

POLITECNICO DI MILANO

Facoltà di Ingegneria dei Sistemi



POLO REGIONALE DI COMO

**Master of Science in
Management, Economics and Industrial Engineering**

INTERNATIONAL TRADE EFFECTS AND ECONOMIC INTEGRATION IN MERCOSUR

Supervisor: Prof. LUCIA TAJOLI

**Master Graduation Thesis by: CLAUDIA LUCÍA PARRA ACEVEDO
Student Id. number 737090**

Academic Year 2009/2010

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Abstract

The main purpose of this study is to evaluate the effects of the Southern Common Market (MERCOSUR) agreement on trade of member countries -Argentina, Brazil, Paraguay and Uruguay- and of a non member country like Colombia. The document describes the process of economic integration and discussed the trading patterns before and after the formation of the trading bloc. It also provides insights into patterns of trade creation and trade diversion within MERCOSUR members.

The study employs and expands the methodology proposed by Yeats (1997). The static trade effects of the agreement are analyzed examining the changes in the regional orientation (RO) index (not only of exports as in Yeats paper, but also of imports) in connection with the revealed comparative advantage (RCA) index to identify apparent “inefficiencies” in trade patterns. This approach is applied to analyse trade data on MERCOSUR’s countries from 1988 to 2008, in order to determine if recent trade is evolving along lines compatible with these countries’ comparative advantages. A different method is employed to assess the changes on trade with the selected non member country, Colombia. In this case, trade flows and their commodity composition are analyzed; then the trade introversion index is calculated with the aim of evaluate the intensity of trade between Colombia and MERCOSUR.

This analysis considers imports flow together with exports in a selected time period. The analysis of member countries exports leads to conclude that member countries are not competitive on external markets regarding the products for which trade has grown the most within the region, and there is little evidence that they have (static) comparative advantages in relation to those markets, so MERCOSUR would have generated inefficient trade diversion. Those results coincide with those of obtained by Yeats (1997).

However, the imports analysis results reveal no clear evidence for significant trade diversion. Most of the times MERCOSUR producers have been efficient suppliers of different imported goods. The growth in intra-MERCOSUR imports has been accompanied by a trade growth with the rest of the world, which is confirmed for example by the increasing trade flows with Colombia. The overall results reflect the increased multilateral openness of the MERCOSUR economies as well as the impact of the agreement in the development of learning processes and trade of member countries respect to countries outside the bloc.

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Table of Contents

Abstract	i
1. INTRODUCTION	6
2. BACKGROUND: ECONOMIC INTEGRATION.....	7
2.1. Economic Integration Concepts	7
2.2. Progression of the Concept in Latin America	8
3. INSTITUTIONAL DEVELOPMENT OF MERCOSUR.....	11
4. EVOLUTION OF MERCOSUR TRADE	15
4.1. Trade flows by country.....	17
4.2. MERCOSUR trade and world market share.....	20
5. EVALUATION OF MERCOSUR RESULTS	23
5.1. Trade Intensity.....	23
5.2. Trade Introversion.....	26
5.3. Assessment of the Effect of the RTA	27
5.3.1. Exports Analysis	29
5.3.2. Imports Analysis	35
6. EFFECTS IN A NON MEMBER COUNTRY: The Colombian case	46
7. CONCLUSIONS	52
8. BIBLIOGRAPHY	55
Annex 1. The Theory of Customs Unions.....	57

List of Tables

Table 1: MERCOSUR COUNTRIES: BASIC INDICATORS	18
Table 2: TOTAL MERCOSUR TRADE FLOWS AT SELECTED TIMES	19
Table 3: VALUE AND SHARE OF MERCOSUR TRADE WITH REGIONAL BLOCS AT SELECTED TIMES	21
Table 4: MERCOSUR TRADE INTENSITY INDEX BY REGIONAL BLOCS	24
Table 5: TRADE INTENSITY INDEX FOR MERCOSUR COUNTRIES.....	25
Table 6: MERCOSUR TRADE INTROVERSION INDEX BY REGIONAL BLOCS.....	27
Table 7: ARGENTINA: TOP THIRTY PRODUCTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008.....	31
Table 8: BRAZIL: TOP THIRTY PRODUCTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008.....	32
Table 9: PARAGUAY: TOP THIRTY PRODUCTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008.....	33
Table 10: URUGUAY: TOP THIRTY PRODUCTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008.....	34
Table 11: ARGENTINA: TOP THIRTY IMPORTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008.....	39
Table 12: BRAZIL: TOP THIRTY IMPORTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008.....	40
Table 13: PARAGUAY: TOP THIRTY IMPORTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008.....	41
Table 14: URUGUAY: TOP THIRTY IMPORTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008.....	42
Table 15: COMMODITY COMPOSITION OF COLOMBIAN TRADE WITH MERCOSUR AT THE 1 DIGIT SITC LEVEL IN 1988, 1998 AND 2008.....	49

List of Figures

Figure 1: TOTAL MERCOSUR FOREIGN TRADE 1988-2008.....	16
Figure 2: MERCOSUR INTRA AND EXTRA BLOC TRADE 1988-2008.....	22
Figure 3 TRADE BALANCE OF COLOMBIA WITH MERCOSUR.....	47
Figure 4: TRADE INTROVERSION INDEX OF COLOMBIA WITH MERCOSUR FOR 1988-2008.....	50

Glossary of abbreviations and acronyms

The following acronyms are used in the text

ACN	Andean Community of Nations, in Spanish CAN
BADECEL	Statistics database of Latin American foreign trade (in spanish, Banco de datos Estadísticos de Comercio Exterior Latinoamericano)
ASEAN	Association of Southeast Asian Nations
BCB	Central Bank of Brazil (Banco Central do Brasil)BCP Central Bank of Paraguay (Banco Central de Paraguay)
BCRA	Central Bank of the Argentine Republic (Banco Central de la República Argentina)
BCU	Central Bank of Uruguay (Banco Central de Uruguay)
CACM	Central American Common Market (MCCA, Mercado Común Centro Americano)
CARICOM	Caribbean Community
CET	Common External Tariff
CIF	Cost, Insurance and Freight
ECA	Economic Complementary Agreement (ACE in Spanish, Acuerdo de Complementación Económica)
ECLAC	Economic Commission for Latin America and the Caribbean, CEPAL in Spanish)
FTA	Free trade agreement
FTAA	Free Trade Area of the Americas
GATT	General Agreement on Tariffs and Trade
IDB	Inter-American Development Bank
IECP	Integration and Economic Cooperation Program (in Spanish PICAB, Programa de Integración y Cooperación Argentino-Brasileño)
INTAL	Institute for the Integration of Latin America and the Caribbean
LAIA	Latin American Integration Association, in Spanish ALADI
MERCOSUR	Southern Common Market (Mercado Común del Sur)
NAFTA	North American Free Trade Agreement
nes	non specified
NTBs	non-tariff barriers
p.p.	Percentage points
PTA	Preferential Trade Agreement
RoW	Rest of the world
RCA	Revealed comparative advantage
RO	Regional orientation
RTA	Regional trade agreement

1. INTRODUCTION

In recent decades, Latin American countries have signed several agreements on regional integration, following the international trade trends. The most important agreements, the MERCOSUR and Andean Community (CAN) have progressively increased their importance, particularly in the nineties.

Some experts have tried to assess the consequences of this kind of agreements, which are normally considered as beneficial for developing economies as they contribute to economic growth. This role is given by an increase of the exports and reduction of import costs, as well as the enhancement of the technological transfer.

In this document we attempt to assess the effects of the largest regional agreement of Latin-America: MERCOSUR. According to Viner's findings, a FTA can have two types of effects: trade creation or trade diversion. We will try to elucidate the main effects on regional trade as a result of MERCOSUR agreement in the recent years.

First of all, we will present the evolution of the trade flows in the region in the last years. Based on the trade data, we will be able to know details about the composition and the destination of trade flows, and if they have been addressed anyhow by the MERCOSUR agreement. In order to go deeper in this analysis, we will calculate the Trade Intensity Index, proposed by Anderson and Norheim and the trade introversion index proposed by Lapadre. These indices will let us know if exports and imports have followed a geographical orientation driven by the regional agreement, or, if on the contrary, they have not suffered any influence since the tariffs between the commercial group members were modified.

Following the methodology used by Yeats for evaluating regional agreements, the Regional Orientation index is calculated to be combined with the Revealed Comparative Advantage index to discover which commodities have experienced trade diversion after the agreement. This exercise is made not only for exports but also for imports, going beyond the original method. These statistics calculated from United Nations Sources let us see if the new trade pattern is consistent with the comparative advantage of each member of the agreement. If a country does not show a comparative advantage and it has regionalized the production of a particular good during the existence of the agreement, trade diversion is occurring.

The study closes with an overall assessment of the impact of MERCOSUR on the trade with Colombia, a non member country. At the end, we will make conclusions about the effects of MERCOSUR on regional trade.

2. BACKGROUND: ECONOMIC INTEGRATION

2.1. Economic Integration Concepts

The word "integration" has been approached from many points of view, such as social, cultural and economic. In this specific work, for thematic limitation, we will only consider the economic dimension of integration.

Economic integration itself is not easily definable. However, the contributions of Bela Balassa¹, one of the leading researchers on the subject, can be taken. He states that economic integration can be defined in two ways: either as a process or as a state of affairs. Regarded as a process, it encompasses measures designed to abolish discrimination between economic units belonging to different national states; viewed as a state of affairs, it can be represented by the absence of various forms of discrimination between national economies.

According to this author, economic integration can take various forms that represent several degrees of integration: free-trade area, customs union, common market, economic union, and complete economic integration. "In a free trade area, tariffs (and quantitative restrictions) between the participating countries are abolished, but each country maintains its own tariffs against nonmembers. Establishing a customs union involves, besides the suppression of discrimination in the field of commodity movements within the union, the equalization of tariffs in trade with non member countries. A higher form of economic integration is attained in a common market, where not only trade restrictions but also restrictions on factor movements are abolished. An economic union, as distinct from a common market, combines the suppression of restrictions on commodity and factor movements with some degree of harmonization of national economic policies, in order to remove discrimination that was due to disparities in these policies. Finally, total economic integration presupposes the unification of monetary, fiscal, social, and countercyclical policies and requires the setting-up of a supranational authority whose decisions are binding for the member states " (Balassa 1961).

Other important concepts were contributed by Jacob Viner, who researched the impact of customs union on trade flows, distinguishing the effects of "trade creation and trade diversion" within a union.

These concepts are relevant to explore the milestones in the formation of the MERCOSUR as a trading group, an issue that will be addressed in a forthcoming section.

¹ In this regard see: Bela Balassa. The Theory of Economic Integration, Homewood (IL), R.D. Irwin, 1961.

2.2. Progression of the Concept in Latin America

The concept of integration in Latin America has been transformed over the years. The first approaches, grouped by some authors² in the expression "old regionalism", were based on import substitution model, characterized by an active state participation. This model included high tariffs as a protective mechanism to national economies, and a marked state intervention in the market. "The goal was to industrialize by substituting imports behind high levels of national protection (effective protection could be 150-200%) *cum* state planning and direct public sector intervention markets. The model prospered for a number of decades, but began to falter in the 1950s. The prevailing opinion in the region was that this was due to the small size of the domestic markets".

In the fifties, ECLAC (Economic Commission for Latin America and the Caribbean, CEPAL in Spanish) economists recommended the formation of a common market in two stages. In the first stage, ten-years long, it would gradually lead to the elimination of duties on most commodities that constitute the entire existing interchange, including mining and primary products with some degree of processing, thus a free trade area would be formed in accordance with the requirements of the letter of the GATT (General Agreement on Tariffs and Trade), through the elimination of all rights and restrictions for an essential part of the exchange. In addition to stimulating the trade in primary products, it was considered necessary to go further by creating a new reciprocal trade: that of industrial products, crucial to achieve the common market. Aiming at this, the group recommended a substantial reduction in average duties on industrial products at the end of this first phase of ten years. The procedure had as advantage, among others, giving governments greater flexibility so that sensitive industries would not be affected. It was also recommended a gradual customs procedures unification, which could lead to a customs union with a common tariff to the rest of the world. (Prebisch 1959)

The integration in Latin America began to take shape as regional level initiative, forming the Latin American Free Trade Association (LAFTA) in 1960, that twenty years later would become the Latin American Integration Association (ALADI). However, its poor performance led, gradually, to the creation of sub-regional groups, such as the current trade groups: MERCOSUR and CAN, both located in South America.

In the nineties, with the advances of globalization in the world, the sub-regional trade groups formed in Latin America accelerated their trade liberalization measures. There was a change in the conception of integration, which has been called "new regionalism", because it maintains the integration initiative raised from the fifties and sixties, but has a more global perspective (Devlin y Estevadeordal 2001).

² In this regard various articles can be seen, published by the Institute for the Integration of Latin America and the Caribbean-INTAL, such as: (Devlin y Estevadeordal 2001); (Iglesias 2001); (Ocampo 2001) and (Lizano 2001).

As Guillén states, Latin America was the protagonist of two types of integration, namely the first and second generation. First-generation agreements aimed “to promote industrialization through import substitution and closing markets to exports from developed countries. In the second generation agreements, the frame was the emergence of open regionalism, understood by the ECLAC as “a process to increase regional economic interdependence, promoted by both, preferential integration agreements and other policies of liberalization and deregulation, in order to enhance the competitiveness of the countries of the region and constitute, if possible, a basis for a more open and transparent international economy.”³ (Guillén 2001).

According to Guillén, "development strategy in Latin America changed during the eighties." "From a development strategy oriented towards the inside or introverted to what there is now, an outward-oriented strategy or extroverted." This mutation drastically altered the regional integration that began to be conceived as another road to greater opening of world economy. Next to the unilateral and multilateral liberalization, regional integration became an additional tool to open up economies to global competition.

The reasons of the first integration effort failure are varied. Following the analysis of Guillén, integration was considered only as a simple tool to revitalize the process of industrialization through import substitution, so it did not intend to build a regional economic order, but fostering an industrialization that was facing obstacles. In the case of traditionally isolated economies and holding high levels of corruption and state intervention, integrating projects could not succeed. Some sectors at a disadvantage by the liberalization of trade have always managed, by getting organized in interest groups, to adopt derogatory regulations or derail liberalization agreements, preserving their economic rents to the detriment of the community. Additionally, the low level of economic complementarity between the countries of the region and the absence of leadership eventually slowed down progress towards integration.

In tandem with the change in the conception of integration, most Latin American countries joined the GATT, and entered independently in the process of unilateral trade liberalization, especially in the early decade of the nineties.

So, although the phenomenon of globalization that took place in the world seemed to be a threat to the consolidation of regional integration processes, and some analysts considered incompatible these two forces, the arrival of globalization made the Andean countries accelerate the fulfillment of commitments at the regional level, as a parallel activity to the integration with the world.

Guillén for example, argues that multilateralism can be seen as a step towards regionalism. Regional preferential arrangements could be considered as a response to certain deficiencies of multilateralism, such as tolerance to neo-protectionism (mainly given by protectionist measures in developed countries), lack of a doctrine of fair wages and labor standards, and the clause of “least favored nation”, which can reduce the degree

³ Taken from ECLAC, open regionalism in Latin America and the Caribbean, UN, Santiago de Chile, 1994, p. 8.

of openness desirable in the global economy. Multilateralism and regionalism would then be two complementary ways to open economies at different scales: global and regional levels. (Guillén 2001).

In the specific case of MERCOSUR, the new attitude of countries towards integration and the limited scope Economic Complementary Agreements (ACE) in the Southern Cone evolved into the birth of MERCOSUR (Brazil, Argentina, Paraguay and Uruguay) in 1991. The MERCOSUR customs union agreement began to evolve towards greater levels of integration, with the goal of becoming a common market. It also incorporated Bolivia and Chile as associate members of the free trade area. From the signature of the Asunción Treaty in 1991, the Southern Common Market (MERCOSUR) has been a model case on the matter of assessing integration processes underway in Latin America and the Caribbean.

3. INSTITUTIONAL DEVELOPMENT OF MERCOSUR

The MERCOSUR integration process can be summarized as follows:

As it was mentioned before, the second Treaty of Montevideo of 1980 instituted the Latin American Integration Association (LAIA). This treaty was more flexible than the Treaty of Montevideo of 1960 which created LAFTA, but was unable to overcome the structural problems of the association and could not achieve proper integration.

The early 1980s witnessed the restoration of democracy in several Latin American countries and, despite economic difficulties, the start of a new phase in the relationship between Argentina and Brazil. In 1986, the Presidents of those countries signed the Brazil-Argentina Integration Treaty at Foz do Iguaçu. Also known as the Integration and Economic Cooperation Program (in Spanish PICAB, Programa de Integración y Cooperación Argentino-Brasileño), this agreement contained several protocols for the facilitation of trade as well as joint programs in biotechnology and capital flows.

A period of increasing economic and political convergence between Brazil and Argentina followed, culminating with the signature of the Integration, Cooperation and Development Treaty in 1988.

In 1990, the Economic Cooperation Agreement no. 14 was signed. This consolidated the protocols in force since 1985 and introduced certain improvements, including setting a time frame for the accomplishment of a common market, establishing rules to govern the economic and commercial relations between Brazil and Argentina in the transitional period, 1991-1994, and the achievement of the free movement of goods, services and production factors in line with the objective of creating a bilateral common market.

The above agreements were the immediate precursors of MERCOSUR. With them, the integration process evolved from bilateralism to multilateralism, as envisaged in the LAFTA model. (Baptista 1998).

The conclusion of the bilateral agreements between Argentina and Brazil was a matter of concern for the neighboring countries, Uruguay and Paraguay. They feared that the expansion of free trade between the two larger countries of the Southern cone might isolate them economically. This led to their adherence to the agreements signed between Argentina and Brazil, and later to the creation of MERCOSUR.

The Southern Common Market – MERCOSUR – was established by the Treaty of Asuncion between Brazil, Argentina, Uruguay and Paraguay that entered into force in 1991. The objective was to create first a free trade area, and subsequently a common market. From the institutional perspective, MERCOSUR is an intergovernmental organization, developing from a contractual type arrangement into an international structure, but without supranational authority.

Under the Treaty of Asuncion was adopted a tariff reduction scheme to liberalize intraregional trade, this system would become the engine of MERCOSUR. Liberalization was phased over a period of four years from 1991 to 1994, during those years tariff reduction would apply automatically. Finally, in January 1995 with the introduction of common external tariff (CET), and despite its numerous exceptions, the customs union between Argentina, Brazil, Paraguay and Uruguay went into effect.

At that time the CET took into account 11 rates, up to 23% with an average of 11.3%. It also contained a number of exceptions relating to approximately 300 products by country⁴, most of them belonging to the capital goods sectors, information technology and telecommunications, and other sub-sectors -sugar, wheat and automotive- excluded temporarily. In 1995, about 85% of intraregional trade was free. The integration of these exceptions was scheduled for 2001 in the case of Argentina and Brazil, and before 2006 for the other two partners.

Between 1995 and 2001, the CET experienced many changes, mainly due to macroeconomic problems of member countries, changes that challenged more than once the strength and validity of MERCOSUR. The most important changes were the increase in 3% of the CET by Argentina in 1997, to replace the statistical tax⁵, and by the remaining members the following year, in response to the Asian crisis. The first half of 2001 saw a new wave of modifications. First, Argentina imposed import duties on consumer goods, including those from its MERCOSUR partners, and reduced tariffs on capital goods from third countries. Then, Uruguay increased import tariffs by 3% and unilaterally, including those applied to products from its partners; this behavior was copied later by Paraguay.

These developments once again cast doubt in the relevance and ability of MERCOSUR to become a complete customs union. On the one hand, the same member states often impose non-tariff barriers (NTBs), such as safeguards and antidumping, or administrative measures such as the obligation to obtain import licenses or setting time limits for payment of imports (Kume, Anderson y de Oliveira 2001). On the other hand, a common legislation has not been consolidated. Therefore, in most areas -safeguard, antidumping, countervailing duties, subsidies, competition- national policies prevail over common guidelines, raising problems within MERCOSUR and in the relationship with external partners, given the asymmetry of the legislation and the concomitant absence of a common law. This is compounded by the lack of coordination of macroeconomic policies, a fact that often results in major commercial disputes. MERCOSUR countries often use trade instruments for macroeconomic stabilization, which is not always compatible with the objectives and the rules of a common market.

MERCOSUR's international strategy is characterized by the so-called open regionalism. There are several reasons for that, one can be that the multilateral liberalization of the four members economies concurred with intra-regional trade liberalization. Another is the

⁴ Paraguay's list of exemptions contained 399 products

⁵ The statistical tax corresponded to the payment of 3% of CIF value of imports for expenses of statistics. That fee was challenged by the WTO for failing to comply with the rules agreed in the GATT.

placement of various initiatives approaching other countries or groups of countries. This approach is carried out under an international strategy which consists of four axes, one of them is the approach to the EU, and others are: participation in multilateral negotiations, approach to other Latin American countries, and participation in discussions aimed at creating the FTAA. In addition, the four countries are members of the WTO and participate in the corresponding multilateral negotiations.⁶

Within this strategic line, MERCOSUR countries have developed negotiations with other countries in Latin America in the context of ALADI, which provides the regulatory framework for trade and economic cooperation on bilateral agreements signed by its members. With the establishment of the CET, the old bilateral agreements between member countries of MERCOSUR and other members of ALADI were gradually changing until they became agreements “four plus one”, maintaining preferential relations simultaneously. This occurred, in particular in the case of the MERCOSUR agreements with Bolivia and Chile.

Chile became an associate member on 25 June 1996 at the 10th MERCOSUR Summit in San Luis, Argentina, by signing the *Economic Complementary Agreement MERCOSUR-Chile*. Bolivia⁷ formally joined the bloc at the XI MERCOSUR Summit on 17 December 1996 in Fortaleza, Brazil, by signing the *Economic Complementary Agreement MERCOSUR-Bolivia*.

In 2003, Peru became an associate member at the 15th MERCOSUR Summit in Montevideo, Uruguay, (Dec. 39/03) upon signing the *Economic Complementary Agreement MERCOSUR-Peru*. Venezuela, Ecuador, and Colombia formally joined the bloc as associate members on 17 December 2004 in Ouro Preto, Brazil (Dec. 42/04, 43/04, and 44/04 respectively), signing the *Economic Complementary Agreement MERCOSUR-Colombia, Ecuador y Venezuela*.

One aspect of particular relevance in recent years is related to the application by the Bolivarian Republic of Venezuela as full member of MERCOSUR. This request is framed by the provisions of Article 20 of the Treaty of Asuncion, which recognizes the accession of other member countries of the Latin American Integration Association (ALADI) to the block. In this regard, the MERCOSUR members reaffirmed the importance of the accession of the Bolivarian Republic of Venezuela to MERCOSUR to consolidate the integration of South America in the context of Latin American integration.

On 7 December 2005 (Decision MERCOSUR 28/05), the MERCOSUR countries officially accepted Venezuela's application to join MERCOSUR. From that date on, Venezuela has

⁶ The existence of MERCOSUR was officially notified to the General Agreement on Tariffs and Trade (GATT) in 1992 and in 1996 to the World Trade Organization (WTO).

⁷ Bolivia may be the next country to ascend to full membership. Bolivia is a member of the Community of Nations (CAN), a smaller trading bloc that includes Colombia, Ecuador, and Peru. MERCOSUR Members are not permitted to negotiate Free Trade Agreements (FTAs) with non-member nations, but Bolivia has not shown willingness to drop its membership to CAN.

enjoyed the status of “active observer” (the right to participate in all formal meetings but without the right to vote).

Having served as an Associate Member for two years, Venezuela joined in July 2006, when was approved the Protocol of Accession of the Bolivarian Republic of Venezuela to MERCOSUR, through which the conditions and deadlines for the full incorporation of Venezuela to the bloc are set. The entry into force of the Protocol requires that it be ratified by the legislatures of the five countries involved. So far, this membership has been approved by the parliaments of Venezuela, Argentina, Brazil and Uruguay, and is still pending approval by the parliament of Paraguay.⁸ Under President Hugo Chávez, Venezuela has pushed to have MERCOSUR as an alternative to the U.S.-backed Free Trade Agreement of the Americas (FTAA).

Currently the Partner/Associated States of MERCOSUR are Bolivia, Chile, Peru, Ecuador and Colombia; and the full member states are: Brazil, Argentina, Uruguay, Paraguay and Venezuela.

The setting up of MERCOSUR was inspired by the success of other regional economic integration groupings. Members decided to adopt a gradual approach to integration, starting from a free trade area to an eventual customs union and from a contractual agreement to a structured international organization.

⁸ Last December, after almost three years of debate, the plenary of the Brazilian Senate approved the inclusion as MERCOSUR full member of Venezuela with 35 votes in favor and 27 against. Argentina and Uruguay legislatures were the first to approve the incorporation and now it only depends on Paraguay's senators. The proposal is stalled in the Paraguayan Senate because President Fernando Lugo does not have sufficient support and several members of the higher house question President Chavez "autocratic style and practices", contrary to the so-called "MERCOSUR democratic clause."

4. EVOLUTION OF MERCOSUR TRADE

In the 1980s the MERCOSUR economies showed low growth rates, they were relatively closed, their currencies were depreciated, and they faced strong external restrictions. On the other hand, the ten-year period after the creation of MERCOSUR was characterized by economic growth in the four countries, the spectacular growth of trade among them, mainly in the early years, and trade increases not only among the MERCOSUR partners but also with third countries. Even though both imports and exports increased considerably, imports grew faster.

Trade growth in the 1990s was linked to the opening of the MERCOSUR countries vis-à-vis the rest of the world. This opening led to a change in the composition of tradable goods production, favoring the production of exports to the detriment of import substitutes. In addition, the growth in the imports of the bloc was explained by the exchange rate policies in force in the 1990s. At different moments in time (Argentina, 1991; Brazil, 1994; and Uruguay, 1990), the MERCOSUR countries adopted stabilization programs based on the exchange rate as nominal anchor (Fanelli, Lorenzo y Oddone 2003).

According to Fanelli et al., even though the instruments used were different (crawling peg with a fluctuating margin in Uruguay, conversion board in Argentina, and adjustable fixed exchange rate in Brazil), the effects were similar. The three countries registered large distortions in their relative prices, which discriminated against the domestic production of tradable goods.

Moreover, unlike Chile, none of these three countries adopted measures to confront the macroeconomic effects of the massive capital inflows that the bloc attracted during the first half of the decade. This reinforced the vicious circle of currency appreciation, relative price distortion, and deterioration of the current account.

During 2007 and the first half of 2008, the foreign trade flows of MERCOSUR countries continued to perform exceptionally well. Since 2003, exports and imports of the members of the bloc have in fact been growing at fairly high rates, and this period has been the region's most prosperous, at least since the bloc was created in 1991. Argentina, Brazil, Paraguay, and Uruguay have enjoyed a favorable international climate, both in terms of volume of world trade and in the prices of the goods exported, especially agricultural and mineral commodities. Instead of keeping pace with world trade, these countries' exports have outstripped it, which has enabled a continuous increase in their market share of world imports.

During the last ten years, MERCOSUR's trade balance has been through three separate phases. The first, from 1998 to 2002, was characterized by serious macroeconomic instability in all countries in the bloc, added to a highly convulse international atmosphere. Indeed, between 1998 and 2002, the economies of MERCOSUR went through a period of

deep crisis that led to a stagnation or fall in activity levels, foreign exchange depreciations, and, in certain cases, to serious social crises. The world economy also underwent a fairly unstable period, with the Asian crisis and the recession of the US economy in 2001, as well as the negative impact of the terrorist attacks of September 11. MERCOSUR thus saw virtual stagnation of exports and shrinkage of imports, which meant the trade balance went from a deficit of around US\$14 billion in 1998 to a surplus of US\$29.2 billion in 2002.

The second phase, from 2003 to 2006, was characterized by extremely positive scenarios, both in the international market and on the internal front, and, once again, MERCOSUR countries showed sustained growth. Exports increased sufficiently fast to deal with the expansion of imports. This in turn enabled the bloc's trade surplus continued to rise until it reached a record US\$55.5 billion in 2006.

Figure 1
 TOTAL MERCOSUR FOREIGN TRADE 1988-2008⁹
 (Thousands of US\$)

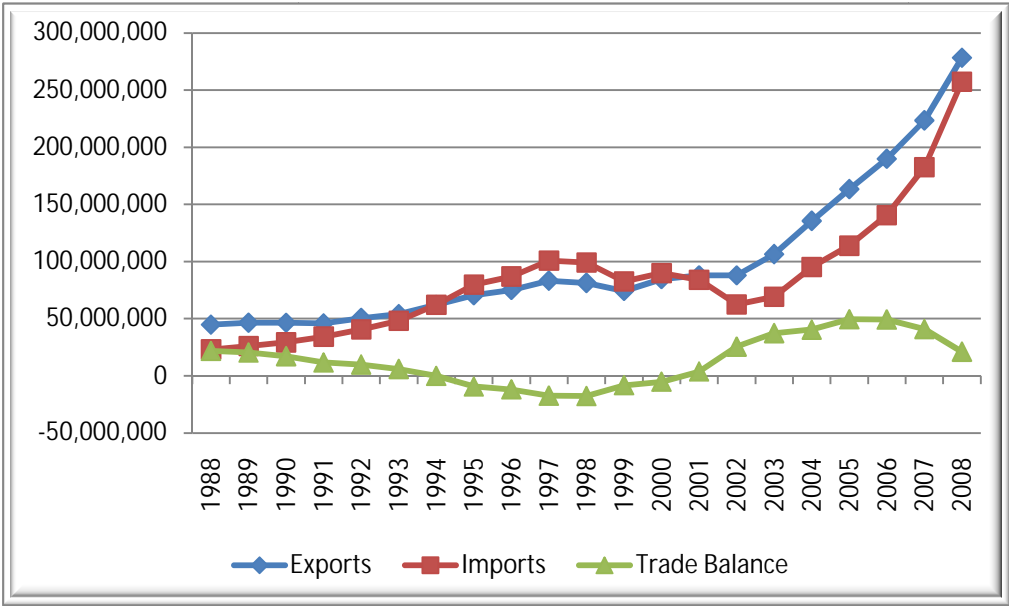


Figure 1 TOTAL MERCOSUR FOREIGN TRADE 1988-2008

Source: ECLAC and BCP (Paraguay)

The most recent phase, taking in 2007 and the first half of 2008, was characterized by the sustained high pace of growth in internal demand in the bloc and by a still favorable international scenario, especially where the increases in international commodity prices was concerned, which far exceeded their historical average. However, the trade surplus still fell in 2007.

⁹ Including intrabloc trade.

Since 2003, MERCOSUR countries have steadily expanded their share in world exports and this growth was not interrupted by the crisis, despite falling external trade flows. The process has involved an increase in both extra bloc and intra bloc sales. In this case, it is worth noting that, as measured at constant prices, exports from Argentina and Brazil to the bloc in 2008 were almost 60% up on a decade ago. The improved performance of MERCOSUR trade in terms of the world average is linked to the growing importance of Asia as a destination for the bloc's external sales, as the demand of this market went on expanding or deteriorated to a lesser degree than the countries at the epicenter of the financial crisis. In 2008, the bloc's trade with Venezuela reached US\$8.6 billion and continued to rise, as it has been doing since 2004¹⁰.

In 2008, MERCOSUR's exports totaled US\$278.3 billion, 24.1% up on the previous year. While the bloc's external sales in the last quarter of 2008 grew at an annual rate of just 33.5% this was well above world exports, which in that period of deepening world crisis contracted 11.6%. MERCOSUR's external sales in the first half of 2009 were down 21.7%, again, a less negative result than world exports, which fell at an unpredicted 31.6%. When making this comparison, it should be remembered that, in exports, an extremely significant component was falling international prices after their historic highs in the first half of 2008.

MERCOSUR imports totaled US\$248 billion in 2008, up to 40.5% on the previous year, but also slowed over the last quarter of the year to a rate of 15.5%. In the first six months of 2009, the bloc's external purchases were down 31.5% in line with the world indicator.

The main effect of the international crisis was the abrupt reversion of the trend toward the reduction in the bloc's trade surplus over the previous two years. This balance plunged to US\$30.258 billion in 2008 (US\$55.5 billion in 2006) due to higher growth in imports than exports. However, in the first half of 2009, the surplus widened significantly, 61.7% up on the same period a year earlier. This phenomenon is explained by a sharp contraction in imports, dominated by the effect of falling quantities. Exports fell at lower rates and the effect of falling prices prevailed.

4.1. Trade flows by country

Before starting the study of the trade flows by each MERCOSUR country some data on these countries are provided to better understand the trade data that will be reported later. From the basic indicators in Table 1, we can imply some part of the role of the different countries on MERCOSUR. For example, Brazil is the largest of the four nations so it carries much of the weight in the MERCOSUR economy. Even when its GDP per capita for 2008 was in the best of the group, its income disparity is high. Argentina is the second largest nation in the bloc, and it contributes in that proportion to MERCOSUR. Paraguay is the smallest economic contributor to MERCOSUR, much political strife has damaged the

¹⁰ That year, FDI flows to MERCOSUR were a record US\$56 billion, whereas in the first part of 2009, they slowed amid the complicated world financial situation.

Paraguayan economy of the last century, this has left the country highly import dependent at some times. Finally, although the smallest in size and population in the group, Uruguay numbers prove it has a highly dynamic economy. Uruguay is an important financial center for the region.

Table 1: MERCOSUR COUNTRIES: BASIC INDICATORS

	Argentina	Brazil	Paraguay	Uruguay
Area (km²)	2,766,890	8,514,877	406,752	176,215
Population (thousands, 2008)	39,876	191,971	6,226	3,334
GDP (million current US\$, 2008)	328,385	1,612,539	15,976	32,186
GDP per capita (US\$, 2008)	8,235	8,399	2,565	9,653
GDP (million current PPP US\$, 2008)	571,537	19,76,632	29,322	42,456
Trade per capita (US\$, 2006-2008)	3,069	1,854	2,259	4,468
Trade to GDP ratio (2006-2008)	45,2	26,2	110,7	58,3

Source: WTO

The distribution of the trade flows between MERCOSUR partners in 2008 was similar to previous years. Brazil sold US\$197.9 billion, or 71.1% of total exports, followed by Argentina (25.2%), Uruguay (2.1%), and Paraguay (1.6%). These market shares are explained mainly by the countries' differences in scale, given their populations and the values of their production. It should be noted that 79.8% of MERCOSUR's population and 80.6% of its GDP was accounted for by Brazil. It should, then, be stressed that the smaller partners, Paraguay and Uruguay, exhibited the greatest buoyancy in external sales, with significant increases of 57.6% and 32.2% respectively in 2008 (Table 2).

Brazil was responsible for slightly over 70% of total MERCOSUR exports in 2007, with US\$160.6 billion. Argentina had a 25% share (US\$56.2 billion), and Paraguay and Uruguay together exported US\$7.3 billion, slightly over 3% of the total. Compared to 2006, Paraguay performed best with a 46.1% increase, while Uruguayan exports grew just 12.9%. Argentina expanded its exports by 20.8% and Brazil grew 16.6%, slightly lower than the rise in the bloc's total external sales.

This recent evolution contrasts with 2003-2007, when Brazil raised its share in the bloc's external sales by 3.7 percentage points (p.p). This increase at the expense of Argentina's share, which fell by 3.8 p.p. The annual average growth of Argentine exports in the last five years was the lowest in MERCOSUR at 17%. In this period, Paraguay's share increased slightly (+0.2 p.p.) and Uruguay's fell 0.1 p.p. It is worth remembering, however, that 80% of the MERCOSUR population lives in Brazil and that it produces almost 70% of the bloc's GDP (excluding Venezuela). To offset the difference of scale between the countries, it is important to analyze the evolution of exports per inhabitant. Two main facts stand out. First, Argentina and Uruguay had the highest coefficients of exports per inhabitant in 1998-2007. Second, although Brazil's exports per inhabitant were the most dynamic, this indicator also shows more rapid acceleration in the other partners. Between 1998 and 2007, it was up 2.8-fold in Brazil, 2.3 in Paraguay, 2 in Argentina, and 1.6 in Uruguay.

Table 2: TOTAL MERCOSUR TRADE FLOWS AT SELECTED TIMES
(US\$ Thousands)

	1988	1992	1996	2000	2004	2007	2008	% Var. 2008/2007
Exports	44.799.361	50.485.865	74.994.968	84.595.159	135.605.068	223.538.625	278.299.043	24.1
Argentina	9.134.606	12.234.725	23.809.330	26.340.372	34.574.749	55.979.381	70.019.541	24.5
Brazil	33.759.418	35.974.332	47.745.221	55.084.415	96.473.162	160.259.939	197.940.662	23.2
Paraguay	509.833	656.571	1.043.007	870.928	1.626.488	2.785.000	4.390.000	57.6
Uruguay	1.395.504	1.620.237	2.397.410	2.299.444	2.930.669	4.514.305	5.948.840	32.2
Imports	23.074.370	40.638.109	86.916.109	89.829.959	95.143.714	182.564.438	257.247.253	40.5
Argentina	5.321.172	14.862.961	23.760.358	25.241.620	22.444.094	44.705.789	57.420.742	28.2
Brazil	16.055.007	22.345.460	56.727.451	58.931.018	66.452.847	126.654.378	182.403.780	43.6
Paraguay	573.691	1.420.380	3.106.764	2.192.303	3.129.123	5.577.000	8.491.000	52.3
Uruguay	1.124.500	2.009.308	3.321.536	3.465.018	3.117.650	5.627.271	8.931.731	59.3
Trade Balance	21.724.991	9.847.756	-11.921.141	-5.234.800	40.461.354	40.974.187	21.051.790	-36.4
								Absolute
Argentina	3.813.434	-2.628.236	48.972	1.098.752	12.130.655	11.273.592	12.598.799	1.133
Brazil	17.704.411	13.628.872	-8.982.230	-3.846.603	30.020.315	33.605.561	15.536.882	-15.282
Paraguay	-63.858	-763.809	-2.063.757	-1.321.375	-1.502.635	-2.792.000	-4.101.000	-1.309
Uruguay	271.004	-389.071	-924.126	-1.165.574	-186.981	-1.112.966	-2.982.891	-1.875

Sources: ECLAC, INDEC (Argentina), SECEX-MDIC (Brazil), BCP (Paraguay), and BCU (Uruguay).

Regarding imports, Table 2 shows that Brazil was responsible for 68.3% of the bloc's total external purchasing in 2007, with US\$120.6 billion. Argentina's share was similar to that for exports (25.4%) and the greatest difference emerged in the shares of Paraguay and Uruguay, both with 3.2%. The growth rate between 2006 and 2007 was higher in Brazil (32.1%) and Argentina (31.1%), and below average in Paraguay (24.2%) and Uruguay (17%). In the first half of 2008, imports accelerated substantially in all countries in the bloc, especially Uruguay, where they increased a staggering 92.6%. Paraguay recorded growth of 54.9%, Brazil 50.7%, and Argentina 45.3%.

Between 2002 and 2007, Brazil's share in total MERCOSUR imports fell by 10.8 p.p., while Argentina's grew by 10.3 p.p. The increase reflected annual average growth of 37.9% in this country's external purchasing, but it is worth remembering that the basis for comparison is for 2002, a year when its imports suffered a deep contraction due to the grave economic crisis following the end of the foreign exchange convertibility regime. In fact, Argentina's current share in MERCOSUR imports is still well below that seen in 1998, which was 32.9%. The trade surplus recorded by MERCOSUR in 2007 reached US\$47.6 billion, US\$40 billion of which correspond to Brazil, i.e. over 80% of the total. Argentina's share was US\$11.5 billion, while Paraguay and Uruguay had deficits of US\$2.8 billion and US\$1.1 billion respectively. The balance evolved unfavorably in all countries in comparison with the previous year, especially in Brazil, whose surplus fell by 13.9% (US\$6.4 billion),

and Uruguay, whose deficit grew 38%. The trend continued during the first half of 2008, when the trade balance of all countries deteriorated in comparison with the same period the previous year.

In this sense, Brazil once again stands out for having suffered a 44.9% reduction in its surplus, as does Uruguay, whose deficit rose 438%.

4.2. MERCOSUR trade and world market share

MERCOSUR exports have clearly been fuelled by the strong pace of growth experienced by world trade from 2003. This variable rose 16.4% c.a. in 2003-2007 and 19.9% in the first half of 2008. However, the countries in the bloc were able to expand their exports more rapidly, obtaining continuous increases in their market share. Indeed, between 2003 and 2007, MERCOSUR exports grew at an annual average rate of 20.3%, i.e. 3.9 p.p. above world imports, and in the first half of 2008 they grew 27.5%, i.e. 7.7 p.p. above world growth. Although there was a significant increase in the quantities exported by MERCOSUR in this period, much of this growth differential is due to the sharp increase in international commodity prices, the main component of MERCOSUR exports.

The available data indicate that the MERCOSUR countries have experimented changes in their trade flows since the signature of the agreement. Looking only at years 1988 (before the agreement) and 2008, the change is evident.

The share of intra-bloc exports more than doubled from the year 1988, sample year preceding integration when compared with the transition period, up from 6.54% to 14.93%, twenty years later. In the table, the highest share was for the year 1996, getting a value of 22.72%.

Despite the initial increase, the share on intra-bloc trade has slowed down in the last ten years. The shares of MERCOSUR exports to EU15 and NAFTA are also high, but present a declining trend during the last three years of the sample, contrasting with the growing trend displaced by countries grouped in the rest of the world (RoW) during those years (Andean Community and ASEAN have also this trend). That can be explained by the importance earned by Japan and People's Republic of China in trade during the last decade. MERCOSUR exports to third countries decreased from 93.46% in 1988 to 85.07% in 2008, which is a sign of the consolidation of the group as a trade bloc.

Table 3: VALUE AND SHARE OF MERCOSUR TRADE WITH REGIONAL BLOCS¹¹ AT SELECTED TIMES
(US\$ Thousands)

EXPORTS	1988	1992	1996	2000	2004	2008
ASEAN	908.843	1.349.128	2.377.545	1.509.208	3.271.989	8.248.410
	2,03%	2,67%	3,17%	1,78%	2,41%	2,96%
CARICOM	209.116	156.027	251.660	420.221	1.582.579	5.454.952
	0,47%	0,31%	0,34%	0,50%	1,17%	1,96%
ANDEAN COMMUNITY	1.812.337	2.286.209	3.116.025	3.181.014	6.003.337	17.223.251
	4,05%	4,53%	4,15%	3,76%	4,43%	6,19%
CACM	225.091	62.312	172.855	396.087	1.138.453	1.628.295
	0,50%	0,12%	0,23%	0,47%	0,84%	0,59%
MERCOSUR	2.927.721	6.994.357	17.041.024	17.720.398	17.334.589	41.548.002
	6,54%	13,85%	22,72%	20,95%	12,78%	14,93%
NAFTA	10.965.682	10.326.044	12.919.205	19.521.962	30.983.479	41.171.168
	24,48%	20,45%	17,23%	23,08%	22,85%	14,79%
REST OF ALADI	1.127.646	1.680.704	3.056.485	4.177.461	6.703.191	10.762.092
	2,52%	3,33%	4,08%	4,94%	4,94%	3,87%
EU15	13.378.668	15.324.949	17.682.491	19.931.852	30.005.723	58.791.696
	29,86%	30,35%	23,58%	23,56%	22,13%	21,13%
REST OF THE WORLD	13.244.257	11.894.871	17.429.150	17.736.956	38.581.728	93.390.175
	29,56%	23,56%	23,24%	20,97%	28,45%	33,56%
TOTAL	44.799.361	50.485.865	74.994.968	84.595.159	135.605.068	278.292.516
	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%

IMPORTS	1988	1992	1996	2000	2004	2008
ASEAN	226.891	244.865	1.723.233	1.567.926	2.595.103	8.287.406
	0,98%	0,60%	1,98%	1,75%	2,73%	3,22%
CARICOM	7.635	12.111	64.979	97.901	167.046	578.528
	0,03%	0,03%	0,07%	0,11%	0,18%	0,22%
ANDEAN COMMUNITY	630.339	489.482	2.129.842	2.714.560	2.045.449	6.818.973
	2,73%	1,20%	2,45%	3,02%	2,15%	2,65%
CACM	1.933	7.626	23.271	40.106	99.184	283.951
	0,01%	0,02%	0,03%	0,04%	0,10%	0,11%
MERCOSUR	3.076.038	7.486.717	17.573.495	18.030.900	17.911.825	43.331.372
	13,33%	18,42%	20,22%	20,07%	18,83%	16,81%
NAFTA	5.113.053	10.087.857	21.408.999	21.711.269	18.297.491	43.444.576
	22,16%	24,82%	24,63%	24,17%	19,23%	16,86%
REST OF ALADI	416.819	768.303	1.729.407	1.718.383	2.016.481	5.597.032
	1,81%	1,89%	1,99%	1,91%	2,12%	2,17%
EU15	5.773.894	9.595.821	22.895.475	21.369.702	20.797.538	44.906.313
	25,02%	23,61%	26,34%	23,79%	21,86%	17,42%
REST OF WORLD	7.678.269	10.676.687	18.767.801	22.012.590	31.199.152	104.500.786
	33,28%	26,27%	21,59%	24,50%	32,79%	40,55%
TOTAL	23.074.370	40.638.109	86.916.109	89.829.959	95.143.714	257.733.562
	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%

Source of the raw data: ECLAC-BADECEL and ALADI

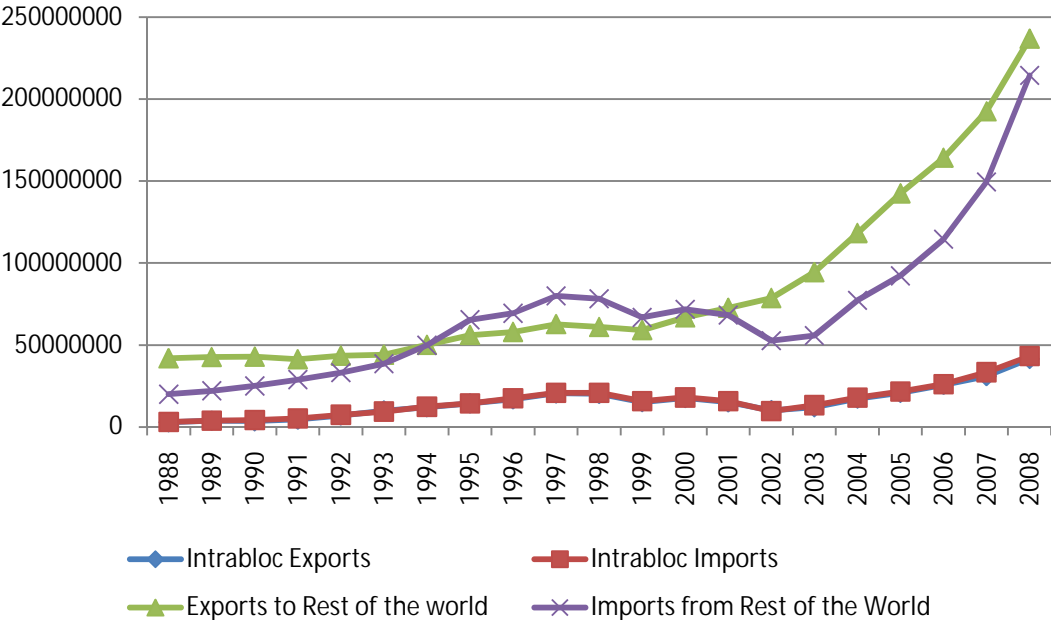
¹¹ The composition of the groups is as follows:

ASEAN: Brunei, Filipinas, Indonesia, Malaysia, Singapore, Thailand. CARICOM: Antigua and Barbuda, Bahamas Islands, Barbados, Belize, Bermuda, Cayman Islands, Dominica, Grenada, Guyana, U.S. Virgin Islands, Jamaica, Montserrat, Saint Lucia, Saint Vincent and the Grenadines, St. Kitts and Nevis, Trinidad and Tobago, Turks and Caicos Islands. ANDEAN COMMUNITY: Bolivia, Ecuador, Colombia, Peru, Venezuela. CACM: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua. MERCOSUR: Argentina, Brazil, Paraguay and Uruguay. REST OF ALADI: Chile. NAFTA: Canada, U.S.A., Mexico. EUROPEAN UNION (15 countries) Germany, Austria, Belgium-Luxembourg, Denmark, Spain, Finland, France, Greece, Ireland, Italy, Netherlands, Portugal, United Kingdom, Sweden.

Even when the import figures tell us that the most import shares are in the same hands that exports destination, EU15, NAFTA and MERCOSUR itself, the picture is different. For this flow MERCOSUR got the biggest share in the sample data for the year 1996 with a 20.22%. But in the last three years of the sample, it has decreased, holding only 16.81% of bloc's imports. The same happened to EU15 and NAFTA. Still EU is the most important source of imports for MERCOSUR, after RoW, which has increased in a very remarkable way its share. We can infer that the trade behavior of MERCOSUR members, visible in their trade flows patterns, have changed during the last 10 years.

Traditional sources of imports as NAFTA and EU have reduced their participation, while ASEAN, RoW (likely impulse by China and India) and MERCOSUR itself have gained importance. This movement from the usual and important partners to new destinations and sources of trade flows can be taken as an openness indicator of MERCOSUR countries.

Figure 2: MERCOSUR INTRA AND EXTRA BLOC TRADE 1988-2008
(Thousands of US\$)



Source: ECLAC (BADACEL).

Note: By definition, Intrad bloc Exports are the same as Intrad bloc Imports.

A strong growing trend can be appreciated in the graph 2 which compares MERCOSUR intra-trade respect to the extra-bloc trade. It is clear that both, intra and extra trade have grown, especially in the last decade.

5. EVALUATION OF MERCOSUR RESULTS

5.1. Trade Intensity

Although useful to shed light on the issue of weight alterations of different markets, trade share analysis can be misleading since a country trade pattern is influenced by many different factors such as the commodity composition of trade, the share of GDP traded and the relative transaction costs of trading with different countries. Anderson and Norheim (1993) point out that these factors, in turn, are related to history, geography and government policies of the country. In this sense there are a number of reasons besides the integration process that could be affecting trade shares, which are not depicted by just looking at trade shares. An attempt to address some of these issues has been made by adjusting regional trade shares using as a parameter the relevance of the region in world trade, obtained by the ratio of regional trade share to region share of the world trade, generating the *Trade Intensity Index* (I_{ij}). This index has been extensively employed to measure the direction and level of international trade (e.g. Primo Braga et al., 1994; and Frankel, 1997) serving to point out the relative importance of changes in trade between countries, especially those with a small share in world trade, as is the case of MERCOSUR members. If trade is not geographically biased, which means the trade share among the countries exactly matches the share of the bloc in world trade, the ratio will be equal to 1. If the index assumes a value above (below) unity, the countries have a greater (smaller) trade than could be expected based on the share of the importer in world trade. By definition, the index of intensity of region i exports with region j is:

$$I_{ij} = x_{ij} / m_j^{12}$$

Where:

x_{ij} : the share of exports of region i to region j ;

m_j : the share of region j in world imports (net of imports of region i).¹³

In the Table 3 are shown the trade intensity indexes by some regional blocs, since the year 2000, here i is MERCOSUR and j is every other regional bloc selected. Although the share of intrabloc exports in total bloc exports rose since 2003, its impact on the export

¹² While this formula applies for the export intensity index, replacing exports by imports in the numerator and imports by exports in the denominator will generate the import intensity index.

¹³ As there should be intra-bloc trade in region i , Anderson and Norheim (1993) suggested two *ad hoc* adjustments to equation 1 in the case of intra-regional trade intensity index: (i) instead of subtracting all of region i imports from the world imports, it should be reduced by only one n -th of that amount in the denominator of m_j (where n is the number of members of the region); (ii) also it should subtract one n -th of region i imports from region j imports in the numerator. In the case of the extra-regional trade intensity index, only the first of these adjustments is necessary. However, due to the small size of MERCOSUR, the difference between these results and the standard approach is negligible, so the original formulation was maintained.

intensity index was deadened by the increase in the share of MERCOSUR in world imports, trend that started in the same year, its share was 1.34% by 2000, then 0.88% in 2003, and went up to 1.57% in 2008. The index has decreased steadily for most of the years. The index has high values for the Andean Community, and it is bigger than 1 for the NAFTA group in some years, that evidences some geographical bias towards the continent.

Table 4: MERCOSUR TRADE INTENSITY INDEX BY REGIONAL BLOCS

	2000	2001	2002	2003	2004	2005	2006	2007	2008
EXPORTS									
ASEAN	0,32	0,35	0,48	0,44	0,45	0,48	0,44	0,49	0,52
ANDEAN COMMUNITY	10,32	10,42	10,6	9,16	11,47	11,5	13,61	12,78	10,94
EU27	0,61	0,58	0,59	0,56	0,55	0,52	0,51	0,56	0,55
MERCOSUR	15,67	13,29	12,41	12,89	12,86	12,21	11,99	10,77	9,51
NAFTA	0,92	0,96	1,06	1,08	1,09	1,02	0,98	0,95	0,84
EXTRABLOC	0,8	0,84	0,89	0,89	0,88	0,88	0,87	0,87	0,86
IMPORTS									
ASEAN	0,26	0,35	0,38	0,47	0,44	0,53	0,58	0,56	0,52
ANDEAN COMMUNITY	7,44	5,91	6,58	5,34	5,09	5,25	6,22	4,53	4,83
EU27	0,63	0,62	0,64	0,57	0,54	0,53	0,5	0,5	0,48
MERCOSUR	15,32	13,27	11,41	13,81	12,78	12,17	11,82	11,44	9,72
NAFTA	1,27	1,29	1,35	1,33	1,34	1,3	1,26	1,3	1,35
EXTRABLOC	0,81	0,82	0,86	0,82	0,82	0,82	0,83	0,83	0,85

Source of the raw data: WTO and ECLAC. Calculations made by the author

These results of the Trade Intensity Index indicate that MERCOSUR exports expose a geographical bias respect to MERCOSUR itself, and to the Andean Community as well, having a trade relation more than proportional according to its world trade share.

The intrabloc import intensity index is showing a trend similar to that of the export intensity index; again the highest values are for the Andean Community and NAFTA, after MERCOSUR itself. Looking only at the years 2000 and 2008, the only groups who present a small increment in the index are NAFTA and Extrabloc. The decreasing behavior of the import index for the Andean Community differs to its export index, and contrast with the NAFTA's indexes, NAFTA's non decreasing import index is higher than its export index. The index in exports is growing for South America but in the imports is growing for North America.

In this work we have also calculated the trade intensity indices among the MERCOSUR countries on a bilateral basis between 1988 and 2008. The average rates were calculated during periods 1988-1997, 1998-2007, and finally for 2008. All the indexes are shown in the table 5.

At first sight, what is most striking of the indices calculated for the countries of MERCOSUR is how high their values are, during the period of formation and implementation of the agreement and in more recent years. All the results display index values of more than one, which indicates a bilateral trade flow that is larger than expected, given the partner country's importance in world trade. Most of the intensity index ratios were slightly higher in the second period evaluated (excepting the case of Paraguay-Uruguay which was markedly high), for 2008 there is a decline in most of the calculations, but we should keep in mind this was an atypical year, characterized by a global crisis. All these results reinforce the impression provided by the revision of the MERCOSUR trade figures already seen, that show a reorientation of trade toward regional markets.

Table 5: TRADE INTENSITY INDEX FOR MERCOSUR COUNTRIES

	Countries	Argentina	Brazil	Paraguay	Uruguay
Average 1988- 1997	Argentina		23,29	47,08	57,54
	Brazil	19,91		45,67	29,83
	Paraguay	28,21	45,59		35,55
	Uruguay	37	35,3	22,86	
Average 1998- 2007	Argentina		25,06	49,85	60,26
	Brazil	29,59		34,66	22,07
	Paraguay	28,98	34,29		444,17
	Uruguay	37,51	25,43	79,4	
2008	Argentina		17,13	28,48	46,53
	Brazil	25,53		23,15	15,33
	Paraguay	46,65	12,67		325,85
	Uruguay	24,47	14,99	33,07	

Source of the raw data: WTO and ECLAC (BADECEL).
Calculations made by the author

Making the measurement of the index for the MERCOSUR countries a defect appears, since the participation of the MERCOSUR member countries in world imports is very low the index gets a very high score. Those high values evidence the presence of a geographical bias in the region. Paraguay and Uruguay display the highest values for this index; it means that for these two countries the relationship and trade with the bloc is more important.

To overcome this defect and get a more accurate beginning in the analysis of the effects of regional integration in MERCOSUR this trade intensity index is going to be complemented by an indicator that that is not affected by the size of the countries. The symmetric trade introversion index used to measure regionalization by Lelio lapadre solves the three problems present in previous indexes: range variability, range asymmetry, and dynamic ambiguity. (lapadre 2006). Let's have a look at the estimates in the following section.

5.2. Trade Introversion

lapadre (2006) presents a regional 'trade introversion' index, which can be seen as an indicator of *revealed trade preference (RTP)* among the member countries of a region. A bilateral version of the RTP index is used in this paper, in order to measure the intensity of trade relations. The starting point is a 'homogeneous' bilateral trade intensity index ($Hlij$), given by the ratio between a partner country's share of the reporting country's total trade (Sij) and its weight in total trade of the *rest of the world* (Vij):

$$Hlij = Sij / Vij = (Tij / Tiw) / (Toj / Tow)$$

Where:

Tij : trade (exports plus imports) between reporting country i and partner country j ;

Tiw : trade between reporting country i and the world;

Toj : trade between the rest of the world (excluding country i) and country j ;

Tow : trade between the rest of the world and the world.

The range of $Hlij$ goes from zero (no bilateral trade) to infinity (only bilateral trade) with a geographic neutrality threshold of one, when the importance of country j for country i is equal to its weight in world trade. Unlike the traditional Balassa index, $Hlij$ is homogeneous in the sense that its maximum value does not depend on the size of the partner country. However, unavoidably, $Hlij$ is not symmetric, in the sense that is not necessarily equal to $Hlji$, unless the two partner countries are equal. Another problem of $Hlij$ is that, under certain conditions, its changes across time can have the same sign as the changes of the complementary 'extra-bilateral' trade intensity index $HEij$, which measures the intensity of trade relations between country i and all the other countries except country j :

$$HEij = (1 - Sij) / (1 - Vij)$$

When this problem occurs, interpreting the indices becomes difficult and confusing, because they convey the ambiguous information that trade intensity is increasing (or decreasing) simultaneously with country j and with the rest of the world, which would be an oxymoron.

A simple solution for this problem is to consider the ratio between $Hlij$ and $HEij$ as an indicator of *relative* bilateral trade intensity. Since the range of this ratio would be disproportionately larger above than below its geographic neutrality threshold of one, giving rise to difficulties in descriptive analysis, as well as in econometric estimates, a bilinear transformation can be used to define the bilateral *revealed trade preference index (RTPij)*:

$$RTPij = (Hlij - HEij) / (Hlij + HEij)$$

This index ranges from minus one (no bilateral trade) to one (only bilateral trade) and is equal to zero in the case of geographic neutrality. Unlike trade intensity indices, the bilateral *RTP* index is perfectly symmetric, in the sense that:

$$RTP_{ij} = RTP_{ji}$$

independently of country size.

Table 6: MERCOSUR TRADE INTROVERSION INDEX BY REGIONAL BLOCS

	1988	1992	1996	2000	2004	2008
ASEAN	-0,38	-0,5	-0,46	-0,57	-0,41	-0,33
CARICOM	0,29	0,11	0,13	0,28	0,69	0,75
ANDEAN COMMUNITY	0,84	0,81	0,78	0,82	0,82	0,81
MCCA	0,34	-0,41	-0,29	-0,06	0,33	0,17
MERCOSUR	0,8	0,9	0,92	0,92	0,89	0,86
NAFTA	0,16	0,14	0,09	0,05	0,12	0,03
EU	-0,27	-0,33	-0,31	-0,33	-0,42	-0,43
Rest of World	-0,92	-0,89	-0,89	-0,86	-0,86	-0,91

Source of the raw data: WTO

Calculations made by the author

The table 6 shows the *trade introversion index* for some years, computed in its symmetrical specification. The values of the index confirm MERCOSUR countries as the area with the highest level of intra-regional trade intensity, with an upward trend which got its highest value in 2000, and then it started to decrease slowly. In general MERCOSUR values are high, even before the signature of the agreement. Even when the index has decreased in the last years for MERCOSUR, there is a clear bias towards the American continent.

5.3. Assessment of the Effect of the RTA

Before starting the evaluation of the MERCOSUR effects some theoretical concepts should be briefly introduced. Orthodox customs union theory based on the work of Viner (Viner 1950) emphasized the static effects of regional integration. He argued that although there was free trade between customs union members, there was protectionism vis à vis the rest of the world. As protectionism is distorting, leading to a misallocation of resources, a customs union would not necessarily be welfare enhancing. He introduced the concepts of trade creation and trade diversion. Trade creation is the replacement of expensive domestic production by cheaper imports from a partner and trade diversion the replacement of initial cheaper imports from the outside world by expensive imports from a partner country. The impact of customs union's are now ambiguous as trade creation is beneficial and trade diversion harmful, thus a customs union will only be beneficial overall

if trade creation outweighs trade diversion. More details about Viner's theory and these concepts can be found in the Annex 1.

During the previous section, we have identified a significant expansion in trade, both in absolute terms and as a share of total trade, among MERCOSUR members after the bloc formation, and also an increase of intra-regional trade during the first years of the agreement, which has been declining during the last ten years. Anyway, this preliminary analysis does not provide information about trade diversion. Therefore, the next step in the present study is to see if the changes in the trade flows the agreement has brought have positive or negative implications.

An alternative methodology was used by Alexander Yeats (Yeats 1997), who attempted to discover if trade within MERCOSUR was evolving according to members' comparative advantage. Following the Yeats' methodology, the consistency between trade changes and comparative advantage of MERCOSUR members will be evaluated. The regional orientation (RO) index is a useful tool in analyzing the shifting geographical orientation of trade in different products, it tells us whether a country's exports of a product are more oriented towards a particular region than to other destinations. It is defined as the ratio of two shares. The numerator is the share of the country's exports of the product to the region of interest in the country's total exports to the region. The denominator is the share of the country's exports of the product to other countries in the country's total exports to other countries. If the index has a value greater than 1, this implies that the country has a regional bias in exports of the product. Conversely, if the index is less than 1, then the country has no regional bias. The index can be combined with the revealed comparative advantage (RCA) index to discover which commodities' markets may experience trade diversion after an FTA. If a country's RCA index is less than 1 and its regional orientation index is more than 1, than an FTA between the country and the region may cause trade diversion. The formula for the regional orientation index is:

$$\text{Regional Orientation }_{cgr} = [X_{cgr} / X_{cr}] / [X_{cg-r} / X_{c-r}]$$

Where

X_{cgr} = exports of good g by country c to region r

X_{cr} = total exports of country c to region r

X_{cg-r} = exports of good g by country c to countries outside region

X_{c-r} = total exports of good g to countries outside region r

International trade theory states that gains from trade come from specialization in a country's comparative advantage (i.e., sectors in which a country produces relatively more efficiently than in other sectors). The revealed comparative advantage (RCA) index, introduced by Balassa (1965), can be used to discover the products in which a country has a comparative advantage. It is defined as the ratio of a country's share of the commodity in the country's total exports to the share of world exports of the commodity in total world exports. A country is said to have a revealed comparative advantage if the value of the index exceeds one and a revealed comparative disadvantage if the index's value is below

one. The larger the difference between countries' RCA indices, the more suitable they are as FTA partners. The formula for the RCA index is:

$$\text{Revealed Comparative Advantage}_{cg} = [X_{cg} / X_c] / [X_{Wg} / X_W]$$

Where

X_{cg} = exports of good g by country c

X_c = total exports of country c

X_{Wg} = world exports of good g

X_W = total world exports

In his study, Yeats used a modified version of the RCA index; according to him "Regional trade is excluded in order to more accurately reflect the capacity of MERCOSUR members to compete evenly in markets where discriminatory trade arrangements do not provide an unnatural edge". This concern is valid, but it has problems. First, it is possible that MERCOSUR exporters may also benefit from preferential treatment in important third country markets. Second, if intra bloc trade in certain goods is the main motivation for the development of new export industries, or if an important number of MERCOSUR firms already specialize in supplying the needs of regional markets, then removing these markets from this calculation of the index can tend to understate a country's revealed comparative advantage.

The formula with the intra-trade excluded is as follows:

$$\text{Revealed Comparative Advantage}_{cg} = [X_{cg-r} / X_{c-r}] / [X_{Wg}^* / X_W^*]$$

Where X_{Wg}^* and X_W^* represent world exports of good g and total world exports, exclusive of the intratrade of the RTA member countries.

5.3.1. Exports Analysis

The table 7 shows the top thirty products in Argentina's exports which have shifted in relative terms (as measured by the RO index) away from suppliers in the rest of the world towards suppliers in other MERCOSUR countries over the period 1988-2008. Tables 8, 9, and 10 are the equivalent of table 7 for Brazil, Paraguay and Uruguay respectively. For each of these products they report the values of exports to MERCOSUR, the regional orientation index, the change in the regional orientation from 1988 to 2008, and the revealed comparative advantage indices (in both versions, Balassa and Yeats) in either 1988, 1988 and 2008¹⁴.

The products on the tables should meet two criteria:

- They show an increase in regional orientation over recent periods; and,
- Exports to MERCOSUR exceeded \$1 million for the last year considered.

¹⁴ The reason for calculating both versions of the RCA index over different period is to minimize the likelihood of that results been biased by the trade regime applying at any given period.

Selection of the later criterion was introduced in order to exclude marginal products. As in Yeats' study, products were classified according to the Standard Industrial Trade Classification (SITC) system, revision 2, and disaggregated at the 3-digit level.

The numbers calculated in the tables are not very optimistic. In all MERCOSUR members the products that have regionalized the most do not show a comparative advantage. This supports the statement made by Yeats, when he said that trade was oriented to the "wrong" products.

Unfortunately, in the case of Argentina the indices show that products with greater tendency to be exported to MERCOSUR have a revealed disadvantage. In several cases, these rates decreased with time, they were above 1 in 1988, the year prior to the agreement, to become inefficient in the next years when the agreement was already in progress (the products showing this behavior were: 673 - Iron and steel bars, rods, shapes and sections, 233 - Synthetic rubber, latex, etc., waste, scrap of unhardened rubber, 583 - Polymerization and copolymerization products, 674 - Universals, plates, and sheets, of iron or steel, 693- Wire products (excluding insulated electrical wire); fencing grills). Only two commodities show improvements in its comparative advantage: 591-Pesticides, disinfectants and 46 - Meal and flour of wheat and flour of Meslin.

Analyzing the results for Brazil, there is an increase of exports in all products listed in the table, although most of them had no comparative advantage before the agreement (22 in the Balassa index, and 25 in the Yeats version), and have continued that way. Only one commodity shows increases over time in its RCAs (only in the one suggested by Balassa, product 781-Passenger motor vehicles (excluding buses), when removing MERCOSUR trade of the calculation the products shows disadvantage). Examples of the reverse situation, products that showed a comparative advantage before the agreement and have been losing it are: 762 Radio-broadcast receivers, 268-Wool and Other Animal hair, 591-Pesticides, disinfectants and 782-Purposes Lorries and special motor vehicles. For the last two mentioned products, their RCA is slightly above unity for 1988, the selected year before the agreement. In some commodities the difference between the Balassa index and that of Yeats is clearly visible; it demonstrates the importance of MERCOSUR intra trade for those items (related to machinery and transport equipment), and a lack of competitiveness in production of these particular goods in non protected markets.

It is interesting to note the diversification of Paraguay exports to MERCOSUR during the implementation of the agreement (Table 9). Products not exported in 1998 appear in the following years with great tendency to be exported to MERCOSUR. Looking only at the RCA used by Yeats, the country does not seem competitive, only five of the products in the list show indices over 1 for the year 2008. But looking at the Balassa index, 10 products show some advantage in the same year. Besides, it has lost advantage in the production of 842-Men's and boys' outerwear, textile fabrics not knitted or crocheted and 843 - Women's, girls, infants outerwear, textile, not knitted or crocheted, 263-Cotton and 222- Seeds and oleaginous fruit, whole or broken, for 'soft' fixed oil.

Table 7: ARGENTINA: TOP THIRTY PRODUCTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008

Commodity (SITC Rev 2)		Exports to MERCOSUR (\$000)			Regional Orientation Index			RO Change	RCA (Balassa)			RCA (Yeats version)		
Code	Description	1988	1998	2008	1988	1998	2008	1988-2008	1988	1998	2008	1988	1998	2008
323	Briquettes; coke and semi-coke; lignite or peat; retort carbon	300,15	857,63	3326,4	1,01	102,72	598,12	597,11	0,82	0,07	0,06	0,48	0	0
266	Synthetic fibres suitable for spinning	758,42	10184,93	3531,04	9,11	4,46	229,42	220,3	0,23	0,61	0,14	0,07	0,33	0
761	Television receivers	66,79	5766,57	11173,66	13,15	37,36	102,65	89,5	0,01	0,05	0,03	0	0	0
584	Regenerated cellulose; derivatives of cellulose; vulcanized fibre	1440,15	10928,69	9132,88	9,81	45,74	57,34	47,53	0,86	0,78	0,36	0,27	0,05	0,03
652	Cotton fabrics, woven (not including narrow or special fabrics)	5511,8	19938,75	38351,42	2,43	2,01	45,03	42,59	1,22	0,31	0,31	0,62	0,27	0,03
781	Passenger motor vehicles (excluding buses)	5170,53	1547089,57	2442259,87	2,27	33,35	21,03	18,76	0,1	1,03	1,03	0,05	0,1	0,18
689	Miscellaneous non-ferrous base metals, employed in metallurgy	135,98	271,17	1673,74	3,61	21,12	21,51	17,9	0,18	0,01	0,04	0,09	0	0,01
686	Zinc	1,12	168,97	32409,17	0	0,56	16,91	16,91	0,8	0,44	0,86	0,51	0,61	0,18
673	Iron and steel bars, rods, shapes and sections	3874,06	844,59	114310,21	0,39	1,12	16,2	15,81	3,58	0,49	0,29	2,21	0,56	0,06
233	Synthetic rubber, latex, etc; waste, scrap of unhardened rubber	467,96	1233,86	45746,49	0,24	0,13	14,59	14,35	2,4	0,61	0,74	1,51	1,05	0,18
653	Fabrics, woven, of man-made fibres (not narrow or special fabrics)	2775,18	34552,06	39413,54	6,26	4,8	19,73	13,47	0,23	0,28	0,28	0,09	0,14	0,05
351	Electric current	0	2537,63	161466,09	0	-	13,37	13,37	0,07	0,06	1,2	0,05	0	0,31
677	Iron or steel wire (excluding wire rod), not insulated	402,69	7127,1	25800,99	1,22	2,37	11,21	9,99	0,72	0,58	0,62	0,41	0,46	0,19
591	Pesticides, disinfectants	6369,24	68300,02	455855,78	4,63	3,1	12,19	7,56	1,6	1,66	5,46	0,69	1,14	1,57
562	Fertilizers, manufactured	24,71	216,03	61318,41	4,93	0,84	11,65	6,73	0	0,01	0,26	0	0,01	0,07
75	Spices	262,93	847,94	1244,83	3,87	5,51	10,04	6,17	0,36	0,09	0,08	0,16	0,04	0,02
583	Polymerization and copolymerization products	17059,21	125170,69	645405,14	1,16	3,32	7,08	5,91	2,13	0,47	1,01	1,22	0,31	0,42
674	Universals, plates, and sheets, of iron or steel	5896,88	25968,41	114072,05	0,24	0,82	5,73	5,49	3,91	0,61	0,23	2,47	0,77	0,11
783	Road motor vehicles, nes	116,7	117132,3	250627,87	0,16	122,53	5,61	5,45	0,62	1,17	1,84	0,4	0,03	0,9
46	Meal and flour of wheat and flour of meslin	54,97	63746,59	276798,5	0,13	3,08	5,52	5,39	1,9	8,35	17,95	1,21	5,88	9,26
658	Made-up articles, wholly or chiefly of textile materials, nes	276,61	8544,51	7997,81	0,44	7,08	5,08	4,64	0,51	0,13	0,08	0,32	0,05	0,04
694	Nails, screws, nuts, bolts, rivets, etc, of iron, steel or copper	440,81	8469,75	11297,12	2	4,57	6,31	4,31	0,28	0,21	0,14	0,15	0,11	0,06
111	Non-alcoholic beverages, nes	4,05	18132,54	16210,73	0,53	14,51	4,65	4,12	0,03	0,82	0,37	0,02	0,17	0,2
846	Under-garments, knitted or crocheted	61,78	5007,86	18263,18	0,11	2,32	3,98	3,87	0,34	0,05	0,12	0,22	0,04	0,07
764	Telecommunication equipment, nes; parts and accessories, nes	675,2	9661,57	31892,3	2,81	0,76	6,5	3,69	0,04	0,04	0,03	0,02	0,05	0,01
251	Pulp and waste paper	15943,14	52823,27	95021,78	5,53	2,05	9,13	3,6	1,41	1,04	0,74	0,57	0,9	0,26
693	Wire products (excluding insulated electrical wire); fencing grills	457,09	5978,93	24073,58	0,49	1,79	4,04	3,55	1,81	0,46	0,66	1,11	0,42	0,39
655	Knitted or crocheted fabrics (including tubular, etc, fabrics)	380,81	7296,25	6680,46	0,41	3,83	3,94	3,54	1,4	0,16	0,12	0,87	0,1	0,07
778	Electrical machinery and apparatus, nes	3717,62	55580,02	77518,03	3,28	6,61	6,6	3,32	2,55	0,01	0,1	0,1	0,06	0,06
621	Materials of rubber	1807,41	3659,36	28799,91	2,49	2,7	5,61	3,12	0,16	0,04	0,33	0,33	0,1	0,26

Table 8: BRAZIL: TOP THIRTY PRODUCTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008

Commodity (SITC Rev 2)		Exports to MERCOSUR (\$000)			Regional Orientation Index			RO Change	RCA (Balassa)			RCA (Yeats version)		
Code	Description	1988	1998	2008	1988	1998	2008	1988-2008	1988	1998	2008	1988	1998	2008
341	Gas, natural and manufactured	6450,214	0	4867,507	318,92	0	9539,8	9220,87	0	0,05	0,02	0	0	0
351	Electric current	0	0	46079,123			356,87	356,87	0,45	0,32	0,11	0	0	0
762	Radio-broadcast receivers	21591,48	9872,52	47426,186	1,24	0,16	75,05	73,81	16,98	3,05	1,77	3,21	2,25	0,03
268	Wool and other animal hair (excluding tops)	2020,442	8884,095	8328,495	0,56	26,65	43,87	43,3	1,88	1,72	0,78	0,79	0,07	0,04
633	Cork manufactures	7,349	803,422	1637,295	0,71	27,2	24,5	23,79	0,34	3,78	0,24	0,03	0,02	0,03
74	Tea and mate	22716,61	29623,879	41984,873	19,22	12,87	32,15	12,93	0,58	0,9	0,88	1,04	0,57	0,18
655	Knitted or crocheted fabrics (including tubular, etc, fabrics)	130,967	18346,891	37936,227	0,73	13,93	10,89	10,16	0,78	0,35	0,22	0,09	0,07	0,11
752	Automatic data processing machines and units thereof	8520,982	90927,839	86765,291	1,07	3,43	10,69	9,62	0	0	0	0,29	0,1	0,02
411	Animal oils and fats	46,919	6257,041	7020,36	0,92	74,37	9,43	8,51	0,03	0	0	0,07	0,03	0,12
653	Fabrics, woven, of man-made fibres (not narrow or special fabrics)	3790,148	23092,266	51113,714	2,21	9,37	10,21	7,99	0	0	0,1	0,19	0,05	0,1
56	Vegetables, roots and tubers, prepared or preserved, nes	3650,708	14748,618	14983,677	4,74	8,45	12,45	7,71	0,07	0,41	0,22	0,38	0,14	0,05
781	Passenger motor vehicles (excluding buses)	75896,15	715185,03	2672841,8	1,97	3,77	9,66	7,69	0,73	1,85	1,44	0,51	0,43	0,33
686	Zinc	0	9523,864	42939,494	0	6,54	7,43	7,43	0,03	0,09	0,11	0,28	0,19	0,41
591	Pesticides, disinfectants	8657,69	118736,94	240780,64	3,77	7,18	10,21	6,44	1,45	0,73	0,38	0,65	0,91	0,73
782	Lorries and special purposes motor vehicles	19352,36	646015,27	1030122,3	0,56	8,22	6,91	6,35	1,06	1,05	0,74	1,89	0,92	0,81
271	Fertilizers, crude	13,956	253,771	1137,471	4,42	8,36	10,75	6,32	0,2	0,13	0,2	0	0,01	0,01
775	Household type equipment, nes	9900,121	97678,784	208679,2	2,6	9,61	8,77	6,17	0,09	0,23	0,23	0,42	0,18	0,2
267	Other man-made fibres suitable for spinning, and waste	1979,16	17588,648	25714,281	4,05	48,55	10,14	6,09	0,56	0,66	0,38	0,51	0,1	0,44
651	Textile yarn	10422,87	59616,602	92174,23	0,62	1,81	6,21	5,59	0,23	0,01	0,01	1,48	0,64	0,24
842	Men's and boys' outerwear, textile fabrics not knitted or crocheted	881,931	13937,679	6382,901	0,4	2,8	5,82	5,42	0,27	0,38	0,7	0,32	0,09	0,01
751	Office machines	1673,64	5174,529	73975,433	0,82	1,91	5,86	5,04	2,28	1,98	1,51	0,39	0,11	0,19
24	Cheese and curd	0	2747,661	10964,59	0	19,12	4,67	4,67	0,85	1,96	1,95	0	0,01	0,06
72	Cocoa	11712,21	61415,901	103379,72	0,48	3,22	5,15	4,67	3,22	1,66	2,73	17,46	2,22	1,22
846	Under-garments, knitted or crocheted	1415,095	34552,709	28258,267	0,52	6,65	5,06	4,54	0,39	0,13	0,29	0,6	0,11	0,06
122	Tobacco, manufactured	1450,765	282418,98	26927,563	1,03	3,99	5,21	4,18	0,29	0,15	0,04	0,34	2,53	0,17
652	Cotton fabrics, woven (not including narrow or special fabrics)	11295,43	103638,28	115922,16	1,69	4,69	5,82	4,13	3,24	1,92	0,24	1,03	0,64	0,49
721	Agricultural machinery (excluding tractors) and parts thereof, nes	11333,31	115014,11	420946,34	4,12	5,08	7,92	3,8	0,45	0,44	0,36	0,74	1,16	1,12
773	Equipment for distribution of electricity	2147,603	33962,12	192396,22	0,77	4,21	4,56	3,79	0,39	0,5	0,37	0,55	0,15	0,32
785	Cycles, scooters, motorized or not; invalid carriages	675,005	21251,114	84809,997	0,79	5,15	4,01	3,22	0,54	0,63	0,63	0,26	0,16	0,37
844	Under garments of textile fabrics, not knitted or crocheted	619,467	6830,626	3921,963	1,32	24,98	4,5	3,18	1,85	2,03	1,33	0,17	0,02	0,05

Table 9: PARAGUAY: TOP THIRTY PRODUCTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008

Commodity (SITC Rev 2)		Exports to MERCOSUR (\$000)			Regional Orientation Index			RO Change	RCA (Balassa)			RCA (Yeats version)		
Code	Description	1988	1998	2008	1988	1998	2008	1988-2008	1988	1998	2008	1988	1998	2008
45	Cereals, unmilled	0	1,406	1220,425		-	4786	4785,95	0	0,005	1,258	0	0	0,001
662	Clay and refractory construction materials	0	556,518	1231,935		-	363,57	363,57	0	0,294	0,182	0	0	0,001
273	Stone, sand and gravel	675,074	479,418	3008,328	108,96	672,68	308,7	199,75	2,134	0,752	1,169	0,063	0,002	0,008
625	Rubber tires, tire cases, inner and flaps, for wheels of all kinds	0	608,042	15484,067		-	114,98	114,98	0	0,131	0,86	0	0	0,016
46	Meal and flour of wheat and flour of meslin	0	2084,139	1219,617		-	106,33	106,33	0	5,322	0,781	0	0	0,016
533	Pigments, paints, varnishes and related materials	0	0	187,745			78,78	78,78	0	0	0,014	0	0	0
842	Men's and boys' outerwear, textile fabrics not knitted or crocheted	37,5	6797,753	15912,285	0,03	21,12	63,86	63,83	1,154	1,161	1,029	1,634	0,1	0,033
522	Inorganic chemical elements, oxides and halogen salts	0	1419,312	1055,858		-	52,09	52,09	0	0,491	0,069	0	0	0,003
41	Wheat and meslin, unmilled	0	14087,567	155339,15		-	34,88	34,88	0	4,951	12,918	0	0	0,773
512	Alcohols, phenols etc, and their derivatives	25,83	2197,483	4205,599	3,19	2,22	34,4	31,21	0,033	1,386	0,382	0,02	0,845	0,022
641	Paper and paperboard	0	634,49	2231,039		26,75	28,93	28,93	0	0,051	0,067	0	0,004	0,005
677	Iron or steel wire (excluding wire rod), not insulated	0	0	2735,768			24,03	24,03	0	0	0,837	0	0	0,07
843	Womens, girls, infants outerwear, textile, not knitted or crocheted	0	2115,159	7610,656	0	28,77	22,27	22,27	1,262	0,278	0,342	1,813	0,018	0,031
652	Cotton fabrics, woven (not including narrow or special fabrics)	0	5255,913	7976,061	0	4,07	15,18	15,18	0,001	1,625	1,014	0,002	0,625	0,131
771	Electric power machinery, and parts thereof, nes	0	600,854	3722,719	0	2,72	13,04	13,04	0	0,158	0,187	0	0,083	0,028
657	Special textile fabrics and related products	0	0	13609,565	0	0	12,82	12,82	0,001	0	1,506	0,001	0,001	0,227
893	Articles, nes of plastic materials	0	964,152	26425,338		27,42	10,68	10,68	0	0,113	0,848	0	0,008	0,151
246	Pulpwood (including chips and wood waste)	0	16,5	183,876		2,51	9,5	9,5	0	0,067	0,156	0	0,037	0,031
653	Fabrics, woven, of man-made fibres (not narrow or special fabrics)	0	33,3	2310,7		-	9,3	9,3	0	0,006	0,245	0	0	0,049
44	Maize, unmilled	0	17417,276	153838,99		9706,6	8,86	8,86	0	10,392	23,018	0	0,002	4,869
658	Made-up articles, wholly or chiefly of textile materials, nes	0	551,876	7668,835	0	48,66	7,83	7,83	0	0,207	0,782	0	0,008	0,183
821	Furniture and parts thereof	0	551,774	8573,438	0	1,85	5,87	5,87	0	0,085	0,266	0	0,059	0,08
263	Cotton	99367,57	73623,142	21855,227	2,06	25,81	6,47	4,405	219,21	60,651	8,912	168,99	4,452	2,474
592	Starches, insulin and wheat gluten; albuminoidal substances; glues	0	379,029	7139,627		4,61	4,28	4,278	0	0,294	1,606	0	0,102	0,627
42	Rice	0	436,003	30141,073		-	3,79	3,793	0	0,249	6,648	0	0	2,869
894	Baby carriages, toys, games and sporting goods	0	698,372	1728,281	0	0,94	3,63	3,63	0	0,172	0,081	0	0,177	0,036
222	Seeds and oleaginous fruit, whole or broken, for 'soft' fixed oil	9613,342	138483,43	1235614	0,15	0,41	3,53	3,383	86,49	170,71	116,98	116,73	248,28	54,156
685	Lead	0	258,75	3802,646		-	3,04	3,043	0	0,966	3,288	0	0	1,675
665	Glassware	0	7,979	7043,113		-	2,83	2,835	0	0,004	1,646	0	0	0,876
583	Polymerization and copolymerization products	0	157,927	9525,426		360,43	1,99	1,987	0	0,012	0,245	0	0	0,167

Table 10: URUGUAY: TOP THIRTY PRODUCTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008

Commodity (SITC Rev 2)		Exports to MERCOSUR (\$000)			Regional Orientation Index			RO Change	RCA (Balassa)			RCA (Yeats version)		
Code	Description	1988	1998	2008	1988	1998	2008	1988-2008	1988	1998	2008	1988	1998	2008
625	Rubber tires, tire cases, inner and flaps, for wheels of all kinds	9803,539	9744,757	7692,968	389,15	46,76	3191,6	2802,453	1,54	0,782	0,318	0,016	0,03	0
674	Universals, plates, and sheets, of iron or steel	56,429	3391,421	7871,05	0,16	-	515,33	515,167	0,069	0,132	0,12	0,087	0	0,001
621	Materials of rubber	1081,496	30822,528	66434,67	4,67	16,89	290,25	285,582	1,18	7,746	9,113	0,625	0,793	0,116
664	Glass	74,813	1738,286	7562,42	0,27	114,93	212,1	211,829	0,254	0,243	0,58	0,308	0,004	0,01
251	Pulp and waste paper	271,616	289,595	2011,593	3,43	-	201,42	197,985	0,062	0,034	0,136	0,039	0	0,002
661	Lime, cement, and fabricated construction materials	1123,554	17681,241	16473,48	7,99	54,88	74,74	66,743	0,595	3,382	1,572	0,221	0,11	0,075
679	Iron, steel casting, forging and stamping, in the rough state, nes	4,551	9,754	1409,294	5,4	21	57,26	51,857	0,008	0,005	0,264	0,004	0	0,016
341	Gas, natural and manufactured	0	116,912	3644,687	-	-	48,49	48,491	0	0,005	0,034	0	0	0,002
684	Aluminium	274,471	6546,422	9667,509	2,99	33,6	42,8	39,813	0,043	0,321	0,249	0,029	0,017	0,02
784	Motor vehicle parts and accessories, nes	9316,142	43906,809	82057,59	23,32	49,5	48,68	25,36	0,306	0,141	0,766	0,048	0,025	0,056
658	Made-up articles, wholly or chiefly of textile materials, nes	282,617	1071,114	12767,13	0,43	12,8	21,71	21,276	0,703	0,153	0,966	0,815	0,02	0,147
655	Knitted or crocheted fabrics (including tubular, etc, fabrics)	296,856	1836,035	6778,018	1,88	1,99	16,27	14,392	0,445	0	0,935	0,367	0,285	0,183
98	Edible products and preparations, nes	520,602	2873,151	9115,889	0,41	2,53	13,31	12,898	1,636	0,451	0,665	1,907	0,246	0,154
91	Margarine and shortening	0	0,654	24107,67	-	-	12,17	12,175	0	0,001	12,065	0	0	3,017
783	Road motor vehicles, nes	0	0	28185,88	-	-	11,05	11,049	0	4,966	1,908	0	0	0,52
851	Footwear	513,063	6525,735	1767,562	0,19	0,52	9,95	9,763	0,945	0,818	0,074	1,174	1,111	0,022
775	Household type equipment, nes	2119,291	2736,785	2605,422	28,89	56,28	37,99	9,101	0,278	0,153	0,084	0,036	0,005	0,008
782	Lorries and special purposes motor vehicles	0	90744,479	15852,47	0	3463,3	8,64	8,638	0	3,333	0,411	0	0,002	0,136
842	Men's and boys' outerwear, textile fabrics not knitted or crocheted	2684,236	28117,318	8864,328	0,38	23,56	9,01	8,627	3,926	1,743	0,551	4,61	0,129	0,174
781	Passenger motor vehicles (excluding buses)	12820,2	26106,355	10575,118	31,6	93,96	35,64	4,043	0,203	0,188	0,049	0,024	0,004	0,005
821	Furniture and parts thereof	135,728	13298,949	27835,967	2,8	2,94	6,08	3,285	0,029	0,642	0,791	0,02	0,31	0,334
843	Womens, girls, infants outerwear, textile, not knitted or crocheted	3128,822	39854,273	9647,31	0,39	16,06	3,53	3,14	3,07	1,951	0,549	3,596	0,209	0,325
893	Articles, nes of plastic materials	1291,255	11259,743	125823,58	15,02	5,89	18,15	3,126	0,164	0,532	3,164	0,037	0,144	0,563
662	Clay and refractory construction materials	1474,416	2638,285	1760,832	0,7	0,55	3,39	2,697	2,745	1,264	0,35	2,966	1,694	0,213
872	Medical instruments and appliances, nes	247,645	2915,353	4841,485	1,9	0,98	4,27	2,369	0,184	0,467	0,3	0,151	0,471	0,159
612	Manufactures of leather or of composition leather, nes; etc	3630,535	363,957	1130,713	0,46	0,53	2,79	2,324	29,42	0,309	0,586	33,893	0,415	0,395
699	Manufactures of base metal, nes	148,593	438,47	2082,411	2,73	3,25	4,96	2,227	0,037	0,025	0,069	0,026	0,011	0,033
663	Mineral manufactures, nes	36,786	1136,085	2550,49	0,23	0,66	2,09	1,86	0,161	0,377	0,507	0,198	0,464	0,391
515	Organo-inorganic and heterocyclic compounds	7,572	504,505	1846,644	1,58	0,37	3,15	1,565	0,005	0,082	0,115	0,004	0,126	0,073
654	Textile fabrics, woven, other than cotton or man-made fibres	2496,808	19749,569	12018,482	0,26	0,47	1,56	1,296	9,074	11,179	7,763	11,039	15,745	6,738

Source of the raw data: UN COMTRADE. Calculations made by the author.

Uruguay also shows an increasing trend to diversify the products exported to MERCOSUR. Unfortunately only two of their products show an RCA (Yeats version) greater than 1 for the year 2008 and only one of them shows an increase in this index, 91-Margarine and shortening. Commodities 98 - Edible products and Preparations, 842 - and boys' outerwear, textile fabrics not knitted or crocheted, 662- Clay and refractory construction material, 843-Womens, girls, infants outerwear, textile, not knitted or crocheted, 612- Manufactures of leather or of composition leather, nes; etc and 654-Textile fabrics, woven, other than cotton or man-made fibres show certain comparative advantage to in 1988 that has been lost over the years.

This exercise is saying that intra MERCOSUR trade has not evolved according to the bloc comparative advantage. This result is in accordance with Yeats (1997) analysis of MERCOSUR, and its outcome is still valid for the behavior of MERCOSUR exports. This evidence suggests that MERCOSUR is becoming less, rather than more, internationally competitive in products where trade is most rapidly re-orienting toward the region.

According to Yeats, this has occurred due to higher external trade barriers on the fastest growing commodities, which in some cases have been exempted from the CET so that domestic markets can be protected¹⁵. However, as Yeats himself points out, his study is not an attempt to calculate net welfare effects; indeed, net welfare effects are calculated by studying import data not export data as was the case in this study. In fact, when Devlin (1997) formulated similar indices based on import data, he did not find evidence of significant trade diversion. In general terms, advantages in the manufactures production are also visible.

5.3.2. Imports Analysis

Even when the Yeats paper was innovative enough to suggest a new methodology for the study of regional integration schemes His approach has been widely criticized on many grounds (e.g. (R. Devlin 1997) and (Nagarajan 1998)).

The major criticism lies in his failure to address the developments on the import side. Since the traditional customs union theory relies on the impact of a PTA on its imports from within and outside the bloc, his approach has been viewed as a heresy.

The author argues that approaches to considering the effects of PTAs based on changes in import shares are not able to deal with issues of efficiency in production. Assuming that intra-bloc imports should match intra-bloc exports and that member exports compete with the same third country exports within and outside the bloc, Yeats infers that a greater dynamism of exports to bloc members compared with third countries should be caused by the bloc preferences.

¹⁵ The automobile, capital goods, information technology and communications sectors have all been excluded from the CET.

The first difficulty is that, to take into account the important growth in trade with third countries which MERCOSUR members have experienced over the years, one needs to look at what has happened to MERCOSUR countries imports. Secondly, by focusing on exports, the methodology runs the risk of overstating the importance of capital-intensive goods in intra MERCOSUR trade.

Finally, if the focus is on developing countries, it is likely that raw materials and agricultural products (for which price fluctuations maybe relatively important) will tend to feature more heavily in their exports than in their imports and that the reverse will tend to be true for manufactured goods (for which price fluctuations maybe relatively less important). Therefore an analysis which looks at exports will be more sensitive to price fluctuations than one which concentrates on imports. (Sapir 1992)

It has also come under attack on the basis that the demand for bloc exports should also be taken into account, in special the structure of protection and the pattern of demand in non-member countries.

In order to have a more complete view of the MERCOSUR situation, in this document the Yeats methodology will be complemented including the "import side", analyzing the prospects of trade diversion based on the performance of MERCOSUR imports. The exercise will be the same that has been done previously for exports; the indices will be adapted to make the calculation on this trade flow.

In this section, trade diversion may be considered to have arisen when two conditions have been met:

- Imports from MERCOSUR sources of a given product have displaced imports from the rest of the world to a significant degree; and
- There are good reasons to believe that MERCOSUR producers are not relatively efficient suppliers of that product.

In order to identify imports where MERCOSUR producers have displaced producers from the rest of the world, the index of regional orientation (RO) suggested by Yeats is adapted to look at imports. The index of regional orientation¹⁶ of a given country's imports of product *g*, is defined as follows:

$$\text{Regional Orientation}_{cgr} = [Mcgr / Mcr] / [Mcg-r / Mc-r]$$

Where

Mcgr = imports of good *g* by country *c* from region *r*

Mcr = total imports of country *c* from region *r*

Mcg-r = imports of good *g* by country *c* from countries outside region

Mc-r = total imports of good *g* from countries outside region *r*

¹⁶ RO index needs to be interpreted with some caution, because there are many reasons that may cause an increasing regionalization of the imports, others than trade diversion generated by the PTA. Some of these reasons are: increased competition within MERCOSUR, ongoing structural reforms in these countries, and product differentiation related to the demand of increased variety satisfied temporarily by regional sources, just to mention a few.

As it was mentioned before, the index value ranges between zero and infinity, with a value of unity indicating the same tendency to import the product from MERCOSUR partners as from third countries and values above unity indicating a greater tendency to do so, this implies that the country has a regional bias in imports of the product.

In the search of signs of trade diversion the tables 11 to 14 were built. As in the exports analysis, they show the top thirty products in each MERCOSUR country's imports which have shifted in relative terms (as measured by the RO index) away from suppliers in the rest of the world towards suppliers in MERCOSUR countries over from the year 1988 to 2008. Again, imports from MERCOSUR sources that exceeded \$1 million for the last year considered were selected. The tables report the RO indices, imports from MERCOSUR and from the rest of the world for the years 1988, 1998 and 2008. They also identify the main¹⁷ MERCOSUR source(s) of imports and its (their) revealed competitive advantage (either Balassa or Yeats version of the index) for 2008, last year evaluated.

Imports show a different picture to that seen with exports. Starting with Argentina, 107 of 236 items show increases in the regional orientation index. This may be the result of processes of creation and trade diversion, where the country has benefited most is Brazil because it is the main source of these imports (it provides 27 out of the 30 products in the list). Seeing more in detail the Table 11, Argentina's imports from MERCOSUR grew in almost all of headings (except two), from 1988 to 1998. From 1998 to 2008, 26 headings displayed increases in Imports. In the imports from the rest of the world for the year 1988 to 1998, 23 of the products in the table show increases, but for the years 1998 to 2008, only 10 commodities show this behavior. In most cases, those increases in imports from MERCOSUR coincide with a reduction (or a very small increase) in its imports from the rest of the world. This means that MERCOSUR countries, especially Brazil, have managed to consolidate its comparative advantage regionally in these industrial products (only ten products show an inefficient MERCOSUR country source in the Balassa's index, and 12 in Yeats version), but also that MERCOSUR contributed to the fact that Argentina tends to buy more from its neighbors and partner countries than from external markets.

This group of products with increased regional orientation is varied, even though the more regionalized items belong to the sections 2-Crude inedible materials and 7- Machinery and transport equipment, the list also includes products from other sections, especially 6- Manufactured articles and 0-Food and live animals. Even when in the selection there are no products from the section 3 - Mineral fuels, lubricants and related materials, evidence is not enough to say that imports are concentrated and oriented to certain types of products.

Uruguay is of little importance as a supplier to Argentina. Only a few of the selected headings have become more regionalized, and jointly they have little importance in Argentina's total MERCOSUR imports. The products in question have very low values both in terms of imports from Uruguay and globally. Increasing regionalization stems mainly from a reduction in Argentine imports from the rest of the world. Paraguay is not one of

¹⁷ A country is listed as a main regional supplier if it accounts for more than twenty per cent of MERCOSUR imports in this market.

Argentina' leading suppliers, and the type of products imported suggests that high levels of regionalization stem from the geographic proximity of the two markets. As in the Uruguayan case, there are few headings where regionalization increased during the period under study. In fact, the increasing regionalization shown between the years under study mainly represents a reduction in Argentine imports from the rest of the world, as part of an import substitution process rather than a major increase in trade with its partner.

Analysing Table 12 it is possible to say that the main MERCOSUR supplier of Brazil is Argentina (23 delivers the goods in the list), though it is less evident than in the case of Argentina, in table 11. Brazilian imports from MERCOSUR from 1988 to 1998 increased for most of the selected products (only one item in decreased), and from 1998 to 2008, eight items showed a reduction in imports. Imports from the rest of the world display decreases in four products from 1988 to 1998 while the comparison between 2008 and 1998 shows reductions in eleven products. It is interesting to see how some of the products whose imports declined (1998-2008) both from MERCOSUR and from the rest of the world present the greatest increases in its regionalization.

The RCA measures supplied indicate that seven products are being supplied by inefficient producers according to the Balassa index, this number increases to 12 with the Yeats version of the index. In the case of Brazil's imports, it is difficult to support the hypothesis that there has been a significant amount of trade diversion, not only because the RCA are showing efficiency in most of the cases but also because in the case of products with inefficient MERCOSUR suppliers, the imports from third countries have increased (the only exceptions to this in the list are the product 786-Zinc, and 223 - Seeds and oleaginous fruit, whole or broken, for Other fixed oils). In many cases, the imports from MERCOSUR and the imports from the rest of the world seem to follow the same trend.

Although Paraguay is a small country, and clearly it is not the most important business partner of Brazil, it seems to be more active in Brazilian imports. It is involved providing 3 of the most regionalized products and enjoys a high RCA in each of them. In some products (e.g. 282-Waste and scrap metal of iron or steel, 223-Seeds and oleaginous fruit, whole or broken, for Other fixed oils) the difference between the Balassa RCA and Yeats are large, which shows the extent to which MERCOSUR market has grown in importance to Paraguay.

As in the case of Argentina's Imports, Uruguay is of little Importance as a supplier to Brazil, it only participates in imports of seven of the selected headings that have become more regionalized, and jointly they have little Importance in Brazil's total MERCOSUR Imports. The products in question very low values have both in terms of imports from MERCOSUR, but they show important values from the rest of the world.

Table 11: ARGENTINA: TOP THIRTY IMPORTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008

Commodity		Regional Orientation				Var. RO	Imports from MERCOSUR (\$000)			Imports from ROW (\$000)			Main MERCOSUR suppliers and RCA for 2008		
Code	Description	1988	1998	2008	2008-1988	1988	1998	2008	1988	1998	2008		Balassa	Yeats	
263	Cotton	1,24	27,8	404,16	402,92	377,73	185998	74199,225	810,54	32245	6716,6	Brazil	5,58	5,95	
												Paraguay	8,91	2,47	
783	Road motor vehicles, nes	0	5,46	96,74	96,74	0	18369	16592,6	199,4	5896,7	317,02	Brazil	2,28	1,94	
14	Meat and edible meat offal, prepared, preserved, nes: fish extracts	0	9,2	95,5	95,5	37,55	5150,3	5203,413	11,627	2199,4	312,49	Brazil	11,97	13,32	
222	Seeds and oleaginous fruit, whole or broken, for 'soft' fixed oil	0,05	3,52	94,11	94,06	9,775	24197	18616,762	1096,4	42448	17075	Paraguay	116,98	54,16	
71	Coffee and coffee substitutes	6,67	23,08	33,76	27,08	126,27	916,94	11402,87	1165,3	3409,8	7850,1	Brazil	14,91	16,39	
42	Rice	11,84	6,91	30,38	18,54	41708	85807	101270,1	22916	10977	5473,7	Brazil	1,2	1,35	
												Uruguay	57,07	62,06	
11	Meat and edible meat offal, fresh, chilled or frozen	1,71	17,03	20,16	18,45	15827	61881	101125,56	6274,4	13289	13891	Brazil	10,31	11,49	
212	Furskins, raw	0,22	0,46	13,15	12,93	37,306	179,7	28283,372	589,63	4498,5	3990	Uruguay	0,37	0,14	
282	Waste and scrap metal of iron or steel	0,46	21,89	12,82	12,36	5,298	73956	1341449,2	412,78	62009	26008	Paraguay	1,06	0,4	
782	Lorries and special purposes motor vehicles	0,35	4,11	11,47	11,13	970,94	9981	60242,029	2868	1059,9	271,96	Brazil	1,33	0,81	
686	Zinc	0	33,94	10,43	10,43	27,088	429,26	2815,367	217	57,903	400,67	Brazil	0,7	0,41	
672	Ingots and other primary forms, of iron or steel	3,14	2,75	12,16	9,02	7035,5	61233	271445,68	54548	28765	95877	Brazil	3,39	3,6	
												Paraguay	0,69	0	
634	Veneers, plywood, "improved" wood and other wood, worked, nes	1,42	9,45	8,41	6,99	16,615	11298	15815,264	543,72	18333	5356,7	Brazil	2,4	2,59	
611	Leather	0,77	1,52	7,42	6,65	0	764,91	2598,375	36,966	18117	2272,1	Brazil	6,99	7,83	
												Paraguay	13,27	13,98	
												Uruguay	31,02	37,96	
411	Animal oils and fats	0,11	1,82	5,39	5,27	55,345	21072	133120,55	1938,4	118106	162860	Brazil	0,22	0,12	
												Uruguay	30,44	25,36	
287	Ores and concentrates of base metals, nes	0,47	6,28	5,17	4,69	55,845	10001	30965,091	267,17	19368	7615,8	Brazil	3,74	3,94	
72	Cocoa	9,25	13,75	13,28	4,03	1072,6	27546	33818,169	2774	8605,1	8337	Brazil	1,77	1,22	
722	Tractors (other than those falling in heading 74411 and 7832)	1,38	4,17	5,08	3,7	435,63	34961	85003,316	8572,8	63619	71066	Brazil	2,73	1,89	
683	Nickel	0,27	0,41	3,34	3,07	124607	115179	292188,69	145360	123581	43838	Brazil	0,96	0,97	
951	Armoured fighting vehicles, war firearms, ammunition, parts, nes	0,68	1,76	3,21	2,53	40549	117454	444486,95	77355	118176	219955	Brazil	0,03	0,03	
873	Meters and counters, nes	0,91	1,71	3,25	2,34	2387,2	21382	220769,54	32405	96442	169896	Brazil	1,5	1,19	
61	Sugar and honey	0,4	0,79	2,65	2,25	458,4	691,05	25781,765	6152,1	4961,8	14071	Brazil	19,15	21,41	
773	Equipment for distribution of electricity	0,35	0,63	2,54	2,19	0	11078	46517,077	1805,9	963,7	8136,1	Brazil	0,45	0,32	
												Uruguay	0,44	0,06	
678	Tube, pipes and fittings, of iron or steel	0,27	0,65	2,37	2,1	14,995	0	3908,206	4452,3	15780	5130,1	Brazil	0,69	0,52	
												Uruguay	1,42	0,2	
423	Fixed vegetable oils, soft, crude refined or purified	0	0,12	2,09	2,09	1214,6	81934	232252,33	3225,4	58069	83343	Brazil	6,81	7,6	
657	Special textile fabrics and related products	0,19	1,62	2,18	2	1546,4	31882	185247,05	16340	148586	133146	Brazil	0,78	0,65	
48	Cereal, flour or starch preparations of fruits or vegetables	0,03	1,68	1,99	1,96	649,65	686409	930119,73	6895,8	492854	147922	Brazil	0,58	0,57	
												Uruguay	10,42	1,81	
791	Railway vehicles and associated equipment	0,27	0,79	2,22	1,95	0	106059	434917,93	602,8	57335	8203,2	Brazil	0,67	0,69	
674	Universals, plates, and sheets, of iron or steel	1,92	2,93	3,69	1,76	729,93	3202,7	26384,757	9825,3	12038	21699	Brazil	0,69	0,52	
553	Perfumery, cosmetics, toilet preparations, etc	0,1	0,53	1,49	1,39	416,42	11894	31347,017	1671,5	20534	17589	Brazil	0,51	0,38	

Table 12: BRAZIL: TOP THIRTY IMPORTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008

Commodity		Regional Orientation			Var. in RO	Imports from MERCOSUR (\$'000)			Imports fro RoW (\$'000)			Main MERCOSUR suppliers and RCAs for 2008		
Code	Description	1988	1998	2008	2008-1988	1988	1998	2008	1988	1998	2008		Balassa	Yeats
46	Meal and flour of wheat and flour of meslin	0	498,02	686,05	686,05	2008,8	48218	22101,064	190797	190964	99493,3	Argentina	17,95	9,26
44	Maize, unmilled	163,97	165,38	701,52	537,56	17,839	3597,1	2143,148	391,07	62877,9	8861,69	Argentina	29,99	38,54
												Paraguay	23,02	4,87
245	Fuel wood and wood charcoal	0	14,07	342,78	342,78	4490,7	304983	138154,06	23209,3	1275250	399609	Paraguay	186,37	186,36
222	Seeds and oleaginous fruit, whole or broken, for 'soft' fixed oil	0,89	12,36	95,83	94,94	332,19	2437,9	4412,852	6152,87	30361,1	11352,1	Paraguay	116,98	54,16
36	Crustaceans and molluscs, fresh, chilled, frozen, salted, etc	6,87	4,15	40,46	33,6	268,18	7744,6	5679,504	38875	435306	191056	Argentina	6,32	8,12
74	Tea and mate	0	15,5	24,68	24,68	3086,7	224153	147329,5	2393,98	70022,8	21860,4	Argentina	4,11	5,03
1	Live animals chiefly for food	1,34	13,05	23,12	21,78	0	78946	300158,82	2,36	8189,66	45541,6	Uruguay	11,8	11,11
14	Meat and edible meat offal, prepared, preserved, nes; fish extracts	5,8	2,96	25,17	19,37	19222	138513	367871,86	601443	1788858	2079210	Argentina	3,46	4,44
												Uruguay	4,15	5,29
782	Lorries and special purposes motor vehicles	0	23,7	18,31	18,31	0	6659,5	3920,46	1141,45	22198,1	16534,2	Argentina	3,18	2,09
48	Cereal, flour or starch preparations of fruits or vegetables	4,06	4	18,42	14,35	0	1910,4	20607,034	0	4791,37	256347	Argentina	2,91	2,4
												Paraguay	0,08	0,04
122	Tobacco, manufactured	0	0	12,95	12,95	982,65	8139,6	49598,899	242206	1450996	2365450	Argentina	0,44	0,14
22	Milk and cream	24,61	12,36	35,99	11,38	0	9500,5	9574,552	5804,59	429153	335077	Argentina	3,9	3,81
												Uruguay	19,94	24,96
781	Passenger motor vehicles (excluding buses)	0	6,85	8,41	8,41	0	23,363	3446,726	4754,16	288081	27706,6	Argentina	1,03	0,18
91	Margarine and shortening		20,6	8,37	8,37	2070,9	1690,2	2912,145	87693,7	69406,1	46249	Argentina	7,13	9,04
												Uruguay	12,06	3,02
223	Seeds and oleaginous fruit, whole or broken, for other fixed oils	0,82	3,5	7,1	6,28	2610,3	71333	52611,174	372003	298120	57143,2	Argentina	0,52	2,27
												Paraguay	6,63	0,1
553	Perfumery, cosmetics, toilet preparations, etc	0,05	0,54	6	5,95	686,95	705,8	3522,592	107100	10416,2	51662,3	Argentina	1,27	0,92
686	Zinc	0	0,51	5,62	5,62	0	522,78	18612,151	37,02	1919,44	5651,94	Argentina	0,86	0,18
351	Electric current			5,02	5,02	0	563,36	7949,381	128189	3700,93	183863	Argentina	1,2	0,31
642	Paper and paperboard, precut, and articles of paper or paperboard	0,09	2,43	4,79	4,7	0	0	1384,576	25,09	8936,95	93471,3	Argentina	0,95	0,6
282	Waste and scrap metal of iron or steel	0	7,86	4,5	4,5	177,83	168841	1564504,7	2228430	1,9E+07	8,2E+07	Paraguay	1,06	0,4
685	Lead	0	0,05	4,14	4,14	0	0	14228,8	0	0	295293	Argentina	2,16	0,05
211	Hides and skins, excluding furs, raw	3	1,26	6,55	3,55	13,997	15190	113033,87	38726,6	1453355	1962053	Uruguay	4,3	3,87
121	Tobacco unmanufactured; tobacco refuse	0	1,14	2,97	2,97	2127	16389	62151,896	142199	1005405	1433663	Argentina	7,62	8,84
893	Articles, nes of plastic materials	0,21	0,81	3,1	2,89	52,363	52842	68955,944	70643,5	1124348	1497690	Uruguay	3,16	0,56
692	Metal containers for storage and transport	0,03	2,3	2,89	2,87	487,04	17240	51251,638	263045	1657488	3023220	Argentina	1,13	0,98
592	Starches, insulin and wheat gluten; albuminoidal substances; glues	1,9	0,84	4,51	2,61	15,983	15461	72535,518	89615,1	749334	4311028	Argentina	2,76	2,56
37	Fish, crustaceans and molluscs, prepared or preserved, nes	0,88	0,92	3,09	2,22	0	413,81	60062,456	26262,2	407287	1510524	Argentina	0,15	0,13
												Uruguay	1,8	1,89
693	Wire products (excluding insulated electrical wire); fencing grills	0,09	0,42	2,07	1,99	0	1317,4	31794,82	76148,3	134612	589265	Argentina	0,66	0,39
873	Meters and counters, nes	0	0,31	1,99	1,98	6,26	17624	20192,449	29861,1	395659	726468	Argentina	0,97	1
334	Petroleum products, refined	0,01	0,45	1,98	1,97	135,19	4985,8	18586,432	198356	619958	932397	Argentina	0,04	0,66

Table 13: PARAGUAY: TOP THIRTY IMPORTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008

Commodity		Regional Orientation			Var. in RO	Imports from MERCOSUR (\$000)			Imports from RoW (\$000)			Main MERCOSUR suppliers and RCAs for 2008		
Code	Description	1988	1998	2008	2008-1988	1988	1998	2008	1988	1998	2008		Balassa	Yeats
22	Milk and cream	0,08	63,56	1719,47	1719,4	523,25	4732,1	10314,77	103,737	160,454	18,279	Argentina	3,9	3,81
												Brazil	1,15	1,28
44	Maize, unmilled	384,81	2022,14	1568,84	1184	0	3006,3	4247,372	6,92	132,676	31,46	Brazil	4,22	4,65
1	Live animals chiefly for food	6,96	28,73	768,75	761,79	23,009	10762	5716,356	414,251	164,949	4,529	Argentina	0,51	0,58
												Brazil	2,1	2,29
47	Other cereal meals and flour	4,83	148,12	279,5	274,67	0	3234,1	3853,934	0	271,898	44,284	Argentina	2,18	2,09
14	Meat and edible meat offal, prepared, preserved, nes; fish extracts	0	22,07	183,92	183,92	6,137	3294,5	57580,16	0,022	1,587	50	Argentina	3,46	4,44
												Brazil	11,97	13,32
634	Veneers, plywood, "improved" wood and other wood, worked, nes	10,3	2,31	143,78	133,48	1,376	1405,8	3034,579	0,393	9,245	14,791	Argentina	0,33	0,21
												Brazil	2,4	2,59
24	Cheese and curd		11,59	118,56	118,56	3482,2	23331	54643,74	803,9	2088,71	5545,28	Argentina	1,46	1,78
												Brazil	0,09	0,06
661	Lime, cement, and fabricated construction materials	5,58	15,24	114,46	108,89	481,39	9351,8	19753,71	223,309	1214,72	1301,94	Brazil	2,4	2,62
263	Cotton		-	81,39	81,39	5,321	4253,2	7209,97	4,289	171,987	191,992	Brazil	5,58	5,95
271	Fertilizers, crude	7,63	0,29	66,29	58,66	75,471	5072	29765,65	404,382	1025,49	1631,96	Brazil	0,03	0,01
71	Coffee and coffee substitutes	1,71	24,09	51,16	49,45	0	7198,8	5101,91	26,166	14,574	180,797	Argentina	0,02	0,02
												Brazil	14,91	16,39
671	Pig and sponge iron, spiegeleisen, etc, and ferro-alloys	158,77	171,22	203,55	44,78	174,72	22053	74687,71	81,375	1030,78	5108,56	Argentina	0,34	0,4
												Brazil	9,5	10,45
91	Margarine and shortening	0	481,15	38,44	38,44	0	415,74	2552,554	0	0	42,726	Argentina	7,13	9,04
												Brazil	0,64	0,62
273	Stone, sand and gravel	64,14	149,48	101,27	37,13	115,8	287,04	1251,738	20,924	949,77	25,723	Argentina	1,13	0,15
335	Residual petroleum products, nes and related materials	32	10,17	65,86	33,86	573,72	1446	3593,783	12,34	9,423	48,346	Argentina	40,39	0,91
												Brazil	0,36	0,38
278	Other crude minerals	5,07	10,81	33,21	28,14	504,18	1789,9	5407,037	137,182	161,351	221,781	Argentina	1,59	0,32
												Brazil	3,01	3,29
423	Fixed vegetable oils, soft, crude refined or purified		1,7	26,53	26,53	0	583,49	3122,208	146,672	476,25	563,133	Argentina	1,08	59,29
												Brazil	6,81	7,6
81	Feeding stuff for animals (not including unmilled cereals)	0,26	4,82	24,85	24,59	1568,6	2686,3	8922,243	67,621	257,264	184,562	Brazil	6,99	7,79
62	Sugar confectionery and preparations, non-chocolate	2,97	7,5	20,67	17,7	0	629,21	10514,45	0	360,557	539,876	Argentina	2,71	2,9
												Brazil	1,87	1,68
121	Tobacco unmanufactured; tobacco refuse	2,96	20,84	19,92	16,96	199,19	3234	7639,994	669,072	2429,5	1026,67	Argentina	7,62	8,84
												Brazil	21,72	24,11
562	Fertilizers, manufactured	61,36	138,38	77,02	15,66	7951,2	40608	416449,3	178,746	285,853	7366,21	Brazil	0,53	0,03
												Uruguay	0,94	0,01
674	Universals, plates, and sheets, of iron or steel	1	3,89	16,57	15,56	2,823	262,5	1821,86	5,146	0	173,92	Argentina	0,23	0,11
												Brazil	0,69	0,52
611	Leather	0,76	-	14,27	13,51	92,325	119,98	2587,607	12,362	50,66	24,517	Uruguay	31,02	37,96
551	Essential oils, perfume and flavour materials	0,41	1,3	10,14	9,73	705,32	2036,1	31970,66	174,497	130,13	380,514	Argentina	0	1,94

Commodity		Regional Orientation			Var. in RO	Imports from MERCOSUR (\$000)			Imports from RoW (\$000)			Main MERCOSUR suppliers and RCAs for 2008		
Code	Description	1988	1998	2008	2008-1988	1988	1998	2008	1988	1998	2008		Balassa	Yeats
												Brazil	0,83	0,83
684	Aluminium	3,8	6,67	12,65	8,84	715,89	353,3	4229,596	6,22	2,01	28,308	Brazil	1,89	2,04
291	Crude animal materials, nes	0	1,19	7,55	7,55	1609,3	7145,7	44675,91	597,173	390,095	5935,21	Argentina	106,92	3,33
												Brazil	4,4	4,84
48	Cereal, flour or starch preparations of fruits or vegetables	5,98	10,88	13,42	7,45	2166,7	23022	75066,83	2979,31	5763,69	6172,65	Argentina	2,91	2,4
												Brazil	0,58	0,57
679	Iron, steel casting, forging and stamping, in the rough state, nes		21,92	7,41	7,41	0	890,2	1504,434	0	39,567	276,651	Brazil	0,51	0,53
786	Trailers, and other vehicles, not motorized, nes	9,94	2,08	17,18	7,24	881,87	8541,7	16223,55	319,822	1246,95	1747,66	Brazil	0,57	0,49
673	Iron and steel bars, rods, shapes and sections	3,72	17,84	10,25	6,54	435,61	2940,8	30550,06	60,471	1375,49	2422,42	Argentina	0,29	0,06
												Brazil	0,98	0,92

Source of the raw data: UN COMTRADE. Calculations made by the author.

Table 14: URUGUAY: TOP THIRTY IMPORTS WITH THE LARGEST CHANGE IN REGIONAL ORIENTATION TOWARD MERCOSUR MARKETS OVER 1988 TO 2008

Commodity		Regional Orientation			Var. in RO	Imports from MERCOSUR (\$000)			Imports from RoW (\$000)			Main MERCOSUR suppliers and RCAs for 2008		
Code	Description	1988	1998	2008	2008-1988	1988	1998	2008	1988	1998	2008		Balassa	Yeats
44	Maize, unmilled	7,92	49,65	308,9	300,98	361,8	9097,9	29936,52	435,14	9961,07	31240,8	Argentina	29,99	38,54
14	Meat and edible meat offal, prepared, preserved, nes; fish extracts	0,21	3,52	81,62	81,41	1,656	1263,2	4558,322	12,242	1732,65	4631,71	Brazil	11,97	13,32
672	Ingots and other primary forms, of iron or steel	3,6	15,76	56,11	52,5	0	654,89	4584,628	216,352	1047,46	5425,26	Argentina	0,36	0,29
												Brazil	3,39	3,6
335	Residual petroleum products, nes and related materials	5,38	5,1	44,6	39,22	291,93	931,96	1079,953	330,883	1182,36	1141,61	Argentina	40,39	0,91
												Brazil	0,36	0,38
711	Steam boilers and auxiliary plant; and parts thereof, nes	5,91	1,44	44,77	38,86	4468,8	8325,3	41404,31	5232,93	8544,83	41580,5	Argentina	0,15	0,11
												Brazil	0,53	0,44
81	Feeding stuff for animals (not including unmilled cereals)	1,03	6,7	34,67	33,63	710,17	2398	13254,44	750,358	2851,08	13917,7	Argentina	32,85	42,28
74	Tea and mate	47,39	43,31	77,51	30,12	170,46	19292	36908,47	1253,41	23253,4	40290,3	Argentina	32,85	42,28
												Brazil	0,78	0,18
111	Non-alcoholic beverages, nes	5,16	6,83	31,56	26,4	750,39	3648	11421,01	1132,23	8697,92	13885,8	Argentina	0,37	0,2
11	Meat and edible meat offal, fresh, chilled or frozen	6,68	13,8	30,16	23,48	2514,2	35399	29635	2661,22	35743,2	30513,4	Brazil	10,31	11,49
61	Sugar and honey	23,15	134,76	44,33	21,18	532,84	6407,5	10695,94	788,504	9283,14	12669,8	Argentina	3,3	4,02
												Brazil	19,15	21,41
686	Zinc	0,01	4,44	20,76	20,76	172,54	9990,5	12840,89	543,54	12614	14494,2	Argentina	0,86	0,18
												Brazil	0,7	0,41
671	Pig and sponge iron, spiegeleisen, etc, and ferro-alloys	3,28	10,23	19,79	16,51	18423	31895	45696,46	18949	32859,4	46471,2	Argentina	0,34	0,4

Commodity		Regional Orientation			Var. in RO	Imports from MERCOSUR (\$000)			Imports from RoW (\$000)			Main MERCOSUR suppliers and RCAs for 2008		
Code	Description	1988	1998	2008	2008-1988	1988	1998	2008	1988	1998	2008		Balassa	Yeats
48	Cereal, flour or starch preparations of fruits or vegetables	0,21	6,38	14,34	14,13	541,39	13453	97774,94	1249,82	16083,6	101481	Brazil	9,5	10,45
												Argentina	2,91	2,4
												Brazil	0,58	0,57
122	Tobacco, manufactured	0,14	27,97	14,09	13,96	23,915	5012,3	5630,519	30,189	5973,69	5864,92	Argentina	0,44	0,14
25	Eggs, birds', and egg yolks, fresh, dried or preserved	10,15	4,87	23,02	12,87	25,458	5858	4347,223	275,995	6132,2	4752,52	Argentina	1,29	1,64
												Brazil	2,02	2,14
73	Chocolate and other preparations containing cocoa, nes	0,63	4,99	10,21	9,58	1177	1589	1526,12	1473,31	1996,89	11609,2	Argentina	1,58	1,53
												Brazil	0,56	0,42
783	Road motor vehicles, nes		4,79	8,09	8,09	3710	8351	30433,48	4001,84	9742,02	32490,8	Brazil	2,28	1,94
22	Milk and cream	0	2,18	7,17	7,17	2038,1	8032,6	5728,123	4470,04	9707,25	6716,22	Argentina	3,9	3,81
554	Soap, cleansing and polishing preparations	0,6	3,59	7,62	7,02	545,53	19663	35512,51	2145,74	34979,5	51001,4	Argentina	0,91	0,72
												Brazil	0,63	0,42
551	Essential oils, perfume and flavour materials	1,13	6,28	7,62	6,48	1254,7	21264	46894,46	4108,34	29024,3	54982,9	Argentina	0	1,94
712	Steam engines, turbines	0	0	5,29	5,29	1083,6	6842,7	10719,7	2207,75	9246,83	15165,8	Brazil	0,6	0,58
612	Manufactures of leather or of composition leather, nes; etc	0,49	1,24	5,72	5,24	52,532	1658,7	1235,707	198,414	3411,58	1519,45	Argentina	1,08	1,36
												Brazil	1,87	1,97
62	Sugar confectionery and preparations, non-chocolate	2,82	2,92	7,12	4,3	5187,8	45816	41174,62	9200,67	57935,5	52333	Brazil	1,87	1,68
58	Fruit, preserved, and fruits preparations	2,66	0,95	6,09	3,43	4631,9	12943	15280,01	10488,4	18175,2	22615,5	Argentina	6,24	7,78
												Brazil	5,75	6,41
642	Paper and paperboard, precut, and articles of paper or paperboard	1,75	4,95	4,85	3,1	928,83	6321,5	14397,47	2493,74	10997,4	20214,4	Argentina	0,95	0,6
												Brazil	0,36	0,27
553	Perfumery, cosmetics, toilet preparations, etc	0,46	1,68	3,01	2,55	399,53	1279,9	3403,547	564,606	1443,73	3629,53	Argentina	1,27	0,92
												Brazil	0,51	0,38
665	Glassware	0,8	1,77	3,25	2,45	5069,4	3187,8	5975,931	6973,86	3452,65	6115,89	Argentina	0,21	0,11
												Brazil	0,45	0,37
												Paraguay	1,65	0,88
45	Cereals, unmilled	23,93	6,93	26,26	2,33	1698,4	6299	12037,45	9595,72	11114,6	19148,9	Argentina	12,82	15,4
423	Fixed vegetable oils, soft, crude refined or purified	17,21	7,86	19,44	2,23	8,459	1878,7	1180,807	2196,28	2433,32	1255,54	Argentina	1,08	59,29
												Brazil	6,81	7,6
												Paraguay	63,39	101,37
893	Articles, nes of plastic materials	1,48	1,72	3,42	1,94	35,686	360,93	5157,937	43,856	690,173	5309,33	Argentina	0,49	0,24
682	Copper	0,29	1,71	2,22	1,93	0	0	2589,243	103,509	7,896	3232,08	Argentina	0,03	0,02
												Brazil	0,68	0,66
592	Starches, insulin and wheat gluten; albuminoidal substances; glues	1,3	3,73	3,17	1,86	0	25216	64462,09	0	32111,2	74934,6	Argentina	2,76	2,56
												Brazil	1,04	1,02
662	Clay and refractory construction materials	1,07	3,24	2,74	1,67	2924,1	33769	66234,95	5605,17	59501,3	91696,5	Argentina	0,55	0,64
												Brazil	1,49	1,34

Source of the raw data: UN COMTRADE. Calculations made by the author.

For Paraguay (Table 13), MERCOSUR providers are Argentina and Brazil, these two countries share Paraguayan imports (Uruguay only participates in two of the products in the list.) It can be stressed that 11 regionalized products belong to the section 0-Food and live animals (they are suppose to be more Labour intensive.) In most products both, imports from MERCOSUR and from the rest of the world, have increased over the period analyzed. But the difference lies on their values, while the former increments are easily palpable, the latter increases (if there are) are quite small, and values are very low. Looking at the RCAs the results are mixed, it is not possible to say in an straightforward way that has been trade diversion. For example, 24 of the products have at least one MERCOSUR supplier holding a revealed comparative advantage. In many cases the values are quite significant. But, there are just a few cases, such as the product 271-Fertilizers, crude, whose main supplier is Brazil, and the RCA indices show that this country has no advantage, and despite that, imports from third countries have declined while those from MERCOSUR have increased. These findings are not conclusive, and it is not accurate to say that there was trade diversion at a greater extent than trade creation, because most products seem to be in line with the efficiency of suppliers, and those showing signs of trade diversion can be considered as exceptions.

Table 14 displays information for Uruguay. As in the case of Paraguay, the main suppliers of the imports for the most regionalized products are Argentina and Brazil. Paraguay is only disclosed in the imports of two items (665-Glassware and 423 - Fixed vegetable oils, soft, refined crude or purified) together with the other MERCOSUR members. Although the values of imports of these products are not high, the RCAs displayed by Paraguay, especially for the product 423 is very high. As in the case of Paraguay, an important amount of products from the list (13) belong to the section 0-Food and live animals.

Reviewing RCAs, providers with disadvantages in the production appear for 10 products; in the remaining commodities from the list at least one of the suppliers is competitive. The values of imports from MERCOSUR show the same behavior that imports from the rest of the world (either ascending or descending). Uruguay imports from third countries have continued growing during the implementation of the agreement, and values range according to the size of the country, therefore we can not talk about trade diversion. These can be explained by the increased multilateral openness of the MERCOSUR countries during the last decades.

During this chapter the Yeats' methodology was followed, the results of the analysis of exports match his initial results: a large trade diversion due to increased exports between MERCOSUR members of products that do not reflect their underling comparative advantages. Applying the same methodology but focused on intra-MERCOSUR imports gives a completely different result. In this part of the analysis it was found how imports from other countries also have increased (they have not been sacrificed by imports from MERCOSUR sources), as well as the MERCOSUR countries that were the source of the most regionalized imports showed satisfactory levels on the measures of comparative advantage. MERCOSUR may have contributed to the development of "efficiency" that was

shown by the member countries in the study of imports. Therefore we can not accept the conclusion that MERCOSUR has caused a lot of trade diversion. Some straightforward deviation was observed in the study of exports but it was not the case when analyzing imports.

Ten years after publication of the article by Yeats, far from confirming the conclusions of that author, the MERCOSUR experience seems to support those who consider that South-South trade not only does not damage trade with third countries but could also be beneficial for expanding and diversifying such trade in the medium and long terms. What emerge from the figures is that the trade shift towards MERCOSUR can not be explained only by trade diversion (some sectors of intra-MERCOSUR trade were highly protected against third country imports), especially if we look at the imports because that reorientation has been accompanied by a strong growth in trade with third countries.

6. EFFECTS IN A NON MEMBER COUNTRY: The Colombian case

In the previous section the economic development of member countries of MERCOSUR was studied, focusing on changes in trade flows (exports and imports) the products with a higher tendency to regionalize towards the bloc were selected. Then see if these countries exhibit comparative advantage in the production of these products. Although some signs of trade diversion were found, especially in the case of exports, these do not surpass the trade creation has come with the signing of the agreement. So far, the consequences of the agreement have been analyzed for those within the agreement.

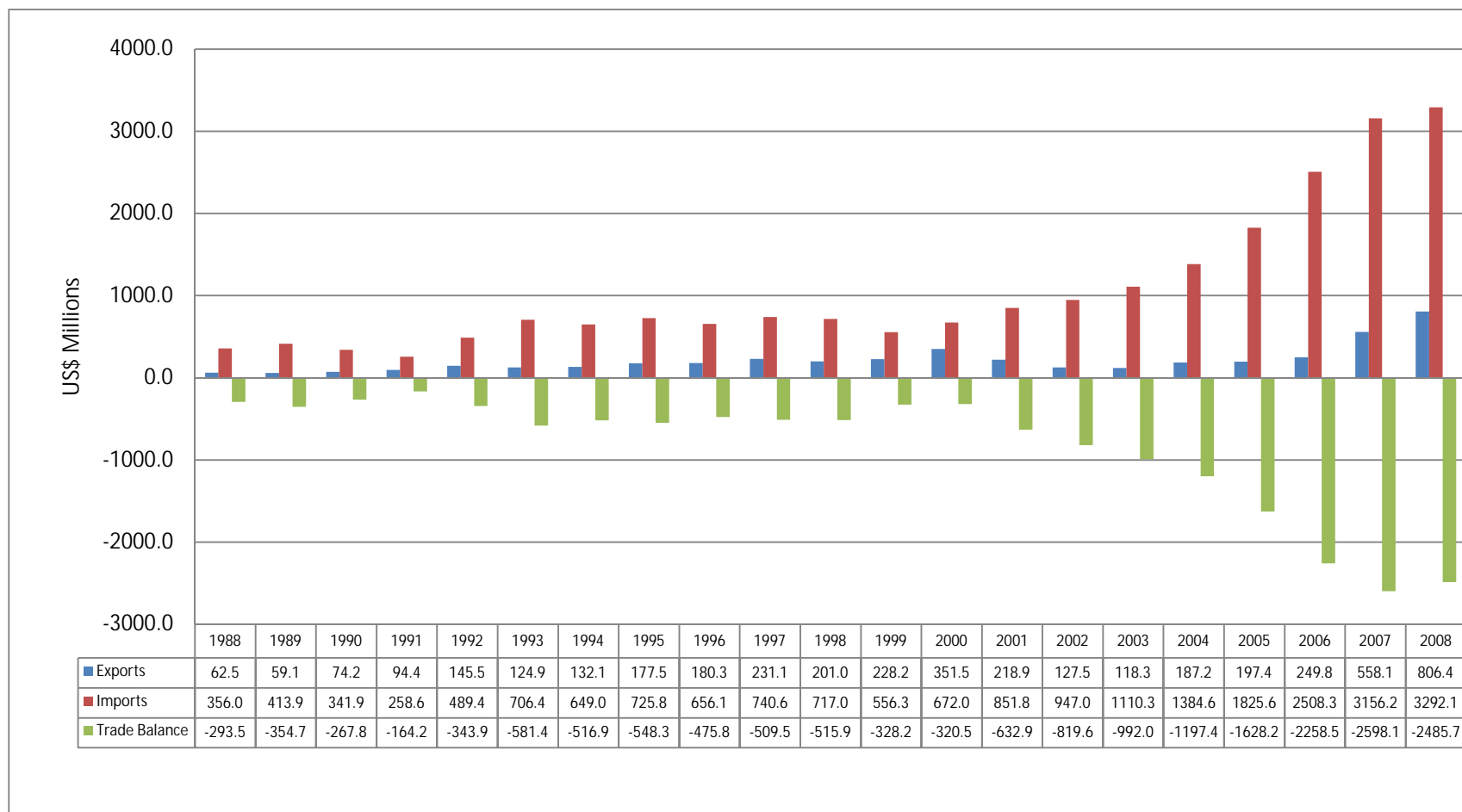
As it was mentioned in an earlier chapter, the classical model of regional integration economics generally posits that the global welfare effects of such arrangements may be determined by examining whether they are net trade-creating or trade-diverting, as defined by Jacob Viner. If there is increase of trade among members that exceeds the level of trade lost with non-members, then there is a net positive global economic welfare effect. If level of lost trade with non-members exceeds the increase in trade among members, then there is a net negative global welfare effect.

In order to complete the study of the global trade effects of MERCOSUR this section will analyze the impact of the formation of MERCOSUR in a non member country. As an example of the trade with non-member states, Colombia was selected. Because of its geographical proximity (it borders with Brazil, the largest country in the agreement) and some common characteristics to the MERCOSUR countries, the study of the relationship of this country with MERCOSUR can offer interesting results. After all, Colombia is member of the Andean Community, and since 1996, this group and MERCOSUR sought to establish a free trade area and the integration of the entire South American region. This resulted in the signing of the Partial Scope Agreements with a small number of subheadings, with a huge asymmetry in favor of Colombia issued by Brazil and Argentina. That is, for many years, Colombia has been encouraging the negotiation of an FTA with MERCOSUR, which finally bore fruit¹⁸.

The figure 3 displays the Colombia's trade balance with MERCOSUR, the trend registered is deficit for Colombia. In 2008 exports reached US\$ 806 million, while imports were \$ 3.292 billion, which generated a negative trade balance of US\$ 2.485 billion, this being 4.5% below the previous year, when it took a negative value of US\$ 2.598 billion.

¹⁸ After many discussions in December 2003 the negotiations related to disciplinary rules of the treaty and the notification to the Latin American Integration Association (ALADI) by each of the countries culminate.

Figure 3 TRADE BALANCE OF COLOMBIA WITH MERCOSUR



Source of raw data: ECLAC (BADECEL)

Colombia's exports to MERCOSUR increased considerably in the recent years (123% from 2006 to 2007, and 44% from 2007 to 2008). It is worth mentioning that the main destination of Colombian sales in MERCOSUR is Brazil, with an 80% share in 2008, of total exports to this region. Exports to this country increased by 147% for 2007 and 37% by the year 2008. The second largest market for Colombian exports in this economic group is Argentina with 16% of total exports to MERCOSUR in 2008.

On the other hand, imports from MERCOSUR grew from US\$ 2.508 billion in 2006 to US\$ 3.156 billion in 2007 and to US\$ 3.292 billion in 2008, representing increases of 26% and 4.3% respectively. The main MERCOSUR provider for Colombia is Brazil, from which 70% of imports was originated for 2008. This market increased its sales in Colombia by 28% by the year 2007, and then they decreased by 7% for 2008.

Below are statistics on trade between MERCOSUR and Colombia in more specific products, at 1 digit of the SITC classification. The table 15 shows figures for the same years used in the analysis of comparative advantage section. 1988, the year prior to the formation of the trading bloc; 1998, with the agreement already in operation and the CET implemented; and 2008, to observe the maturity of the bloc and its behavior in recent times.

Focusing on the totals in table 15, it is possible to say that Colombia has experienced a reorientation of trade towards MERCOSUR. In the years analyzed, the exports to MERCOSUR have grown steadily, while the imports to MERCOSUR fell for 1998 and then rise for 2008. It is worth noting therefore, that the majority of trade for Colombia still remains with the outside world, even when there are increments in trade with MERCOSUR it is difficult to say based only in these figures that there is less scope for trade diversion than if a larger shift in the direction of trade had occurred.

Table 15: COMMODITY COMPOSITION OF COLOMBIAN TRADE WITH MERCOSUR AT THE 1 DIGIT SITC LEVEL IN 1988, 1998 AND 2008

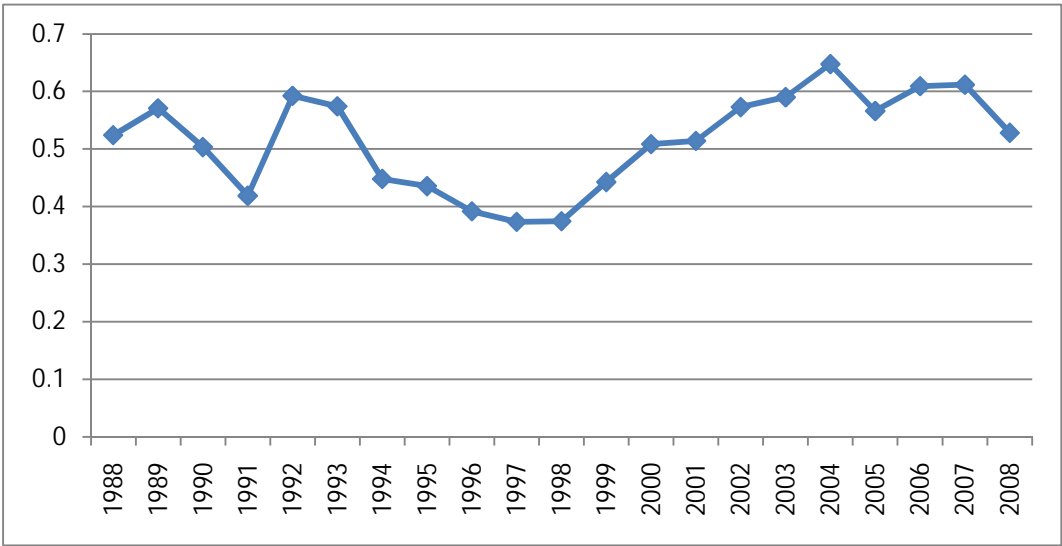
Sections SITC Rev.1		Partner	Exports						Imports					
			1988		1998		2008		1988		1998		2008	
Code	Description		Value	%	Value	%	Value	%	Value	%	Value	%	Value	%
0	Food and live animals	MERCOSUR	36789	0.73	10054	0.09	7346	0.02	15094	0.30	101788	0.69	656398	1.66
		RoW	2121121	42.20	3247172	29.89	4677115	12.43	283362	5.66	1287416	8.77	2656632	6.71
		Total Section	2157910	42.93	3257226	29.98	4684461	12.45	298456	5.96	1389204	9.47	3313030	8.36
1	Beverages and tobacco	MERCOSUR	.	.	2167	0.02	.	.	1793	0.04	8801	0.06	11122	0.03
		RoW	19825	0.39	32391	0.30	94490	0.25	12326	0.25	81201	0.55	117781	0.30
		Total Section	19825	0.39	34558	0.32	94490	0.25	14119	0.28	90002	0.61	128903	0.33
2	Crude materials, inedible, except fuels	MERCOSUR	1197	0.02	7934	0.07	37155	0.10	35577	0.71	38718	0.26	96406	0.24
		RoW	268791	5.35	609382	5.61	1846411	4.91	273491	5.46	402724	2.74	817346	2.06
		Total Section	269988	5.37	617316	5.68	1883566	5.01	309068	6.18	441442	3.01	913752	2.31
3	Mineral fuels, lubricants and related materials	MERCOSUR	11900	0.24	59671	0.55	323063	0.86	13908	0.28	5143	0.04	4396	0.01
		RoW	1282340	25.51	3205724	29.50	16972280	45.11	167004	3.34	314285	2.14	1821891	4.60
		Total Section	1294240	25.75	3265395	30.05	17295343	45.97	180912	3.61	319428	2.18	1826287	4.61
4	Animal and vegetable oils and fats	MERCOSUR	.	.	102	0.00	31923	0.08	19351	0.39	53673	0.37	112564	0.28
		RoW	10	0.00	50192	0.46	352459	0.94	38987	0.78	112560	0.77	294557	0.74
		Total Section	10	0.00	50294	0.46	384382	1.02	58338	1.17	166233	1.13	407121	1.03
5	Chemicals	MERCOSUR	4976	0.10	44681	0.41	221112	0.59	64884	1.30	116951	0.80	426247	1.08
		RoW	206559	4.11	1075550	9.90	2654692	7.06	1147990	22.94	2580211	17.58	6856904	17.31
		Total Section	211535	4.21	1120231	10.31	2875804	7.64	1212874	24.23	2697162	18.38	7283151	18.38
6	Manufactured goods classified chiefly by material	MERCOSUR	2646	0.05	25916	0.24	138633	0.37	89202	1.78	166863	1.14	825356	2.08
		RoW	510537	10.16	1099938	10.12	4637073	12.32	696108	13.91	2204563	15.02	5918012	14.94
		Total Section	513183	10.21	1125854	10.36	4775706	12.69	785310	15.69	2371426	16.16	6743368	17.02
7	Machinery and transport equipment	MERCOSUR	1073	0.02	10856	0.10	14445	0.04	106560	2.13	182945	1.25	999117	2.52
		RoW	60156	1.20	420852	3.87	1877645	4.99	1750125	34.97	5725675	39.01	14602354	36.86
		Total Section	61229	1.22	431708	3.97	1892090	5.03	1856685	37.10	5908620	40.26	15601471	39.38
8	Miscellaneous manufactured articles	MERCOSUR	3262	0.06	37974	0.35	30457	0.08	8325	0.17	40189	0.27	138848	0.35
		RoW	429349	8.54	813111	7.48	2433976	6.47	171661	3.43	1131328	7.71	3002433	7.58
		Total Section	432611	8.61	851085	7.83	2464433	6.55	179986	3.60	1171517	7.98	3141281	7.93
9	Commodities & transactions not classified according to kind	MERCOSUR	697	0.01	2	0.00	690	0.00	1264	0.03	1246	0.01	17892	0.05
		RoW	60845	1.21	20152	0.19	1037223	2.76	102636	2.05	84871	0.58	172461	0.44
		Total Section	61542	1.22	20154	0.19	1037913	2.76	103900	2.08	86117	0.59	190353	0.48
Others		MERCOSUR	5	0.00	1684	0.02	1563	0.00	43	0.00	663	0.00	3790	0.01
		RoW	4102	0.08	89918	0.83	235657	0.63	5361	0.11	34329	0.23	67789	0.17
		Total Section	4107	0.08	91602	0.84	237220	0.63	5404	0.11	34992	0.24	71579	0.18
TOTAL WITH MERCOSUR			62545	1.23	201041	1.85	806387	2.14	356001	7.13	716980	4.89	3292136	8.31
TOTAL			5026180	100.00	10865423	100.00	37625408	100.00	5005052	100.00	14676143	100.00	39620296	100.00

Source of raw data: ECLAC (BADECEL)

It is interesting though, to note the changes in the composition of trade suffered by Colombia over the past 20 years. For example, by 1988 the main products exported were those related to section 0-Food and live animals, which absorbed nearly 43% of exports. This same section for 2008 only represents 12.45% of the country's exports, being displaced by commodities of the section 3-Mineral fuels, lubricants and related materials which represented 45.97% of total exports, showing a considerable increase as for 1988 were only 25.75%. The other sections have no significant changes in their exports. For imports, there are not changes as significant as that mentioned above for exports. Worth noting the decrease in imports of chemical products, from 24.23% in 1988 to 18.38% in 2008, and the increase in imports of section 8-Miscellaneous Manufactured articles of 6.18 in 1988 to 7.93 in 2008.

However, these aggregate figures can mask very significant rises in trade between Colombia and MERCOSUR. In particular, as can be seen from Table 15, Colombian exports have experienced increases in most of its products, the greatest raise was in Mineral fuels, lubricants and related materials, followed by Chemicals. In contrast, most of products have experienced a share reduction in imports from MERCOSUR. The largest rises in Colombian imports occurred in Food and live animals followed by far by Machinery and transport equipment.

Figure 4: TRADE INTROVERSION INDEX OF COLOMBIA WITH MERCOSUR FOR 1988-2008



Source: Author's computations with data sourced from UNComtrade.

To conclude the study of the MERCOSUR effects in a non member country, the Graph 5.3 displays the trade introversion index of Colombia with MERCOSUR which, as mentioned in this document, given the size of the countries involved seems to be the most appropriate indicator in this case (see Section 5.4). In this case *i* is Colombia, *j* is MERCOSUR.

During the period of 20 years examined the value of trade introversion index is more than zero, it means Colombian trade has a regional bias toward MERCOSUR. The index presents some rises (or falls) when the intensity of trade between Colombia and MERCOSUR grew more (or less) rapidly than that of Colombia and non-MERCOSUR trade.

The graph tells an interesting story in 1990 and 1991 the intensity of trade between Colombia and MERCOSUR declined because of turbulence in the world financial system caused by the Gulf War, and the difficult situation Colombia was facing by the end of the 80's as a consequence of the organized crime (at this time the country was in a state of crisis due to terrorist acts and the execution of political assassinations). In 1992 shows an increase that is progressively lost again, it falls especially for 1994, starting year of the Ernesto Samper administration (1994-1998) when the government of Colombia was involved in an scandal of alliances with drugs traffickers, which caused a diplomatic conflict with the United States and a crisis of governance that affected the economy of the country. The index takes its lowest value in 1997 coinciding with the Asian crisis, which was followed by the Russian one in 1998, and then the Brazilian currency crisis in early 1999. After 1998 the intensity of trade between Colombia and MERCOSUR grew faster, the index increased gradually until achieving its highest value during the recent years 0,647 in 2004. This constant and continuous increase can be explained by the unusual period of global economic growth, characterized by the considerable dynamism of Asia that produced great upward pressure on international prices and the negotiation of an agreement between MERCOSUR and the Andean Community. In 2008 the index shows a decrease, possibly justified by the global crisis.

The increase in trade volume between members and non-members and the positive values of the trade introversion indices of the non-member country selected after formation of MERCOSUR clearly demonstrates that the regional trade bloc such as MERCOSUR does not much deviate from the proposed McMillan (1993) rule¹⁹. Before concluding the effects of MERCOSUR on non-member states, however, it should be warned that the trade statistics for twenty years of only one country may do not permit a complete evaluation of the MERCOSUR's net effect on non-members.

¹⁹ This suggests the appropriateness of a rule requiring that external trade volumes not be lowered as a result of a regional integration agreement. (McMillan 1993).

7. CONCLUSIONS

Economic integration provides benefits to economies and stimulates growth. This is one of the important assumptions of economic theory. The origin of these benefits can be found in the exploitation of comparative advantages through a process of specialization and division of labor, as well as the development of new production activities prompted by a bigger demand.

This paper has explored the impact of the Southern Common Market (MERCOSUR), the most important South American trade bloc, which has been a model for assessing integration processes underway in the region. The analysis is based on pertinent statistics and some indices calculated to assess the possible changes that this agreement has brought, and determine whether they are negative or positive.

The comparison between trade in the years previous to the agreement and those after its implementation shows a significant transformation. MERCOSUR's members experienced a period of strong economic growth in the ten-year period after the creation of the trade bloc and regional trade went up. This growing trend is present not only in intrabloc trade but also in extrabloc trade, especially in the recent years.

In despite of the manifest differences of size and productive capacities of the members, the trade group has brought general benefits to every member. Even the smallest partners, Paraguay and Uruguay, show significant increases in their external trade and moreover, the importance of MERCOSUR becomes more and more important for all its members. Thus, we can observe the general increase of exports of all MERCOSUR members, particularly Brazil and Argentina, both benefited by a reciprocal commerce, as well as a remarkable diversification of exports of Paraguay and Uruguay. Although Paraguay is a small country, it seems to be very active in Brazilian imports.

Trade intensity indexes have been calculated for MERCOSUR respect to some regional blocs in the last decade. They show an increase of the share of intrabloc exports in total bloc exports as well as of the share of intrabloc imports. Those indexes take high values particularly for the Andean Community, and for the NAFTA group, evidencing some geographical bias towards the continent, as it holds a more than proportional commercial relation with those groups.

In this work we have also calculated the trade intensity indices among the MERCOSUR countries on a bilateral basis. The values of the indices calculated are especially high, both during the first stages of the agreement and in the late years. All the results display index values that indicate a large bilateral trade flow, reinforcing the idea of a reorientation of MERCOSUR's trade toward regional markets.

The analysis of trade intensity index united to the trade introversion index let us state that MERCOSUR has a geographical bias in its trade patterns. This bias existed before its creation; nevertheless the signature of the agreement intensified it, especially during the first years of the agreement. It is interesting to note the decreasing values in both indexes during the last six years; those small changes show how over recent years the members of MERCOSUR have sought new markets and new trade partners, especially in Asia.

Getting deeper in the analysis, the possible trade creation and trade diversion effects (Viner, 1950) have been discussed. Trade creation is considered beneficial as it replaces expensive domestic production by cheaper imports from a partner while trade diversion is considered harmful as it replaces initial cheaper imports from the outside world by expensive imports from a partner country.

Based on an exports analysis, many products traded by MERCOSUR members do not show a comparative advantage and there would be signs of trade diversion. This supports the statement made by Yeats, about trade being oriented to the "wrong" products. However, these pessimistic results correspond only to a partial analysis. In order to have a more complete view of the MERCOSUR situation, the imports have been also analyzed.

The application of the Yeats methodology to intra-MERCOSUR imports gives a new different result: imports from other countries also have increased so they have not been sacrificed by imports from MERCOSUR sources. In general, findings induce to conclude that trade diversion is not at a greater extent than trade creation, because most products seem to be in line with the efficiency of suppliers, and those showing signs of trade diversion can be considered as exceptions.

There is no direct evidence of trade diversion, as the results show imports from MERCOSUR are not displacing imports from the rest of the world because there was a large increase in imports from third countries. Besides, there is no reason to believe that MERCOSUR producers are not efficient because the RCAs calculated for many products whose imports have regionalized the most after the agreement show satisfactory values. Therefore, the agreement is not supporting inefficient producers within the bloc nor sacrificing efficient producers of third parties, and instead it has brought an impressive growth in trade.

So we can conclude that, even if there are some mixed results, trade creation outweighs trade diversion. MERCOSUR has been positive for the countries as it has expanded and diversified the trade of its members in the medium and long term. The trade shift towards MERCOSUR cannot be interpreted as a case of trade diversion, since that reorientation has been accompanied by a strong growth in trade with third countries.

The only problem will be present specifically in instances where trade diversion is caused by a rise in protection due to the CET. It seems to occur in some isolated cases such as in the automobile sector.

In addition to the above commented analysis, this paper has explored the effects of MERCOSUR on non-member countries, using the case of Colombia as reference. With this purpose, it is examined the trend of intraregional and extra-bloc trade flows between MERCOSUR and Colombia, during some years previously and after the formation of MERCOSUR in 1991. Observed data indicate that the trade flows within the region have been expanded remarkably in the 1990s, and the trade flows with non-members also have been increased significantly.

After employing the trade introversion index for Colombia, (to measure the relative intensity of Colombian trade with MERCOSUR versus Colombian trade with outsiders), it confirms that the remarkable growth of the intra-regional trade of MERCOSUR has been accompanied by simultaneously increasing trade flows with non-member states such as Colombia. It can be thus claimed that the regional bloc such as MERCOSUR did not contribute to trade diversion to non-members, such as Colombia.

Finally, the results of this analysis indicate that for both, members and non members of MERCOSUR, the trade effects of the agreement have been overwhelmingly trade creating and positive, despite some minor evidence of trade diversion in the intra bloc exports.

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WEBSITES

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www.eurosur.org/eurosur

www.wto.org

OFFICIAL DOCUMENTS

Treaty for the Constitution of a Common Market among the Republic of Argentina, the Federative Republic of Brazil, the Republic of Paraguay and the Republic of Uruguay (Treaty of Asuncion)

Protocol of Brasília for the Settlement of Disputes (Protocol of Brasília)

Additional Protocol to the Treaty of Asuncion on the Institutional Structure of MERCOSUR (Protocol of Ouro Preto)

Protocol of Olivos for the Settlement of Disputes in MERCOSUR (Protocol of Olivos)

MERCOSUR Reports

Annex 1. The Theory of Customs Unions

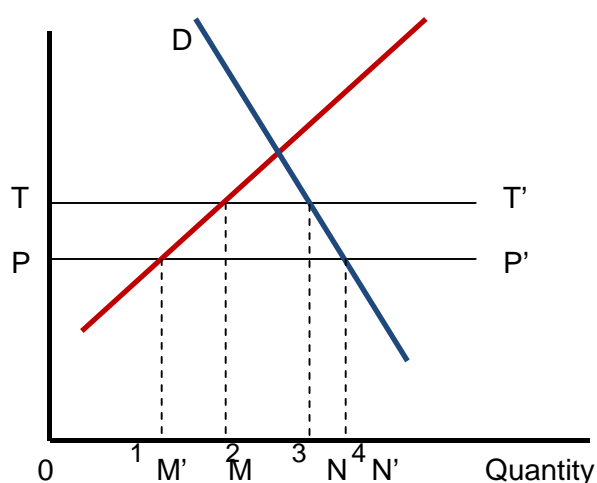
Although the literature on the subject goes back to the classical economists, it has generally been accepted that the real theory of CUs goes back only as far as 1950 Jacob Viner's theory. The pre-Vinerian view was that since free trade maximizes world welfare and a CU is a move towards free trade from protectionism, then a CU would increase world welfare, even if it does not maximize it. Viner showed that it was not necessarily the case. He suggested that CUs combine elements of free trade with greater protectionism, so it is not clear whether such arrangements increase or decrease welfare.

Customs unions have two opposing tendencies: they will increase trade within the union but reduce trade with the rest of the world. This is the basis of Viner's central concepts: Trade creation and trade diversion.

Trade creation (TC) is when a country starts to import a good previously produced at home, because it is now cheaper to import from inside the union. Basically the nation is changing from a higher-cost domestic producer who was protected by a tariff to a lower-cost producer from within the union/FTA. This represents a positive welfare effect on the economy as the price is now lower and a more efficient producer is being used.

Trade diversion (TD) occurs when a country starts to import from a member of the union/FTA a good which previously had been imported from outside the union. So a switch is made from a lower-cost producer outside the union (but with a tariff imposed) to a higher-cost producer inside the union (without tariff), giving a negative welfare effect, a less efficient producer is being used.

Figure 5
WELFARE EFFECTS OF TRADE CREATION



PP' is the partner country supply curve. Tariff removal cuts domestic price from OT to OP, expands imports to M'N', and raises welfare by areas 2+4.

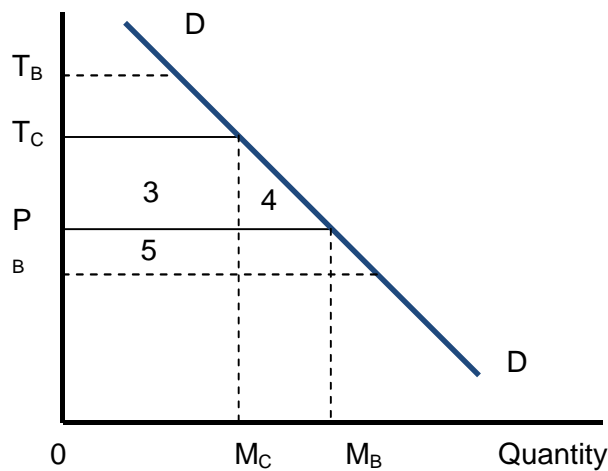
The economic welfare effects of a CU can be neutral, detrimental or beneficial. In short, trade creation is good as it tends to increase welfare, while trade diversion is bad because it decreases welfare. The net effect depends on whether TD is greater than TC (leading to a fall in welfare) or TC is greater than TD (leading to an increase in world welfare).

Consideration of discriminatory liberalization requires at least three countries –at least two integrated nation and at least one excluded nation. Suppose A and B form a customs union, leaving C (the rest of the world) outside. Previously, A inefficiently produced part of its requirements of good x at home behind its tariff wall. Partner B is the most efficient producer of x and the sole world exporter. When A abolishes tariffs against B (and all the necessary markets adjustments have taken place), A's inefficient x industry is partly competed down as A's imports from B expand. Trade has been created. The gains are the same as is A has eliminated its x tariff completely.

Because trade creation works just like the removal of a tariff against all foreign suppliers, the analysis of it is a replay of figure 5. In figure 5, A's demand and domestic supply curves for x are shown as D and S , respectively. Suppose that x is produced by B under conditions of perfectly elastic supply, so that an unlimited quantity is available at price $0P$. A's external tariff is set at the rate $PT/0P$. Before the customs unions was formed, the supply function for imports after payment of tariff was TT' ; thus A produced amount $0M$ of its consumption ($0N$) of x , importing MN from B. Elimination of the tariff against B now makes PP' the relevant import supply schedule and causes consumption to expand to $0N'$, imports to expand to $M'N'$, and domestic production to shrink to $0M'$. The four numbers areas in the diagram measure the welfare gain. A's consumer of x enjoy a gain in surplus measured by the whole area $1+2+3+4$, but not all of this is net gain to the country. Area 1 formerly was profit to A's protected producers of x , so this gain to consumers is offset by the loss of producers. Likewise, area 3 formerly represented tariff revenue collected by A's government that is now lost when the preference is given to B. If the government was spending its revenues on useful things, such as parks and schools, there is no presumption that any net social benefit derives from (in effect) giving the revenue measured by area 3 to the consumers of x ; therefore, it is assigned no net welfare significance. Two triangles remain, both measuring net gains to A. Area 2 formerly represented part of the real cost of securing $0M$ of domestic production; it is assumed that those resources are now put to other uses, so the extra surplus measured by 2 is a net benefit. Likewise, area 4 represents a pure gain in consumers' surplus not subject to any offset. The net benefit is areas $2+4$.

Trade diversion can occur for another good, y , if A's consumption of y was formerly supplied by outsider C and if C is the world most efficient producer. Suppose that B can also produce y –not as efficiently as C, but efficiently enough to undercut C in A's market when C pays A's tariff but B does not. In Figure 6 A's demand for y appears as DD . Suppose C's supply of y is perfectly elastic at a domestic cost (and price) of P_C ; likewise, B can supply y at the higher constant cost (and price) of P_B .

Figure 6
WELFARE EFFECTS OF TRADE DIVERSION



P_B indicates pretariff supply price in partner country, and P_C pretariff supply price in the rest of the world. Tariff preference lowers internal price from T_C to P_B . Welfare loss occurs if area 5 exceeds area 4.

Before the customs union is formed, A imposes an ad valorem tariff on imports of y equal to $P_C T_C / 0P_C$ or $P_B T_B / 0P_B$ —they are the same. A would buy from the less costly source after paying the tariff and thus would import OM_C at price OT_C . Forming the customs union allows B's exports of y to enter duty-free, and A's consumption expands to OM_B . Areas in the diagram are labeled to illustrate the significant effects on welfare. Once again, lowering tariff (even preferentially) allows a gain to A's consumers of y (areas 3 + 4). The meaning of these areas match their counterparts in Figure 5: Area 3 shows tariff revenue formerly collected on imports from C, its loss offsetting the congruent gain consumer's surplus; and area 4 depicts the remaining pure gain in consumer's surplus that is not subject to any offset. A loss occurs, however, in the form of area 5. Areas 3 + 5 measure the total tariff revenue formerly collected on imports OM_C . This revenue now is lost to A's government, and the part denoted by 5 is instead paid by A's customers to the higher-cost producer of y in B. It is pure social loss²⁰. A *net* welfare loss from trade diversion occurs if area 5 is larger than area 4. It need not be, of course: The loss from switching to a less efficient source of supply could be more than offset by the gain from reducing a distortion of customers' spending. If a supply curve for domestic producers had been incorporated in Figure 6, another gain would have resulted because protected output falls when the domestic price declines from OT_C to OP_B (an area of gain like 2 in Figure 5). Also, notice that welfare increases in the trade-creation case, even if the former tariff sheltered no protected production. (The welfare gain is just area 4).

²⁰ No welfare gain for country B is involved because the resources drawn into the production of y presumably were engaged in other activities where their value productivity was just as high.

Net Gains or Losses?

What can be said about the influence of these forces? If A and B consume an trade many commodities, it is possible to establish any presumption that a union lead to net gains? An accurate evaluation depends on the trade pattern for every good. Nonetheless, some rough tests can suggest whether trade creation (which must raise welfare) is likely to prevail over trade diversion (which may or may not). For trade creation to predominate, the economies of A and B should be actually competitive (before the union) but potentially complementary (after it comes to effect). Trade creation gains are greater when protected production is reduced because protective tariffs have made the output pattern of the two economies look similar before they join in a customs union. Thus they should appear actually competitive. However, each member must also be the most efficient producer of goods protected and inefficiently produced by its partner –this condition guarantees trade creation rather than trade diversion.

Other simple test for a union's welfare significance can also be used. Higher initial tariffs mean greater potential benefit. Higher initial tariffs enlarge area 4 in Figures 5 and 6. If a common external tariff is formed (as in a customs union), the chances of benefit are enlarged if the new common tariff is lower than the previous individual ones –making trade diversion less likely, reducing the distance $P_C T_C$ (in Figure 6) and lowering the probability that P_B will fall within it. A larger preferential agreement is more likely to be beneficial. This condition is obvious if we imagine enlarging an hypothetical customs union until it includes nearly all the world's economic activity. The less production taking place outside, the more likely is the union to include the most efficient producer; trade diversion is therefore curtailed.

Another factor affecting the balance of welfare effects works in a different way. When countries form a customs union, they must decide on a common external tariff. Of the many possible methods, they usually choose to average the members' previous national tariff rates. Because of the averaging process, there is less variation of the resulting rates among the different classes of imported commodities than existed in the previous national schedules. That reduced dispersion is itself a source of welfare gain because the relative prices of commodities inside the tariff wall are then less distorted from those in the world at large. If each of two products is subject to a 10 percent tariff, both domestic prices are raised 10 percent, and the relative price is the same as in the outside world. Thus the more tariff schedules are homogenized, the greater the welfare gain.

Distribution of gains and losses

One more building rock is needed for this analysis of the effects of tariff preferences. The technique for measuring the welfare effects of the trade creation and diversion set forth in Figures 5 and 6 assumes that the country's terms of trade remain unchanged. The assumption is built into the perfectly elastic supply of imports. If the partner's terms of

trade with the outside world change, or if one member's terms of trade with its partner change, redistributions of real income take place. The total effect of preferences on any one country's welfare is the sum of effects related to trade creation or diversion and any redistribution stemming from changed terms of trade.

You might suppose that a country would pick its partners for a preferential arrangement so that it would get a terms-of-trade gain, or that the members would select each other to extract a gain from the rest of the world. Countries seem to pick their partners primarily on political grounds, not from economic motives or calculations. Still, whether intended or not, a preferential arrangement is likely to change its members' terms of trade with the outside world and with each other. The possible results are diverse, but consideration of preferential arrangements in the context of general equilibrium reveals some likely outcomes.

Start with a question that has a simple answer. Suppose that A and B decide to form a preferential arrangement, excluding C (the outside world). What tariff structure will maximize their joint gain from the venture? In the absence of any special market distortions, A and B should clearly adopt free trade with each other and levy the optimum tariff against the outside world (that is, the tariff that maximizes their joint monopoly gain). Even if each member's tariff was optimal before, from its own viewpoint, each gains from the expansion of previously restricted trade with the other. If their individual tariffs had not been optimal, a further gain accrues from switching to the optimal tariff. Notice that their joint monopoly power in trade could well be greater than that of each separately. If there are sole exporters of a product and each previously calculated its optimal tariff by taking the others as given, further monopoly gains should accrue to them from setting a higher external tariff jointly. Should A and B form a free-trade area without changing their former external tariffs, the elimination of external tariffs is still apt to improve their terms of trade with the outside world. The only requirement is the occurrence of some trade diversion. The switch of trade away from C, as A and B adopt preferences and increase their mutual trade, has the same effect on C as if A's and B's demand curves for imports from C were shifted inward. (Conversely, the preferential arrangement gains from trade creation with no corresponding loss for the outside world).