564	2.535
L5.FTA	-0.279	-0.246**	-0.034	0.141	-0.247**	0.388**	0.177	0.532	-0.354
	-1.605	-2.002	-0.217	0.953	-1.998	2.571	0.283	1.268	-0.71
L10.FTA	1.040***	0.540***	0.501**	-0.085	0.138	-0.223	0.515	1.271***	-0.756
	4.122	3.034	2.213	-0.385	0.742	-0.985	0.701	2.589	-1.294
CU	0.659***	0.234*	0.425**	0.274*	0.235*	0.039	1.041	0.65	0.39
	3.559	1.791	2.561	1.772	1.814	0.247	1.355	1.266	0.638

L5.CU	-0.111	-0.236	0.125	0.139	-0.372**	0.511***	-0.218	0.233	-0.451
	-0.515	-1.551	0.645	0.76	-2.434	2.738	-0.282	0.452	-0.734
L10.CU	0.634**	0.112	0.523**	0.05	-0.135	0.185	0.085	0.319	-0.235
	2.21	0.551	2.032	0.194	-0.624	0.701	0.093	0.523	-0.323
Number of observations	17517	17517	17517	17549	17549	17549	3223	3223	3223
R2	0.6175448	0.5324333	0.4309229	0.7166215	0.6598541	0.6355428	0.7141259	0.6419325	0.6316842

Notes: ***, **, * indicate significance at 1%, 5% and 10%, respectively. T-statistics are provided below every coefficient.

Table 5. Main results for specification 3, Sectors 1, 2 and 3

	Primary goods and agricultural manufactures			Industrial manufactures			Mineral fuels, lubricants and related materials		
	Trade(1)	EM(2)	IM(3)	Trade(4)	EM(5)	IM(6)	Trade(7)	EM(8)	IM(9)
DIFNRPTA	-0.007	-0.166	0.159	-0.151	0.141	-0.292*	0.074	0.165	-0.091
	-0.049	-1.501	1.168	-1.054	1.099	-1.922	0.107	0.335	-0.158
DIFNRPTALONG	-0.212	0.074	-0.287	0.276	0.098	0.178	-0.722	-0.1	-0.622
	-1.135	0.525	-1.644	1.48	0.589	0.9	-0.963	-0.188	-0.997
DIFPTA	0.056	-0.05	0.105	-0.2	0.061	-0.261**	-0.992	-0.5	-0.493
	0.384	-0.45	0.777	-1.594	0.547	-1.966	-1.534	-1.087	-0.915
DIFPTALONG	-0.19	-0.117	-0.073	0.185	0.257**	-0.072	-0.207	-0.303	0.096
	-1.339	-1.087	-0.551	1.485	2.304	-0.543	-0.371	-0.762	0.206
DIFFTA	0.067	-0.098	0.165	0.019	-0.102	0.121	0.355	-0.068	0.423
	0.449	-0.864	1.185	0.136	-0.838	0.836	0.578	-0.156	0.827
DIFFTALONG	-0.161	-0.1	-0.061	0.246	-0.004	0.249	1.039	0.158	0.881
	-0.842	-0.692	-0.34	1.427	-0.023	1.366	1.616	0.346	1.646
DIFCU	0.035	-0.329**	0.364*	0.11	0.136	-0.026	0.125	0.118	0.008
	0.166	-2.027	1.828	0.579	0.8	-0.129	0.154	0.204	0.011
DIFCULONG	-0.099	-0.239	0.14	0.118	-0.165	0.283	-0.07	-0.083	0.014
	-0.469	-1.49	0.71	0.617	-0.965	1.396	-0.098	-0.165	0.023
Number of observations	17517	17517	17517	17549	17549	17549	3223	3223	3223
R^2	0.4260017	0.4308804	0.3950091	0.4885468	0.5827001	0.5350397	0.6537379	0.6098237	0.5830511

Notes: ***, **, * indicate significance at 1%, 5% and 10%, respectively. T-statistics are provided below every coefficient.

Acknowledgements: The authors gratefully acknowledge the support and collaboration of the Spanish Ministry of Science and Innovation and SECYT, Universidad Nacional de Córdoba (ECO 2010-15863; SECYT 05/E349). We would also like to thank Federico Borrone, Andrea Molinari and the participants in the Annual Meeting of the Asociación Argentina de Economía Política held in Trelew in November 2012 and in the Jornadas Anuales del Banco Central del Uruguay, held in Montevideo in November 2012, for their very helpful comments and suggestions.

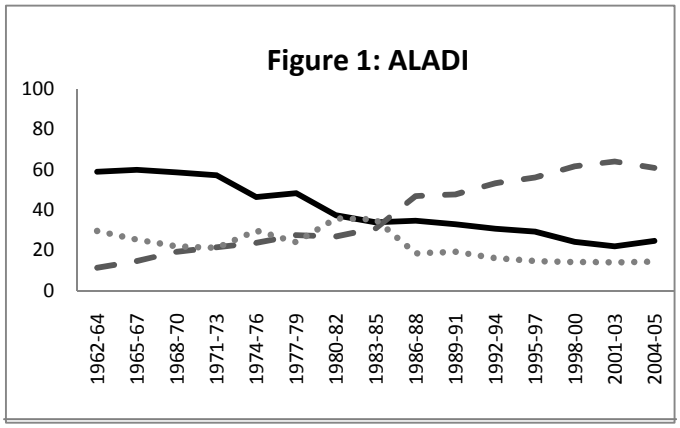
References

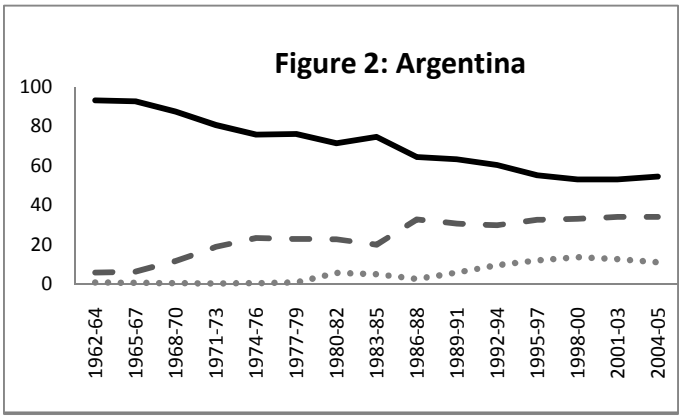
Albornoz, F. (2011): Las Exportaciones Industriales Argentinas, In Foco Económico, http://focoeconomico.org/2011/07/20/exportaciones.
Baier, Scott L., and Jeffrey H. Bergstrand (2007): Do free trade agreements actually increase members' international trade? Journal of International Economics 71, 72-95.
Baier, S. L., Bergstrand, J. H. and Feng, M. (2011): "Economic Integration Agreements and the Margins of International Trade", mimeo.
Bensassi. S., Márquez-Ramos, L. and Martínez-Zarzoso, I. (2012): "Economic Integration and the Two Margins of Trade: The Impact of the Barcelona Process on North African Countries' Exports". Journal of African Economies 21(2): 228-265.
Bernard, A., Bradford, J., Redding, S. and Schott, P. (2009): "The margins of U.S. trade, American Economic Review 99 (2), May, 487-493.
Carrère, C. (2006): "Revisiting the Effects of Regional Trade Agreements on Trade Flows with Proper Specification of the Gravity Model", European Economic Review, 2: 223–47.
Chaney, T (2008): "Distorted Gravity: The Intensive and Extensive Margins of International Trade", American Economic Review 98 (4), June, 1707-1721.
Eichengreen, B. and J.A. Frankel (1995): "Economic Regionalism: Evidence from Two 20th Century Episodes', The North American Journal of Economics and Finance, 6: 89–106.
Feenstra, R., Lipsey, R., Deng, H., Ma, A. and Mo, H.(2005): "World Trade Flows: 1962-2000" National Bureau of Economic Research. Working Paper No. 11040, January
Florensa, L.M., Márquez-Ramos, L., Martínez-Zarzoso, I. and Recalde, M.L. (2011): "Trade in intermediate goods and regional production networks. An application for Latin America", paper presented in the Thirteenth Annual Conference ETSG 2011, Copenhagen.
Frankel, J. (1997): "Regional Trading Blocs", Washington, DC: Institute for International Economics.
Frankel, J., E. Stein and S.-J. Wei (1996): "Regional Trading Arrangements: Natural or Supernatural", American Economic Review, 2: 52–56.
Frankel, J., E. Stein and S.-J. Wei (1998): "Open Regionalism in a World of Continental Trade Blocs", IMF Staff Papers, 45: 440–53.
Hillberry, R and McDaniel, C. (2003): "A Decomposition of North American Trade Growth since NAFTA". International Trade 0303003, EconWPA.
Hillberry, R. and D. Hummels (2008): "Trade Responses to Geographical Frictions: A Decomposition Using Micro-Data", European Economic Review, 52: 527–50.
Hummels, D. and Klenow P. (2005): "The Variety and Quality of a Nation`s Exports", American Economic Review, 95, 3, 704-723.
Kehoe, T. and Ruhl, K. (2009): "How important is the new goods margin in international trade?". Federal Reserve Bank of Minneapolis Staff Report 324, June.
Magee, C.S.P. (2008): "New Measures of Trade Creation and Trade Diversion", Journal of International Economics, 75: 349–62.

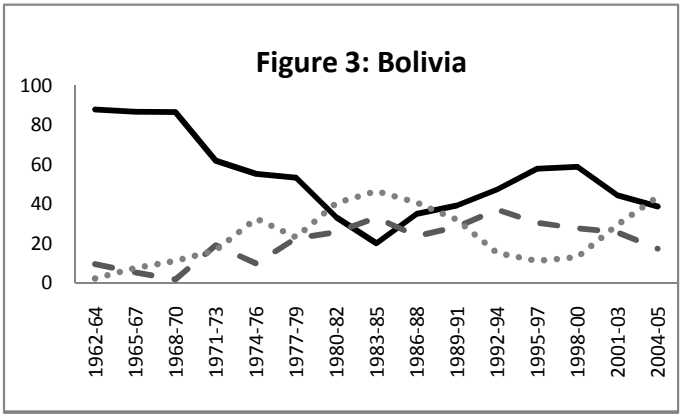
Márquez-Ramos, L. (2007): New determinants of bilateral trade: An empirical analysis for developed and developing countries. Doctoral Dissertation. Universitat Jaume I, Castellón de la Plana.
Martínez-Zarzoso, I., F. Nowak-Lehmann D. and N. Horsewood (2009): "Are Regional Trading Agreements Beneficial? Static and Dynamic Panel Gravity Models", North American Journal of Economics and Finance, 20: 46–65.
Melitz, M. (2003): "The Impact of Trade in Intra-industry Reallocations and Aggregate Industry Productivity". Econometrica 71, 6, 1695-1725.
Recalde, M.L. and Florensa, L. M. (2009): "Impacto del Mercosur en el comercio Internacional de Argentina y Brasil: ecuación gravitatoria y Filtro de Kalman". Montevideo, 5-6 October 2009. XXIV Jornadas Anuales de Economía 2009 del Banco Central de Uruguay.
Recalde, M. L., Florensa, M. and Iturralde, I. (2010): "Latin American Exports: Has Brazil displaced them?". XXIV International Conference on Applied Economics, ASEPELT. Universidad de Alicante, Spain, 16- 19 June 2010 and XLIV Reunión Anual de la Asociación Argentina de Economía Política. Universidad Nacional de Cuyo, 18-20 November 2009.
Soloaga, I. and L.A. Winters (2001): "Regionalism in the Nineties: What Effect on Trade?", North American Journal of Economics and Finance, 1: 1–29.
Viner, J. (1950): The Customs Union Issue. New York: Carnegie Endowment for International Peace.

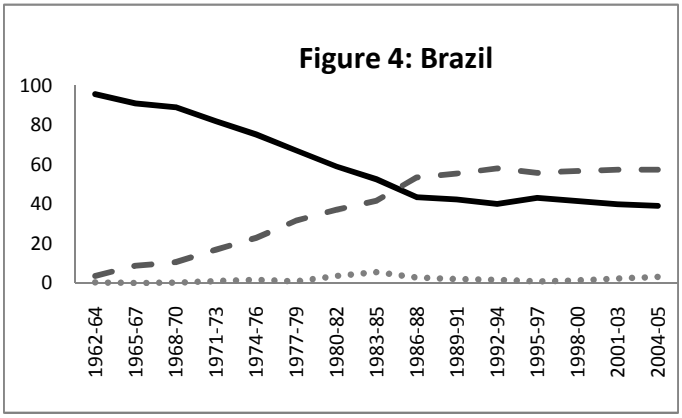
Appendix

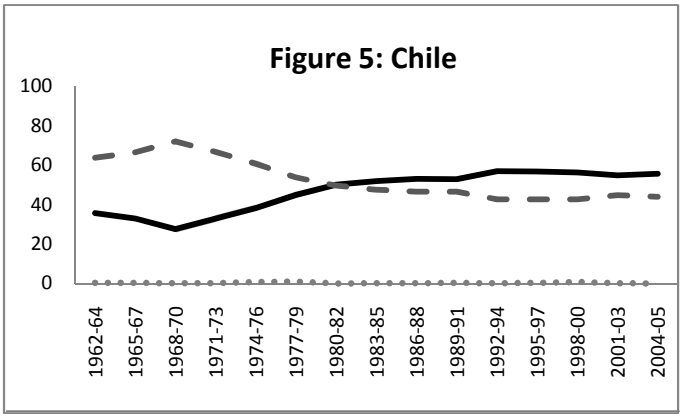
Export Share by Sector

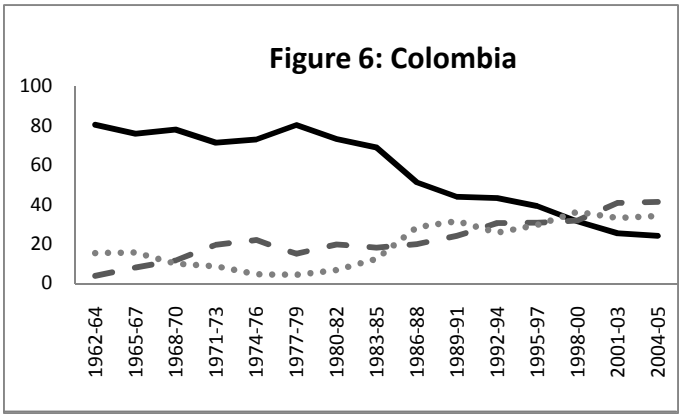


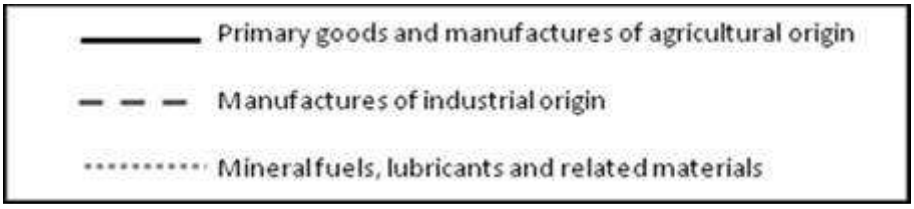












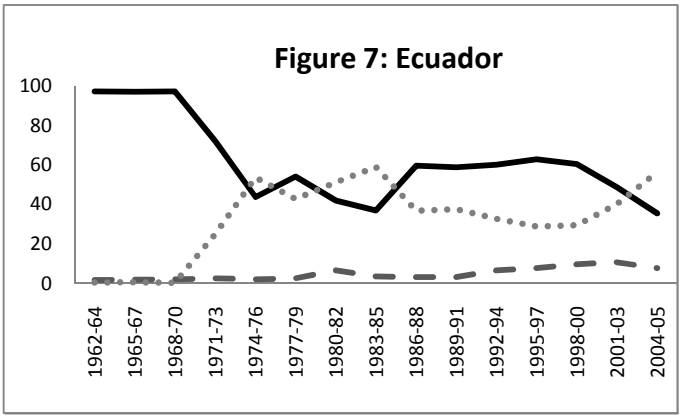


Figure 7: Ecuador
100
80
60
40
20
0
1962-64
1965-67
1968-70
1971-73
1974-76
1977-79
1980-82
1983-85
1986-88
1989-91
1992-94
1995-97
1998-00
2001-03
2004-05

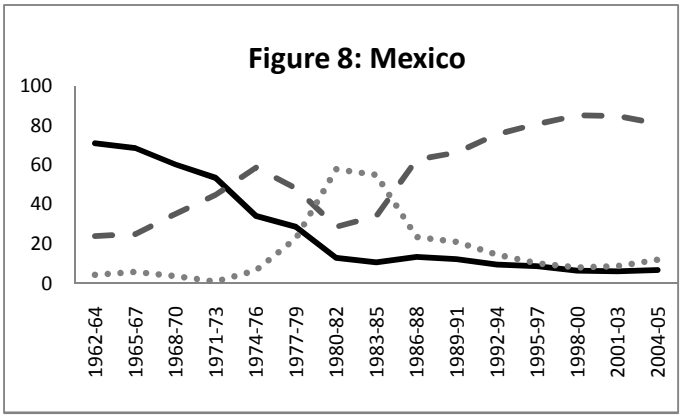


Figure 8: Mexico
100
80
60
40
20
0
1962-64
1965-67
1968-70
1971-73
1974-76
1977-79
1980-82
1983-85
1986-88
1989-91
1992-94
1995-97
1998-00
2001-03
2004-05

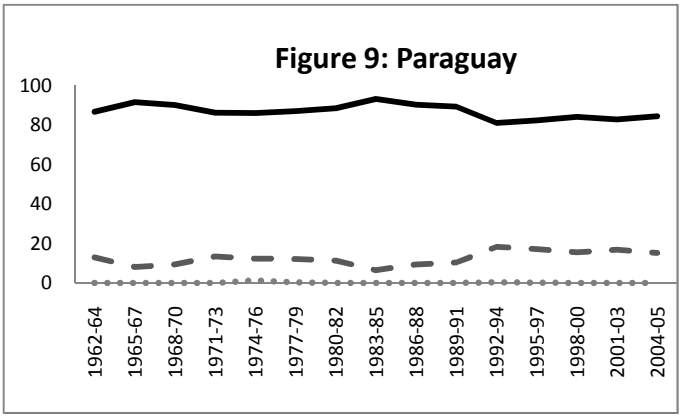


Figure 9: Paraguay
100
80
60
40
20
0
1962-64
1965-67
1968-70
1971-73
1974-76
1977-79
1980-82
1983-85
1986-88
1989-91
1992-94
1995-97
1998-00
2001-03
2004-05

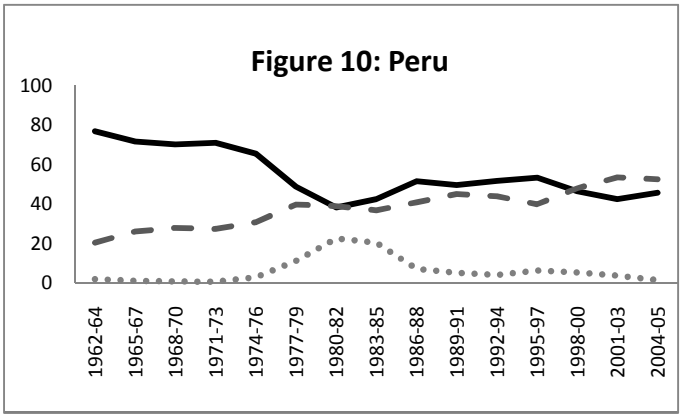


Figure 10: Peru
100
80
60
40
20
0
1962-64
1965-67
1968-70
1971-73
1974-76
1977-79
1980-82
1983-85
1986-88
1989-91
1992-94
1995-97
1998-00
2001-03
2004-05

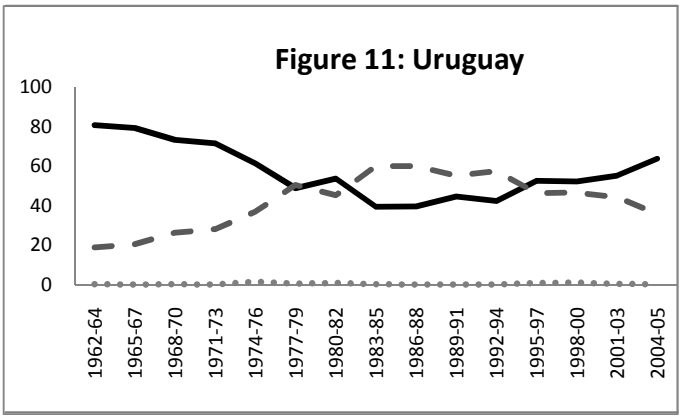


Figure 11: Uruguay
100
80
60
40
20
0
1962-64
1965-67
1968-70
1971-73
1974-76
1977-79
1980-82
1983-85
1986-88
1989-91
1992-94
1995-97
1998-00
2001-03
2004-05

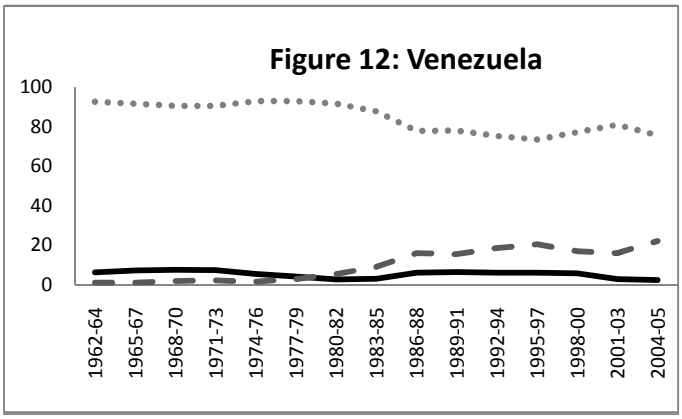
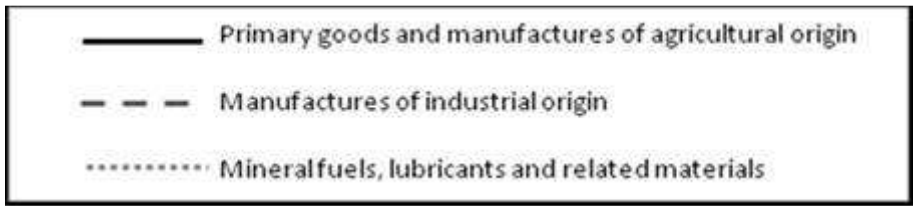


Figure 12: Venezuela
100
80
60
40
20
0
1962-64
1965-67
1968-70
1971-73
1974-76
1977-79
1980-82
1983-85
1986-88
1989-91
1992-94
1995-97
1998-00
2001-03
2004-05


Primary goods and manufactures of agricultural origin
Manufactures of industrial origin
Mineral fuels, lubricants and related materials

Export Structure by Destination

Figure 13: ALADI

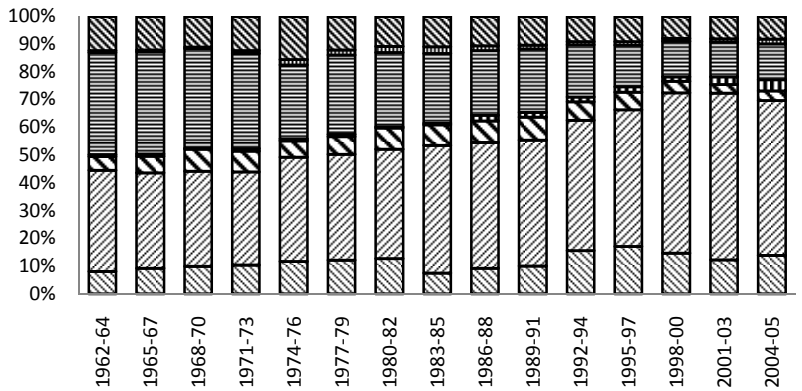


Figure 14: Argentina

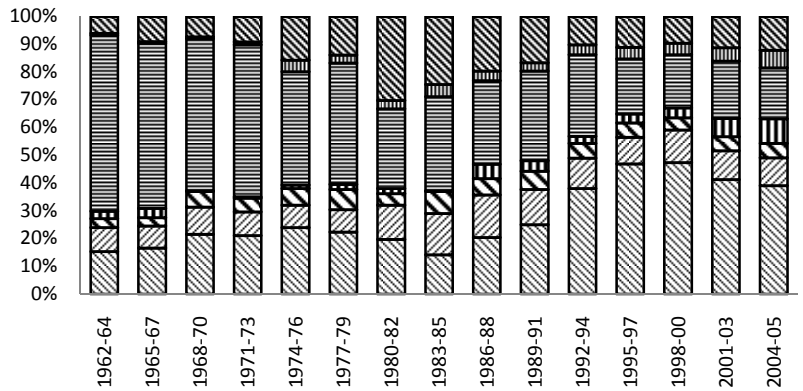


Figure 15: Bolivia

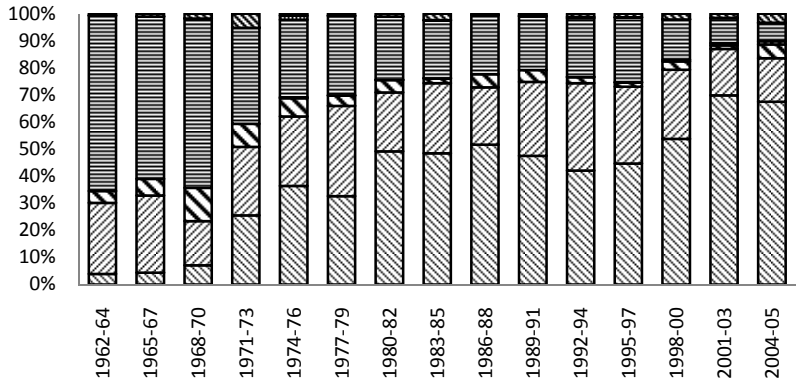
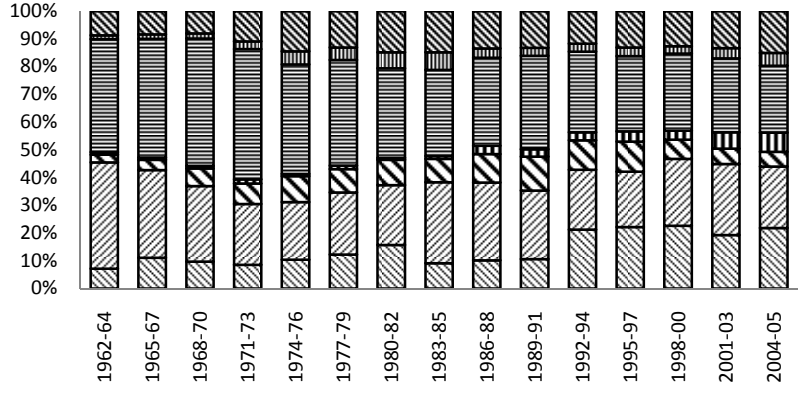


Figure 16: Brazil



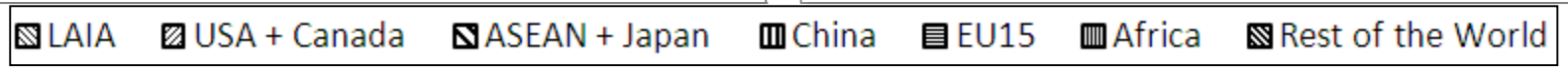


Figure 17: Chile

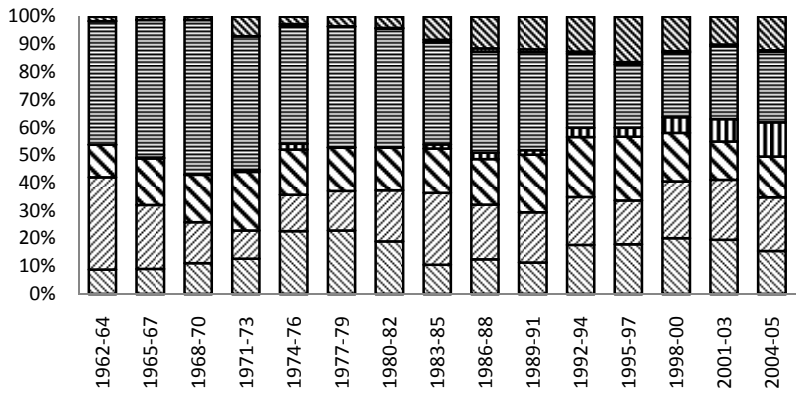


Figure 18: Colombia

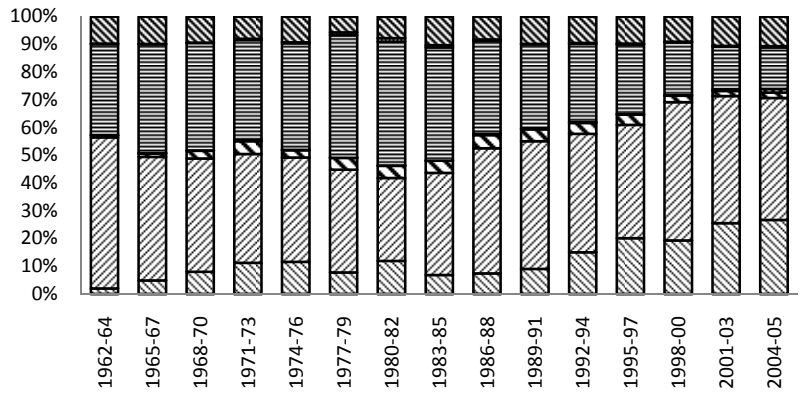


Figure 19: Ecuador

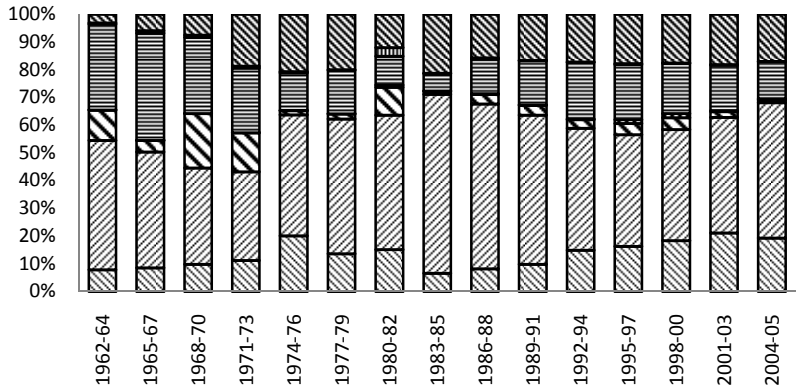
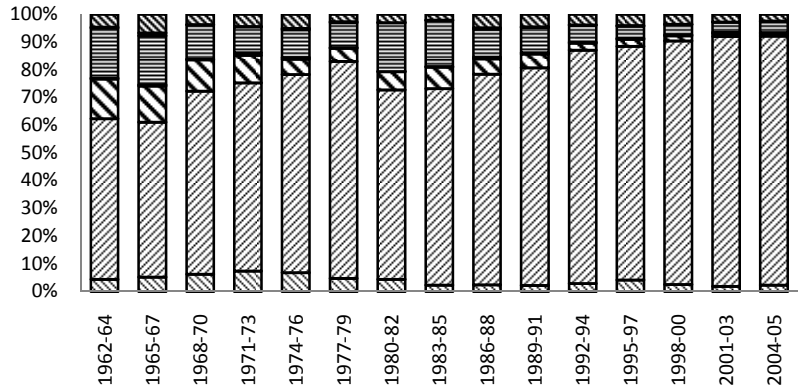


Figure 20: Mexico



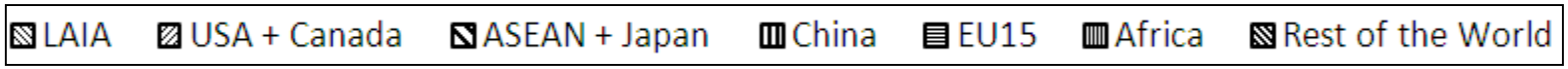


Figure 21: Paraguay

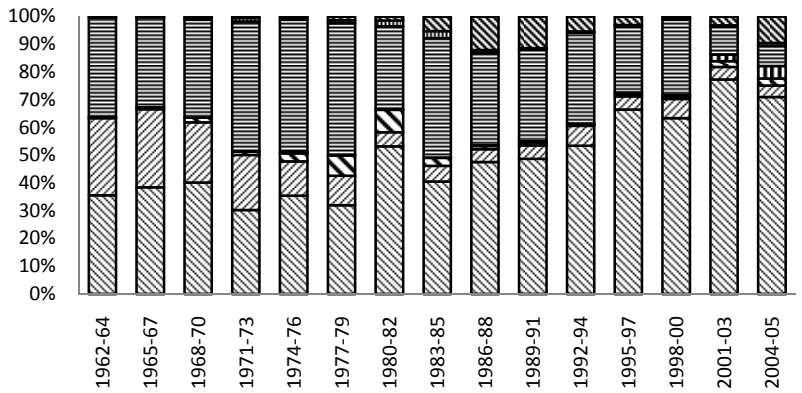


Figure 22: Peru

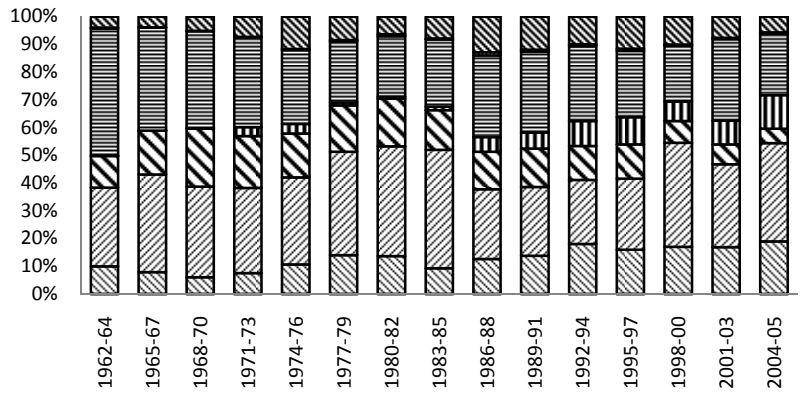


Figure 23: Uruguay

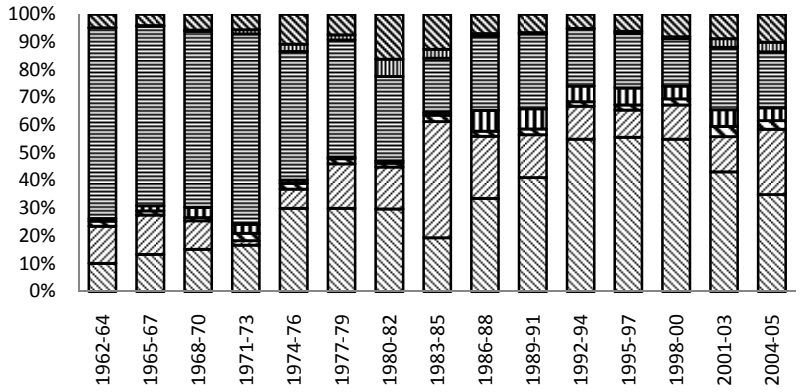
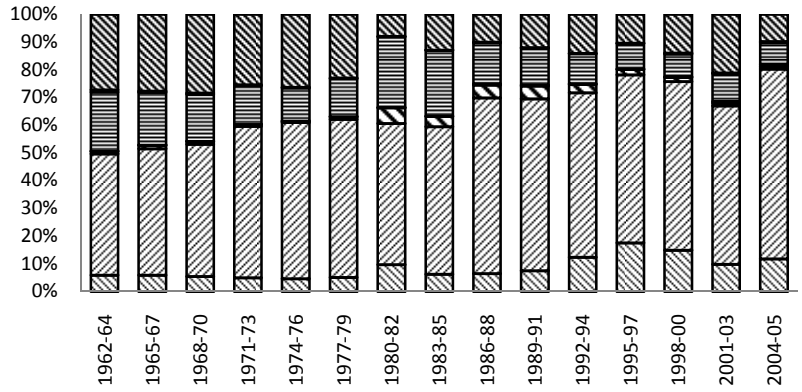


Figure 24: Venezuela



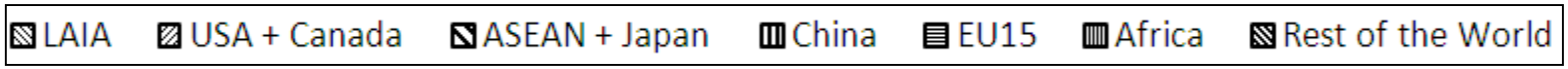


Table A.1: Trade Agreements of LAIA members and with other EIAs in 2005.

Name	Country Members	Type of Agreement (BBF)[a]	Date of Entry into Force
Andean Community (CAN)	Bolivia, Colombia, Ecuador, Peru and Venezuela	CU	1995
CARICOM-Colombia	Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, Saint Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago - COLOMBIA	PTA	1995
CARICOM-Venezuela	Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, Saint Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago – VENEZUELA	PTA	1993
Central America - Chile	Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua -CHILE	FTA	2002
Colombia, Mexico and Venezuela (The Group of Three, G-3)	Colombia, Mexico and Venezuela	FTA	1995
Cuba- LAIA (Cuba incorporation to LAIA)	Argentina, Bolivia, Brazil, Colombia, Chile, Ecuador, Mexico, Peru, Paraguay, Uruguay and Venezuela – CUBA	PTA	1999
European Free Trade Association (EFTA) - Chile	Norway, Iceland Switzerland, Liechtenstein – CHILE	FTA	2004
EFTA - Mexico	Norway, Iceland Switzerland, Liechtenstein – MEXICO	FTA	2001
EU - Chile		FTA	2003
EU - Mexico		FTA	2000

Latin American Integration Association (LAIA)	Argentina, Bolivia, Brazil, Colombia, Chile, Ecuador, Mexico, Peru, Paraguay, Uruguay and Venezuela	PTA	1981
MERCOSUR – Chile	Argentina, Brazil, Uruguay and Paraguay – CHILE	FTA	1996
MERCOSUR- CAN	Argentina, Brazil, Paraguay and Uruguay – Bolivia, Colombia, Ecuador, Peru and Venezuela	FTA	2005
North American Free Trade Agreement (NAFTA)	Canada, Mexico and USA	FTA	1994
Northern Triangle – Mexico	El Salvador, Guatemala and Honduras – MEXICO	FTA	2001
Southern Common Market (MERCOSUR)	Argentina, Brazil, Paraguay and Uruguay	CU	1991

Source: authors' elaboration using "Regional Trade Agreements" database from WTO and www.nd.edu/jbergstr/.
a. PTA: preferential trade agreement; FTA: free trade agreement and CU: customs unions.

Table A.2: Bilateral Trade Agreements of LAIA members with third countries in 2005.

Name	Type of Agreement (BBF)[a]	Date of Entry into Force
Bolivia - Chile	FTA	1993
Bolivia - Mexico	FTA	1995
Canada - Chile	FTA	1997
Chile - Colombia	PTA	1993
Chile - Costa Rica	FTA	2002
Chile - El Salvador	FTA	2002
Chile - Mexico	FTA	1999
Chile - Republic Korea	FTA	2004
Chile - Peru	FTA	1998
Chile - Venezuela	FTA	1993
Chile - US	FTA	2004
Costa Rica - Mexico	FTA	1995
Guatemala - Venezuela	PTA	1987
Israel - Mexico	FTA	2000
Japan - Mexico	PTA	2005
Mexico - Nicaragua	FTA	1998

Source: authors' elaboration using "Regional Trade Agreements" database from WTO and www.nd.edu/jbergstr/.
a. PTA: preferential trade agreement and FTA: free trade agreement.

Table A.3: Generalized System of Preferences in 2005.

Provider country	LAIA beneficiaries countries	Initial entry into force
Australia	All LAIA countries	1974
Belarus	Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, Uruguay	2004
Canada	All LAIA countries	1974
European Union	Argentina, Bolivia, Brazil, Colombia,Ecuador, Mexico, Peru, Paraguay, Uruguay and Venezuela	1971
Iceland	Argentina, Brazil, Paraguay and Uruguay	2000
Liechtenstein	Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, Uruguay and Venezuela	1972
New Zealand	All LAIA countries	1972
Norway	All LAIA countries	1971
Russia	All LAIA countries	1994
Switzerland	Argentina, Bolivia, Brazil, Ecuador,Paraguay, Uruguay and Venezuela	1972
Turkey	All LAIA countries	2002
US	Argentina,Brazil, Colombia, Ecuador,Paraguay, Uruguay and Venezuela	1976

Source: authors' elaboration using "Regional Trade Agreements" database from WTO and www.nd.edu/jbergstr/.

Table A.4. Sectoral classification

Code	Description
0	Food and live animals
1	Beverages and tobacco
2	Crude materials, inedible, except fuels
3	Mineral fuels, lubricants and related materials
4	Animal and vegetable oils, fats and waxes
5	Chemicals and related products, n.e.s.
6	Manufactured goods classified chiefly by material
7	Machinery and transport equipment
8	Miscellaneous manufactured articles
9	Commodities and transactions not classified elsewhere in the SITC

Note: Standard International Trade Classification at one digit level.
Source: United Nations Statistics Division. http://unstats.un.org.

Table A.5: List of destination countries

Afghanistan
Albania
Algeria
Angola
Argentina
Armenia
Australia
Austria
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belgium-Luxembourg
Belize
Benin
Bermuda
Bolivia
Bosnia Herzegovina
Brazil
Bulgaria
Burkina Faso
Burundi
Cambodia
Cameroon
Canada
Central African Rep.
Chad
Chile
China
China HK SAR
China MC SAR
Colombia
Costa Rica
Croatia
Cuba
Cyprus
Czech Rep.
Czechoslovakia
Denmark
Djibouti
Dominican Rep.
Ecuador
Egypt
El Salvador
Equatorial Guinea
Estonia
Ethiopia
Fiji
Finland
France
Gabon
Gambia
Georgia
Germany
Ghana
Greece
Greenland
Guatemala
Guinea
Guinea Bissau
Guyana
Haiti
Honduras
Hungary
Iceland
India
Indonesia
Iran
Iraq
Ireland
Israel
Italy
Jamaica
Japan
Jordan
Kazakhstan
Kenya
Kiribati
Korea Rep.
Kuwait
Kyrgyzstan
Lao People's Dem. Rep.
Latvia
Lebanon
Liberia
Libya
Lithuania
Madagascar
Malawi
Malaysia
Mali
Malta
Mauritania
Mauritius
Mexico
Mongolia
Morocco
Mozambique
Myanmar
Nepal
Netherlands Antilles
Netherlands
New Caledonia
New Zealand
Nicaragua
Niger
Nigeria
Norway
Oman
Pakistan
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Poland
Portugal
Qatar
Romania
Russian Fed.
Rwanda
Samoa
Saudi Arabia
Senegal
Seychelles
Sierra Leone
Singapore
Slovakia
Slovenia
Somalia
South Africa
Spain
Sri Lanka
St. Kitts and Nevis
Sudan
Suriname
Sweden
Switzerland
Syria
Taiwan
Tajikistan
Tanzania
Thailand
Togo
Trinidad and Tobago
Tunisia
Turkey
Turkmenistan
UK
USA
Uganda
Ukraine
Un. Arab Emirates
Uruguay
Uzbekistan
Venezuela
Vietnam
Zambia
Zimbabwe