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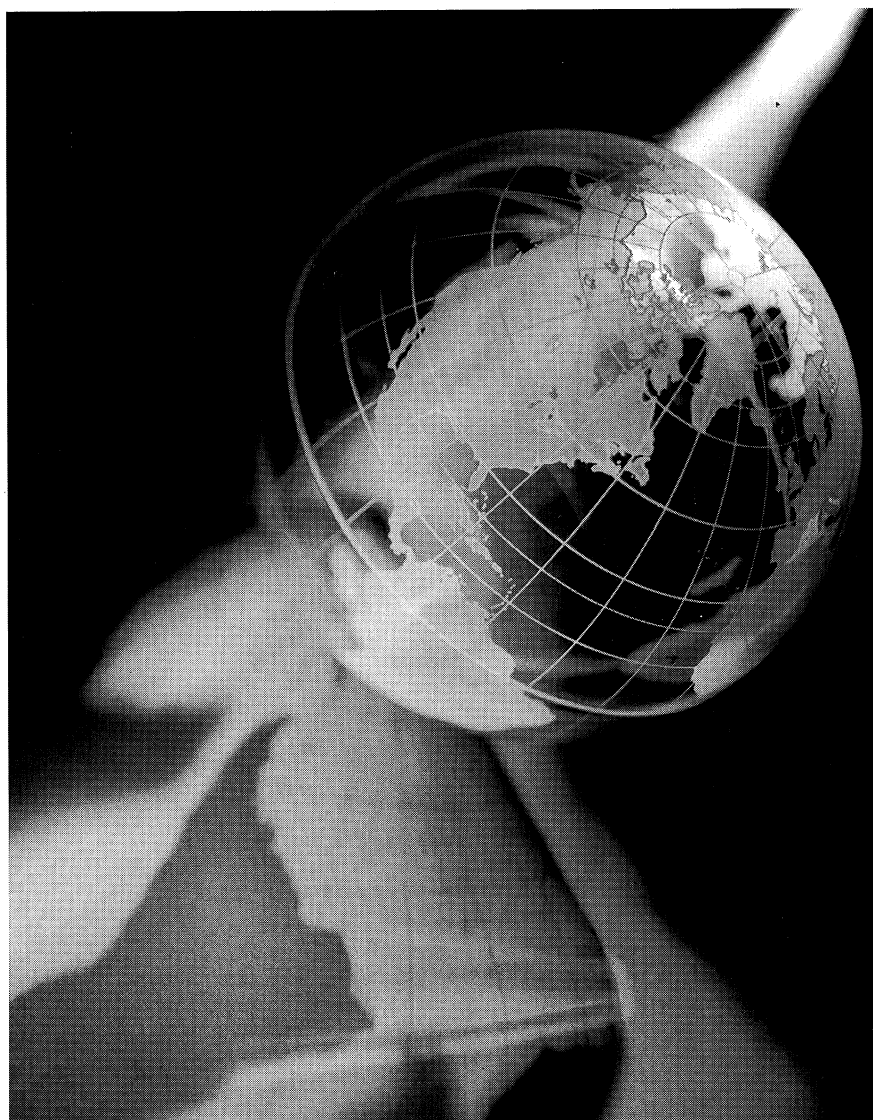
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ECONOMIC INTEGRATION IN THE WESTERN HEMISPHERE

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SESSION 6A. STRUCTURAL MODELS OF WESTERN HEMISPHERE TRADE

The Impacts of MERCOSUR on Brazil

*Antonio Salazar Brandão, Mauro de Rezende Lopes and Lia Valls Pereira,
Fundación Getulio Vargas, Brazil*

Introduction

In March 1991, Argentina, Brazil, Paraguay and Uruguay signed the Treaty of Asuncion aiming to create a common market (MERCOSUR) by January 1, 1995. The common market comprises a region where in 1993, population was almost 200 million people, GDP was about US\$ 650 billion and per capita income was US\$ 3,400. Exports and imports were, respectively, US\$ 52.5 billion and US\$ 43.5 billion. Improved diplomatic relations between Argentina and Brazil in the 1980s, albeit the domestic probings faced by both economies during that decade, were an important first step for the creation of MERCOSUR. Being the largest partners of the block, the path towards integration started with them and successful completion of the process depends fundamentally on the commitment demonstrated by the two countries with the completion of the negotiations and how they will follow the rules and disciplines imposed by the agreement. The strength with which these will be pursued will depend heavily on how the domestic economics evolve, in relation to macroeconomic stability, and on the actual impacts of the agreement. Gainers from integration will support a faster pace while losers will struggle for a slow down.

There have been few serious attempts to measure the impacts of the common market on these two economies. The task is difficult because of the net of intersectoral effects that involve both factor and product markets and of the large size of two tariff changes that will have taken place at the end of the adjustment period. Nevertheless, this task is overdue. In this paper we make an attempt to estimate some of these impacts using a computable general equilibrium model (CGE) called General Trade Analysis Package (GTAP)¹.

The paper is organized as follows. In the next section a brief accounting of the negotiations that led to MERCOSUR is presented, together with some basic quantitative data and with a discussion of the future prospects for the integration. In section 3 an stylized description of the Brazilian and Argentine economics is presented. Section 4 contains a summary of GTAP for the reader unfamiliar with the model. Section 5 discusses the main results and section 6 concludes the paper.

MERCOSUR

Table 1 shows some macroeconomic indicators for MERCOSUR as a whole. Exports have increased 18 percent between 1991 and 1993 and imports have increased 42 percent over the same period. The remarkable growth of them is a consequence of structural reforms made by the economies of the region, particularly Argentina and Brazil, and of the renewal of growth process.² But it has also been facilitated

¹ GTAP has been developed by Herter (1993) and associates at Purdue University.

² During the period 1990/1993 the growth rate for the MERCOSUR countries was 11 percent.

by large amounts of foreign capital inflows that occurred over the period, which allowed international reserves to increase almost three times.

Table 1: MERCOSUR - Main macroeconomic indicators

Itemization	1990	1991	1992	1993
Gross Domestic Product (GDP)				
Current Value (US\$ Millions)	586,974	600,574	605,844	652,229
Population (millions of persons)	189	192	195	196
Per Capita Income (US\$)	2,943	3,105	3,201	3,435
Trade Balance (US\$ Millions)	19,547	14,510	12,692	9,468
Exports (US\$ Millions) FOB	46,837	46,319	50,734	54,704
Imports (US\$ Millions) FOB	(27,290)	(31,809)	(35,042)	(45,236)
Current Account Balance (US\$ Millions)	762	(2,503)	(1,602)	(9,196)
International Reserves (US\$ Millions) (*)	13,797	16,380	34,434	46,518
Exports/GDP (%)	8.43	7.78	8.13	8.05
Imports/GDP (%)	4.91	5.34	6.10	6.66
(Imports + Exports) / GDP (%)	13.35	13.12	14.23	14.71
Debt service/International reserves (%)	118.15	94.20	46.31	45.08

Source: Banco Central do Brazil - MERCOSUR - Informacoes selecionadas.

Despite the significant efforts of Argentina and Brazil to open their economies, this regional block is still comprised of fairly closed economies. In 1993 the share of trade in GDP (that is, imports plus exports) is still around 14 percent.

The Path Towards MERCOSUR

Regional integration is not a new phenomenon in Latin America.

In 1960, it was created the Latin America Free Trade Association (LAFTA) aiming to create a free trade zone in a period of 12 years³. The main driving force of LAFTA was the idea that the integration process could foster the import substitution model of industrialization by obtaining greater economies of scale due to the enlargement of the market size (Valls Pereira 1993).

Many factors have contributed to the failure of LAFTA. The dismantling of tariffs through the application of the principle of most favored nation between countries with very deep differences in their productive structures and levels of development led to systematic demands for waivers and special treatment by many governments. Very strict stated periods, often not observed, to accomplish the targets negotiated did not also help to build confidence on the process of integration. Most important of all, the idea of integration through liberalization was contradictory to the logic behind the import substitution model. Governments were accustomed to think about protection as a means to stimulate growth and, therefore, very reluctant to offer extensive list of goods to be subject to a free-trade status.

³ The country - member of LAFTA were Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay and Venezuela.

Anyhow the weight of the regional exports in total exports of LAFTA increased from 7.7% in 1960 to 13.7% in 1981. Part of this result can be explained by favorable conditions of growth in many Latin American countries coupled with the implementation of diverse incentives to manufactured exports, besides some preferential tariff agreements due to LAFTA.

In 1980, LAFTA was extinguished and in its place the Treaty of Montevideo created the Latin America Integration Association (LAIA). The principles that guided LAIA were very different from those of LAFTA. The concept that the ultimate goal was the creation of a Latin America free trade zone was preserved. Notwithstanding, no rigid periods with targets to be fulfilled and neither automatic instruments to advance the process of integration were contemplated. The aim was to stimulate tariff preferential agreements between the member-countries who wanted to do so.

In this same period, Argentina and Brazil began to improve their diplomatic relationships characterized by disputes around border questions. This was reflected on the signature of an agreement about the use of hydric resources, which was the main contention between these countries during the seventies.

Better diplomatic relationships were not, however, immediately translated into any improvements towards economic integration. The debt crisis of 1982 was answered in many countries by the introduction of different protective measures and high currency devaluations, as in the case of Brazil. This was not a propitious scenario to integration.

The middle of the eighties marks the beginning of the return to democracy in both countries, facilitating even more the strengthening of the relationships between Argentina and Brazil. In 1986, this strengthening was sealed with the signature of PICE (Program for Integration and Economic Cooperation). It must be pointed out that this Program was an initiative of the Argentine and Brazilian Executives and was not preceded by any demand of entrepreneur sectors in both countries and neither by a reversal of the decline of intra-regional trade. The percentage of intra-exports within the MERCOSUR declines from 11.6% in 1980 to 5.5% in 1985 and only achieve values compared to 1980 after 1990 (see table 2).

The PICE was an agreement based upon 24 sectoral negotiations that covers trade in areas such as capital goods, wheat, automotive industry and contemplates cooperation in technological policies and energy supply, for example.

The conception of PICE can be interpreted in two ways. On the one hand, reflects the emphasis still presented at that moment with the consolidation of the industrialization process⁴. On the other hand, the sectoral agreements establishing targets of equilibrium on trade was a means to weaken the distrust of entrepreneur sectors in both countries in respect to the process of integration.

After just two years that PICE was signed and with mostly of the agreements still reflecting a "letter of intentions", Argentina and Brazil signed a new treaty aiming to create a common market. The perception that the world was driving towards an organization based upon regional agreements, that Latin American countries were outside the interests of economic integration by developed countries, possible failure of the Uruguay Round and a move towards liberalization by Argentina and Brazil are some of the main factors that could explain this new treaty.

⁴ It was not a casual decision the emphasis given to the capital goods sector on PICE (Lavagna 1991).

Table 2: Intra-Trade in Relationship to Total Exports

In US\$ millions

Years	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
LAIA														
Share of Intra-LAIA Exports	13.8	14.3	12.3	8.5	8.9	8.0	11.0	10.7	10.6	11.0	10.9	13.6	18.8	19.2
Growth of exports to LAIA		8.9	-18.2	-28.4	16.6	-12.9	11.3	8.2	14.1	14.3	10.2	22.3	29.0	21.8
Growth of total exports		5.2	-5.3	3.6	11.6	-2.5	-19.4	10.9	15.3	10.8	10.6	-1.6	4.4	6.4
Andean Group														
Share of Intra-Andean Group Exports	4.0	4.9	4.8	3.3	2.9	2.6	3.4	5.1	4.7	4.1	4.2	6.0	8.0	9.7
Growth of exports to Andean Groups		5.9	-7.3	-36.2	-3.5	-5.4	-8.9	65.5	-8.5	5.9	33.0	33.9	26.1	28.8
Growth of total exports		-13.5	-2.5	-10.7	10.8	3.8	-29.5	10.5	-2.0	22.5	30.5	-7.2	-4.7	5.7
MERCOSUR														
Share of Intra-MERCOSUR Exports	11.6	8.9	8.1	5.9	6.3	5.5	8.6	7.4	6.6	8.2	8.9	11.1	14.3	18.5
Growth of exports to MERCOSUR		-11.6	-22.2	-22.0	25.4	-15.1	34.3	-3.6	16.4	30.4	7.6	23.6	41.4	38.9
Growth of total exports		15.0	-14.1	6.5	17.2	-3.2	-13.2	11.7	31.5	3.7	-0.3	-1.1	10.0	7.3

Source: CEPAL

Soon after the treaty of 1988 was signed, the Argentine and Brazilian governments decided that the common market was due to being in 1995. Finally, the Treaty of Asunción creating the MERCOSUR was sealed establishing a common market between Argentina, Brazil, Paraguay and Uruguay.⁵

The Treaty of Asunción: What was Accomplished?

The Treaty of Asunción has to be interpreted as a legal device to establish negotiations in order to achieve a common market between the member countries of MERCOSUR. It does not establish any supranational institution that represents the interests of the community neither specifies how negotiations must be implemented.

⁵ Paraguay and Uruguay are very small economies in relation to Argentina and Brazil. Their trade is relatively more dependent upon their big neighbors. In 1991, 35.2% of Paraguay and Uruguay exports, respectively, were directed to MERCOSUR. The same figures for Argentina and Brazil were 4 percent and 16.1 percent respectively.

The Treaty discriminates that the target of a common market will be achieved by negotiations classified in ten fields⁶. Nonetheless, the Treaty has established a calendar determining the move towards zero tariffs between the member countries until January 1995. This move was to be accomplished by an automatic linear reduction of tariffs, although the countries could present list of exceptions that would have also to diminish their scope over the period (1991-1995).

It is not the aim of this article to enumerate the results obtained in all group of negotiations selected to establish a common market. Even though it can be stated that clear advances were only achieved in the establishment of a free trade area and the implementation of a external common tariff. In this sense, since January 1995, Argentina, Brazil, Paraguay and Uruguay can be labeled as an "imperfect custom union".

Why "an imperfect custom union"?

Brazil has promoted a Tariff Reform in 1990 that reduced the average tariff from 32% to 14% in three years. The modal tariff of the Reform was 20% and the rates ranged between 0% and 40%. Most of the manufactured products, including capital goods, were under the 20% import tariffs. Import tariffs of 30% fell upon some chemical products, wheat, some food products and some durable consumers such as TV and video-recorders. Import tariffs of 35% covered automobiles, trucks and motorbikes and 40% fell upon computer and some telecommunication goods.

Argentina began its most recent liberalization process at the end of the eighties. In 1991, the import tariffs were 11% for raw materials and intermediary products, zero percent for any items not manufactured in the country and 22% for finished products (Three levels). At the end of 1991, the maximum tariff was raised to 35% but covering only 15 products, and the average tariff dropped from 18.15% to 11.77%. In October 1992, the statistical tax that fell upon imports went up to 10% as a temporary measure to deal with the sharp increase on the trade deficit⁷. Besides, imports of automobiles and few other products are subject to import license.

The negotiations about the external common tariff of MERCOSUR proved to be difficult in some areas. Brazil opposed relatively less resistance to lower common external tariffs. Although Argentina recognized the threat that relatively lower tariffs on commodities such as wheat, maize, dry milk, and rice would allow imports of subsidized products from European Union and the United States, which would damage their interests in the booming Brazilian markets, the Argentine negotiations minimized this preoccupation. In part this was a matter of strategy: if Argentina had claimed that agricultural commodities would have to have higher common external tariffs, this would justify Brazilian negotiations to push for higher tariffs on industrial and related goods.

The final agreement of common external tariffs was reached in terms of a range from 6 to 12%, tariffs considered relatively low by all standards, considering commodities subject to severe price distortion, due to subsidies in world markets and protective domestic policies either in developed countries and developing

⁶ Latter a new group of negotiations was introduced due to demands of the unions. Appendix 1 lists the negotiation groups.

⁷ The statistic as is collected as a mechanism to finance the statistical services related to trade and it is not a trade instrument, according to Argentine government.

countries. These tariffs would characterize a so-called "open bloc", with less potential for trade diversion. In agriculture, MERCOSUR would protect relatively less the member countries.

However, a few issues appeared in the process of discussion of the common external tariffs. One critical issue was related to the lack of a supporting regulation for the case of unfair trade competition. Another regulation deemed necessary was the MERCOSUR legislation on safeguards, for agroindustrial and industrial products as well. This needed legislation has been discussed among the member countries.

In relationship to the industrial sectors, the import tariff structures of both countries reveal different productive environments and, therefore, different strategies which have reflected on the negotiation about the external common tariff.

Argentina, for example, have zero import tariffs for capital and computer goods. In the case of computer this is a consequence of Argentina not being a producer. In relation to capital goods, its share on the value added by industry has dropped from 23.1% to 17.7% between 1985 and 1990 (Kume e Markwald 1993). The strategy after the 1990's was then to eliminate import tariffs and to protect the industry giving a subsidy of 15% to domestic production. Imports of capital goods at international prices are interpreted as a means to accelerate the process of modernization of all industries.

Brazil as the only producer of computer goods and the largest producer of capital goods in MERCOSUR rouse fears of trade diversion on the other member countries. At the same time these are sectors with a history of high protection in the Brazilian economy. And despite of this, in some branches of these industries Brazil has displayed a good performance in the international market. Consequently, the capital and computer goods entrepreneur sectors were not prepared to accept a regime of free trade in relationship to the rest of the world. Tariffs are justified on the grounds that Brazil has a relatively large and diversified capital goods sector with some degree of efficiency and the cost of a zero tariff will be very high.

The solution was to offer a period of transition for these industries until the external common tariff could be implemented. In the case of capital goods it was agreed that an average tariff of 14% to be in force in 2001 and for computer and some telecommunications goods an average tariff of 16% to be in force in 2006. During the period of transition the tariffs of the member countries will be converging to the agreed tariff.

There are also national list of exceptions in relationship to the common external tariff and to the free trade zone between member-countries⁸. It is expected that the process of convergence towards the custom union tariff and the free trade zone will be completed in 2000 for these products. So, at the present stage the external common tariff covers 83% of the tariff items. It was also agreed rules of origin for the products not subject to the common external tariff - regional requirements of 60% for all products, with the exception of capital goods whose rate is 80%.

MERCOSUR, therefore, will be only a truly custom union by 2006

⁸ At January 1995, the national list of exceptions of Argentina in relationship to the external common tariff has 232 items, mostly from steel, chemical, paper and shoe industries. The Brazilian list has 175 items from chemical, petroleum, textile raw materials, rubber, agricultural products. Paraguay has 210 and Uruguay 212 items on their list.

With respect to the other negotiations to create a common market, the results are less clear as it was already pointed out. Efforts to harmonize technical barriers, rules to organize the different types of transportation, rules to integrate the financial markets are all in discussion with different degrees of success. The most visible result of the negotiations until now is undoubtedly the trade aspects.

Part of the difficulties to negotiate derives from the relatively short period proposed by the Treaty of Asunción to create a common market (4 years). This was in some sense expected by governments and private sectors and is not seen as a sign of total impossibility to create a common market.

Other problems derive from specific circumstances that surround the stabilization plans, specially in Argentina and Brazil. For instance, Brazil has not yet realized the Fiscal Reform which is important not only from the point of view of the stabilization plan, but also from the point of view of abolishing a highly distorted tax structure in terms of economic efficiency. In this sense any discussion about tax harmonization turns to be very vague whereas the Brazilian Government does not decide its tax structure.

Negotiations about the best exchange-rate regime in the process of integration of MERCOSUR are also highly complicated when the bigger partners pursue different policies due to their stabilization programs. Argentina's centerpiece of its program is a fixed parity one to one between its currency and the dollar. Brazil implements a system of fixed exchange bands, though the range of the bands can be altered. The possibility of understandings about exchange-rate regimes will probably only be feasible when the fears of a return of high inflation rates have vanished and the two countries can work together an exchange rate policy.

Main Results of MERCOSUR from a Brazilian perspective

Total trade between Brazil and MERCOSUR reached the amount of US\$ 10579.9 millions in 1994, which represents 14% of Brazilian total trade (See Table 3). In 1980, when total trade achieved its peak value of the seventies that figure was only 7%. It must be pointed out also that in 1989 the total trade surpassed the peak value of 1980, but the percentage in relationship to Brazil total trade was the same of 1980. Therefore the result for 1994 indeed represents a change in the structure of Brazilian external trade. Some additional data confirms this result.

MERCOSUR's share in Brazil total exports increased from 7.3% to 13.6% between 1992 and 1994. This huge increase transformed LAIA into the second main market destination of Brazilian exports, just surpassed by the European Union (See Table 4). Also this means that Argentina is now the second main trade partner of Brazil, after the United States⁹.

⁹ Whereas the United States explains around 20% of Brazilian total foreign sales, Argentina's share is 9.5% in 1994. Given the great differences in the market sizes of these countries, the figure for Argentina is significant.

Table 3: Brazil - MERCOSUR: Total of Trade

	US\$ millions
Period	Total trade
1970	388.4
1971	401.5
1972	437.2
1973	659.5
1974	957.9
1975	918.7
1976	1,183.3
1977	1,343.0
1978	1,427.5
1979	2,403.6
1980	2,855.8
1981	2,659.4
1982	1,997.0
1983	1,513.1
1984	1,995.7
1985	1,674.1
1986	2,358.4
1987	2,281.6
1988	2,775.5
1989	3,558.9
1990	3,648.9
1991	4,577.7
1992	6,347.1
1993	8,721.4
1994	10,579.9

Source: BACEN - Brazil

Table 4: Brazil Exports by Market Destination 1991 and 1994

Markets	Share % 1994	Share % 1991	Average Annual Growth 94/91
LAIA	22.37	15.55	25.60
MERCOSUR	13.59	7.28	36.99
LAIA - MS	8.78	8.27	13.50
United States	20.24	19.58	12.49
European Union	27.12	30.89	6.52
Asia	16.21	18.01	7.40
Africa	3.10	3.27	9.23
Others	10.96	12.89	5.95
Total	100.00	100.00	11.25

Source: Balance Comercial -DTIC- Brazil.

The importance of Argentina on the trade flows of Brazil in MERCOSUR is described on Table 5. Brazilian exports to Argentina account roughly for 70% of the total sales of Brazil to the regional bloc. Moreover, the rate of increase of these sales compared to the two other member-countries is much higher. The average annual growth of Brazilian exports to Paraguay and Uruguay between 1991/1994 was 28.5% and 29.5% respectively, whereas for Argentina this rate reaches 41%.

Table 5: Brazilian Exports to MERCOSUR

Countries	Average growth		Share
	1989/1991	1991/1994	1994
Argentina	44.15	40.98	69.85
Paraguay	24.32	28.54	17.79
Uruguay	0.52	29.50	12.36
Total MERCOSUR	30.07	36.87	100.00

Source: BACEN - Brazil.

These figures show that for the Brazilian economy the dynamism of MERCOSUR is highly dependent upon the Argentine market. Therefore the majority of the effects of the custom unions upon the Brazilian agricultural and industrial sectors will certainly arise from Brazil-Argentina trade.

The good performance of Brazil exports to MERCOSUR was translated into the accumulation of big surplus with the other member-countries (See Table 6). With Argentina, the trade balance which was on a deficit situation between 1989 and 1991, reached a surplus of US\$ 1030 millions in 1993, then declined to US\$ 523 millions in 1994.

Table 6: Trade Balance Brazil - MERCOSUR

Countries	1989	1990	1991	1992	1993	1994
Argentina	(528.60)	(767.28)	(138.51)	1,318.56	1,030.03	523.54
Paraguay	(37.83)	50.80	276.52	355.92	688.22	688.04
Uruguay	(262.46)	(290.02)	(97.03)	173.40	348.88	51.49
MERCOSUR	(829.89)	(1,006.50)	40.98	1,847.88	2,067.13	1,263.07

Source: BACEN - Brazil

Is the program of tariff reduction initiate in 1991 the sole explanation for these results? If this were true, Brazil products display high levels of competitiveness in the MERCOSUR markets. The past trade deficits, specially with Argentina, would be due to the structure of import barriers. Moreover, it would be expected important movements of trade diversion, since MERCOSUR as a whole accounted just for 12.7% of total imports of Argentina in 1991, United States for 28.2% and European Union for 29%. In 1993, just Brazil

explained 21 % of total Argentine imports, whereas the share of United States and European Union dropped respectively to 23 % and 25 %.

Actually two main other factors explain the Brazilian performance, besides the stimulus given by the tariff reductions. Whereas the Brazilian economy was experiencing a recessive period in the beginning of the nineties, the Argentine economy was booming¹⁰. Moreover, the fixed-exchange rate associated with the stabilization plan in Argentina led to an expressive overvaluation of the peso in relationship to the Brazilian currency (real). The index of the real exchange rate between real/peso reached 15561 on December 1993, taking as period basis March 1991¹¹.

The decline of trade surplus in 1994 was due to the recovery of economic growth in Brazil, the decline of the overvaluation associated with the stabilization plan in Brazil and measures adopted to diminish the disequilibrium on the trade balance¹².

Consequently the effects of the creation of a free trade zone during 1991/1994 was largely influenced by those macroeconomic factors. And in this sense an exercise that ignores those factors just to give an approach of possible impacts of the custom union may help to evaluate the significance of MERCOSUR to its member-countries.

Another point to be noticed is the composition of trade between Argentina and Brazil. Manufactured exports respond roughly for 55% of Brazilian total exports and 26% of Argentine total foreign sales. Observing the share of manufactures on the bilateral trade, the share of Brazil increases to 80% and of Argentine exports of manufactures to Brazil goes up to 40%. In this sense, MERCOSUR represents an important market for manufactures on both countries¹³.

At a more desegregated level it can be observed on Table 7 that except for coffee and iron ore, the ten main Brazilian exports to Argentina, representing 64% of the total exports to this market, is composed of manufactured goods.

¹⁰ See Section three.

¹¹ See Appendix 4.

¹² This includes agreements in respect to the purchase of Argentine furs and wheat. Imposition of safeguard clauses by Argentina on some Brazilian exports such as paper and paperboard.

¹³ See Appendix 4.

Table 7: Main Brazilian exports to Argentina 1993 and 1994

Products	Share % 1994	Growth % 94/93
Parts, Tractors, Motor Vehicles	9.37	10.26
Passenger Cars	5.96	-13.55
Goods Vehicles	4.74	70.56
Piston engines and parts, nes	3.61	13.17
Iron ore mining	2.28	-1.35
Flat-rolled plated iron or steel	2.25	-17.53
Semi-finish iron or steel	2.08	86.23
Manufacture of chemical products n.e.c.	1.95	10.92
Coffee, not roasted	1.64	81.31
Pumps and compressors	1.58	-4.99
Other products	64.55	13.99
Total Argentina	100.00	13.04

Source: Balanca Comercial -DTIC - Brazil.

The analysis of the ten main products exported from Argentina to Brazil, which represents 55.2% of total exports, shows a high concentration on two products: fuels and wheat (29.6% of total exports). Nonetheless, sales of transport equipment have also a relatively significant weight in the structure of foreign sales to Brazil 12.9% (See Table 8)¹⁴

Table 8: Main Argentine Exports to Brazil, January - October of 1993 and 1994

Products	Share % 1994	Growth % 94/93
Oil	15.49	45.42
Wheat	14.13	-11.42
Gearbox	6.20	23.28
Vehicles	4.54	-8.00
Corn	4.03	-12.08
Gross cotton	2.78	600.68
Other leather and skins	2.23	-4.88
Piston Engines and parts, nes	2.20	-23.09
Soya oil	2.11	115.20
Frozen fishes	1.63	37.46
Other products	44.65	15.77
Total	100	14.29

Source: INDEC - Argentina.

¹⁴ The automotive sector is subject to an agreement that establishes import quotas under zero import tariffs. The sector will only be under total free trade in 2000.

Despite the relative asymmetry between the composition of trade between Argentina and Brazil, intra-industry measures show that the two countries have important linkages within the manufactured sector (See Table 9. Considering yet that intra-industrial trade is one of the main sources of dynamism in the world market, MERCOSUR can provide an additional stimulus to this trade.

Table 9: Intra-Industry trade - 1992

Country	Developed Economies	Developing Economies	USA	UE	LAIA	Brazil	Argentina
Brazil	0.58	0.42	0.64	0.55	0.50	-	0.73
Argentina	0.27	0.63	0.30	0.23	0.70	0.56	-

Source: Commodity Trade Statistic.

Elaboration: FGV/IBRE/CEEG.

With respect to trade in agricultural commodities, besides the data already mentioned and discussed previously, it is worthwhile noticing the so-called strategic trade. By strategic trade we mean a few products which are new markets for all trade partners in MERCOSUR. In the particular case of trade relations between Argentina and Brazil, there are processed food products imported from Argentina which pushed domestic industries in Brazil towards more efficient production and processing. On the other hand, Argentina is a growing market for poultry and hog related products for Brazil.

Finally the results achieved by MERCOSUR, even if more expressive in terms of trade flows, are not restricted to this area. There has been increasingly movements of Brazilian and Argentine firms establishing subsidiaries in the member-countries.

Future Perspectives for MERCOSUR

Problems associated with the stabilization process still surround any analysis about the future perspectives for MERCOSUR. Anyhow, it must be noted that the member-countries succeeded to implement an "imperfect custom union" during a period when the divergence on macroeconomic variables have produced great disparities on the trade balances.

Facing, however, a worsening of the macroeconomic conditions that can really jeopardize the anti-inflationary plans, MERCOSUR doesn't represent an effective discipline framework for its member-countries. The biggest member-country does not display enough stable conditions to be viewed as a reference parameter. Moreover, MERCOSUR's market is relatively small to Brazil to make it to renounce taking some measures that negatively affect the integration process in the presence of threats to the stabilization plan¹⁵.

¹⁵ Soon after the common external tariff was implemented, the accumulation of trade deficits initiated on November 1994 couple with the Mexican crisis led the Brazilian authorities to claim for the introduction of new exceptions to the common external tariff and also in relationship to the free trade between MERCOSUR member countries.

Therefore one must leave aside the question of stabilization just for a moment to think about the future perspectives of MERCOSUR. Two scenarios can be thought. The first where the gains from the process of integration outweighs possible losses on Argentina and Brazil and, therefore, not only the governments but also the private sectors will be interested to push forward the negotiations towards a common market.

The other scenario is just the opposite. Even if there are gains, they are relatively small and move towards a free trade agreement with the United States could be more attractive, for example.

As is well known the actual effects of an integration process depends on a great variety of factors. Besides the true effects of integration must be analyzed on a dynamic perspective.

Even though, as a first step, in order to build up a reference framework, the questions pointed out above can be approached through an exercise of static general equilibrium. This will help define better the possible outcomes for MERCOSUR.

Some Stylized Facts About the Brazilian Economy

After World War II, import-substitution industrialization was the chosen path for the development of the Brazilian and Argentine economies. This led to the creation of an array of trade and domestic interventions that has been in place until the late eighties. Besides, both countries shared the same view towards the agricultural sector: a domestic sector whose aim was to provide cheap food and raw materials for industry. The outcomes of these general policies were, however, slightly different in the two countries.

A big wave of investments associated with the import-substitution model occurred in both countries in the late fifties. Nonetheless, better results in terms of growth rate were achieved by the Brazilian economy. Whereas the average annual rate of growth of Brazil was 9.6% (1956/60), the Argentine's rate was 3%. These differences were translated mainly into a greater growth and diversification of the Brazilian industrial sector compared with the Argentine.

Some problems, however, were common to both economies at that period. Overvaluation of the exchange rate, quantitative controls of imports and exports, and high import tariffs produced an anti-export bias to industrial and agricultural products. Moreover, the inflationary financing of the import substitution model exhausted in the beginning of the sixties imposing a challenge to the continuation of the development strategy.

Brazil's answer proved to be efficient in terms of recovery of the economic growth. The military government of 1964 introduced a series of monetary, fiscal and financial reforms that helped to control the inflationary process and stimulated economic growth. Moreover, the government implemented a system of mini-devaluations of the exchange rate in order to maintain a stable real exchange rate and a generalized scheme of credit subsidies and fiscal incentives that aimed to stimulate, specially, the growth of manufactured exports.

The oil crisis of 1973/74, though constraining the possibility of high rates of growth, did not hamper completely the Brazilian economic growth. Instead of adjusting to the new international scenario, the Brazilian planners used the high level of liquidity of international markets at that time to complete what was understood as the last stage of the import substitution model: the strengthening of a national capital goods sector and the diversification of intermediate goods sector such as chemicals and steel products.

It was only with the second oil shock of 1979 accompanied by a large increase in international interest rates and the foreign debt crisis that the need of an adjustment process became clear to the Brazilian government.

The Argentine's economy, in contrast, did not do very well during the seventies. Whereas the annual average of growth of GDP was 8.6% during this period in Brazil, the same rate was only 2.5% in Argentina. Inflation rates, also, pointed out a worse performance of the Argentine economy compared to the Brazilian (See Tables 10 and 11)

An attempt was made to solve the Argentine crises during 1976/81 by renouncing the import substitution model strategy. Import liberalization, however, took place amid high rates of inflation, a simultaneous opening of the capital account balance of payments and an overvalued peso. The result was a sudden inflow of speculative capital that only gave a temporary impression of stability. The peso (the Argentine currency) collapsed in 1981 and a series of devaluations pressed even more the escalating of the inflation rate. (Argentina 1993).

During the eighties Argentina and Brazil shared again the same basic problems. On the external front, the debt crisis of 1982 meant no longer access to private international capital markets and pressure to the creation of surpluses in the balance of trade. On the domestic front, large fiscal imbalances made increasingly difficult the financing of the public debt. The outcomes were high rates of inflation and low rates of economic growth (see Tables 10 and 11).

Diverse attempts through stabilization plans were made during the eighties. Again both economies followed the same path. The Cruzado Plan in Brazil and the Austral Plan launched in the mid-eighties were the major government initiatives in both countries during this period¹⁶. The initial success on curbing the inflation rates was, however, followed by the reemerging of inflationary pressures.

Table 10: Average Rate of Growth of Inflation

Years	Brazil	Argentina
1970 a 1980	30.14	119.45
1980 a 1986	153.27	269.81
1986 a 1991	780.37	634.42
1991 a 1994	1720.04	12.83

Sources: IBGE, IMF and CEPAL

Certainly there are some differences about the experience of the eighties between Argentina and Brazil. Brazil, for instance, was most successful introducing trade surpluses through manufacture exports. Also the indexation scheme of all contracts in the Brazilian economy protected, in some sense, the production and consumption decisions from the disruptive defects of the inflationary process.

¹⁶ Both plans were based upon price and wage freezes, the launching of a new currency and a vague commitment to tight monetary and fiscal policies.

Table 11: Gross Domestic Product - Brazil and Argentina

Years	Average rate of growth of real GDP	
	Brazil	Argentina
1970/1980	8.63	2.52
1980/1990	1.48	-0.90
1990/1993	2.45	8.03

Source: IBGE, IMF and CEPAL.

Nonetheless, the general diagnosis of the structural imbalances on both countries was basically the same in the late eighties. The import substitution model had exhausted its role as the engine of growth and was only producing distortive effects upon the economy. There was also an urgent need to reform the role of the State which had acted as a player shaping the market forces during the import substitution strategy.

Import liberalization, deregulation of the markets, fiscal reform, privatization of state-owned enterprises have become the key elements of the new development strategy.

The design of the stabilization plans and the degree coverage of the structural reforms are, however, different in Brazil and Argentina.

Argentina's stabilization plan, which has until now managed to control the inflation rate, was launched on April/1991. The centerpiece of the programme was the establishment of free convertibility with a pegged exchange rate set at one dollar to one peso. Moreover, the creation of new money was linked to the behavior of foreign reserves similar to a golden standard regime. The commitment of the government to these new rules were put into legislation approved by Congress.

Simultaneously the government had began to tackle all the structural reforms associated with the new development strategy already pointed out. The average rate of inflation dropped from 2314% in 1990 to 4% in 1994. After years of stagnation, the economy experienced high rates of growth. Nonetheless, the current account deficit reached US\$ 10500 millions in 1994. This latter result, linked with the overvaluation of the peso, is undoubtedly the most fragile element of the stabilization plan¹⁷.

After an unsuccessful attempt to control inflation in 1990, the Brazilian government implemented a new programme in July 1994, which has until now maintained the inflation rate at relatively low levels¹⁸. The confidence on the stabilization plan is not yet very well rooted on the Brazilian society. Fiscal Reform,

¹⁷ The Mexican crisis has worsened even more this problem due to the higher risk now associated with Latin American countries. It has become more difficult to disregard the building up of current account deficits in a moment where the International capital has diminished its degree of confidence on Latin America stabilization plans.

¹⁸ The rate of inflation is slightly increasing since January, but it is still under 2.5% a month.

considered one of the major pre-conditions to sustain macro-economic stability, is still on debate. Privatization goes at a much slower pace than previously announced by the government. The Mexican and Argentine experience, however, has obliged the government to be more careful about accumulating trade deficits and thus the exchange rate policy is more flexible¹⁹.

Potentially the Brazilian economy can respond fairly well to the challenges imposed by a higher degree of trade openness. Since the beginning of the Tariff Reform of 1990, there has been efforts by the productive sector to increase its efficiency²⁰. Nonetheless, macroeconomic stability is still a mayor unknown on the Brazilian scenario.

The stabilization plan in Argentina, albeit some problems, displays a better performance given the clear commitment of the government with the structural reforms and fiscal discipline. However the high rates of growth were mainly due to an increase of service sectors rather than productive sectors. Therefore, the Argentine economy still faces the challenge, specially on industrial sectors, to improve its productivity.

The General Trade Analysis Package

GTAP is a worldwide general equilibrium model developed by Hertel and associates at Purdue University. The aggregation used for this paper consists often commodity and eight regions²¹, namely²²:

Regions: E_U, PAC, BRA, ARG, MEX, NAM, LAM, ROW

Commodities: NATRES, MNFRES, MNFCAP, OTHMEQ, ALLEGRN, NONGRN, LVSTCK, FOODPR, MILK, SERVC.

In addition to the full set of accounting relations required for consistency, the model also includes behavioral and technological restrictions and a full set of price equations. The latter reflects the set of output, input and trade taxes and subsidies as well as transportation costs. Additionally, different treatment is given to primary factors leading to different factor market closures.

GTAP also generates welfare measures that permit an accurate evaluation of welfare. This is indeed a great advantage since it allows the effects of the policy changes to be directly connected to the ultimate objective of trade liberalization, which is national welfare and distribution, thus avoiding the need to concentrate the analysis on approximate measures like trade creation²³.

¹⁹ As already pointed out on Section two this policy is based upon exchange bands.

²⁰ One indicator is the issue of ISO certificates given to Brazilian enterprises that reaches an amount of 600 hundred compared with 40 given to Argentine enterprises.

²¹ The model and the aggregation for this paper were kindly provided by Prof. Tom Hertel whom we deeply thank.

²² Appendix 2 lists the country and commodity compositions of the GTAP/MERCOSUR aggregates.

²³ Brandáo and Martin (p.322) note the following: Rules of thumb based on estimates of trade creation such as that suggested in the Economist (1992, p.55), '...for countries previously separated by quite high trade barriers,

The introduction structure of the model is quite conventional. It is as nested CES, where imported inputs are differentiated by source using Armington parameters and where the imported goods are also differentiated from the domestic goods through another act of Armington parameters. Value added is also produced through a CES which, in turn, is combined (zero substitution) with the aggregate input to generate output.

The three uses of regional income in the model are: private household expenditure, government expenditure and savings. The breakdown of income among the three is determined by a Cobb-Douglas utility; that is, the shares of each of these destinations of income remains a fixed proportion of regional income in the model. Once the share of government is determined, its allocation among commodities is again determined by a Cobb-Douglas process. From there on, government demand follows a similar process of the producer's input demand where domestic goods and imports of different sources are differentiated through a set of Armington parameters. Value added is also produced through a CES which, in turn, is combined (zero substitution) with the aggregate input to generate output.

Private household demand is modeled using a CDE functional form. This is chosen because it can be calibrated rather easily to existing income and price elasticity data and it displays several properties of fully flexible functional forms.

Two types of primary factors are considered. Capital and labor are fully mobile and in consequence they have the same price in all sectors. Land however, which is only used in the agricultural and livestock sectors, is not fully mobile. This is captured in the model using a CET function to reflect the costs of transformation of land used in, say, grain production to livestock.

Another aspect of the model is the global transportation sector. Transportation services are produced using services exported by each region. Data on costs of export services in particular routes is not available, thus the model combines these services into a single composite international transport good. This is achieved using a Cobb-Douglas technology and, in consequence, the share of each region in the provision of services to the global transportation sector is constant. The output of the global transportation service is utilized, in each route and for each commodity, in fixed proportions.

Finally, the policy instruments in the model are output, input, primary factors, and trade taxes and subsidies (tariffs and export taxes and subsidies).

Experiment and Results

The experiment consists of the elimination of all tariffs between Argentina and Brazil and of the implementation of a common external tariff (TEC) for the two countries. The TEC for 2006, the last year of the integration process, was chosen. The experiment thus simulates long run impacts after the adjustments in factor and product markets are completed and when MERCOSUR truly becomes a common market. An additional consideration relevant for the interpretation of the results is that the date base of GTAP contains the tariff structure that existed in Brazil before 1990. In consequence, the results reflect

the gain in welfare due to trade liberalization equals about one fifth of the expansion of trade' cannot be expected to give reliable results in a multilateral context.

both, the unilateral reform made by President Collor's government in the early 1990s, and the MERCOSUR reform.

The tariff structure for Argentina and Brazil and the size of the tariff change for each region and commodity of GETAP/MERCOSUR are contained in Appendix 3. Table 12 shows trade weighted average tariffs. It is immediately clear that tariff levels in Brazil were higher than in Argentina. The two exceptions are grains (ALLGRN) and natural resource based (NATRES) goods. One additional characteristic of the Brazilian tariffs is their substantial variation among regions²⁴, as seen in Table A2, Appendix 3. Most tariffs applied to imports from Argentina were the highest practiced by Brazil. Important exceptions are ALLGRN, NONGRN AND MILK. For Argentina, on the contrary, the tariff structure is more homogeneous and the bias against Brazil, even in the few cases where it exists, is not large.

Table 12: Ad-Valorem Tariffs

Commodities	Argentina			Brazil*		
	Before MERCOSUR	After MERCOSUR	% Change	Before MERCOSUR	After MERCOSUR	% Change
NATRES	19.82	4.99	-74.82	1.27	4.99	292.91
MNFRES	28.86	13.49	-53.26	33.46	13.49	-59.66
MNFCAP	25.45	11.29	-55.64	31.69	11.29	-54.37
OTHMEZ	18.58	13.93	25.03	44.69	13.93	-68.83
ALLGRN	18.12	5.52	69.54	5.70	5.52	-3.16
NONGRN	17.37	8.65	50.20	21.30	8.66	-59.39
LVSTCK	13.85	7.97	-42.45	23.54	7.97	-66.14
FOODPR	17.63	12.36	-29.89	43.86	12.36	-71.82
MILK	21.93	15.08	-31.24	36.19	15.08	-58.33

Source: for tariffs before liberalization, GTAP database; for common external tariff, Ministerio de Industria o Comercio.

Table 12 also shows that substantial liberalization of regional trade with the rest of the world will take place. Nevertheless, the Brazilian tariff for NATRES increases relative to the current level and the tariff for ALLFRN is practically unchanged. The average tariff reduction is of the order of 48 percent for Argentina and of the order of 56 percent for Brazil if we disregard the large increase in tariffs observed for NATRES.

Selected Results

Aggregate Results. MERCOSUR is a small block with respect to the world economy. In this experiment the changes in the world rice indices (see Table 15) are insignificant. The largest (in absolute value) one is -0.11 percent for MNFCAP. Most world prices increase, as should be expected from a tariff reduction. However, for MNFRES, MNFCAP and OTHMEQ, prices decrease. This bears on characteristics of the

²⁴ In GTAP tariffs are not differentiated regionally. The differences appear because of the composition of trade among the regions of the model.

model and of the liberalization process. Imports increase significantly in the liberalizing countries. These increases are larger for MNFRES, MNFCAP and OTHMEQ because of the size of the reduction in tariffs and because they are good substitutes for the more expensive domestic goods in the production process. The easiness with which imported MNFRES, MNFCAP and OTHMEQ can substitute domestic goods worldwide further contributes to the expansion in exports from Argentina and Brazil.

Another characteristic of MERCOSUR is that the two largest partners have fairly closed economies²⁵. The overall impact for Argentina and Brazil is accordingly relatively small. For example:

the increase in GDP (volume) was 0.69 percent for Brazil and practically zero for Argentina;

the change in net primary factor income for Argentina and Brazil is respectively 144 and 0.44. With constant factor endowments, this is equal to increase in the primary factor price index;

the change in aggregate expenditures in Argentina and Brazil is respectively 0.33 and -1.08;

the change in the value of GDP for the two countries was 1.10 and -0.43 respectively due to an increase of 1.10 percent in the GDP price index for Argentina and a reduction of 1.12 percent for Brazil.

Welfare gains associated with MERCOSUR are consistent with results normally found in CGE models. The equivalent variation for Argentina is US\$ 713 million (approximately 0.3 percent of GDP) and for Brazil it is US\$3,080 million (about 0.6 percent of current GDP), more than four times the gain to Argentina. For the world as a whole, equivalent variation is US\$6,055 million. Thus, about half of the world welfare gain accrues to Brazil and about 12 percent accrues to Argentina.

For comparison purposes, we note that Goldin, Knudsen and van der Mensbrugge (1993), using the RUNS model, have estimated gains from full world trade liberalization of the order of 0.4 percent GDP for Brazil and 1.3 percent for Latin America (excluding Brazil and Mexico). The welfare gains for the world as a whole was found to be US\$ 450 billion (1992 dollars). Using the RUNS model, Brandáó and Martin (1993) have found gains of the order of 0.3 and 1.2 percent respectively for Brazil and (other) Latin America from partial liberalization of agricultural trade in OECD and in developing countries. The gain for the world as a whole was estimated at US\$ 139 billion (1992 dollars).

Trade and Production. The next two tables display the changes in exports (Table 13) and imports (Table 14) for Brazil. There is a generalized increase in imports, as a consequence of the reduction in domestic protection. Similarly, Brazilian exports increase. The increase is larger for Argentina because the complete elimination of tariffs will give an incentive to Argentinean households and firms to purchase more from the MERCOSUR partners. However, exports to the other regions of the model increase too. This takes

²⁵ Trade (average of imports plus exports) have been of the order of 7.5 percent from Argentina and 8 percent of GDP for Brazil.

place because cheaper imports lead to substitution of domestic goods not only in consumption, but also in production.

Some aspects to note on Table 13 are,

exports of manufactured goods to Argentina (MNFRES, MNFCAP and OTHMEQ) will more than double when all the adjustments from MERCOSUR are completed. Most other exports to Argentina will increase significantly, particularly those of NATRES, foodpr AND milk;

exports of MNFCAP and OTHMEQ will increase by about 30 percent for all the regions of the model, except, as noted above, to Argentina. This is quite significant in view of the fact that the tariff changes in countries outside MERCOSUR is zero in the experiment; and

the increase in agricultural exports for regions of the model other than Argentina is small. While the overall increase in exports of MNFCAP and OTHMEQ is larger than 50 percent, for most agricultural goods it is less than 20 percent. The noticeable exception is MILK.

We now turn to imports. As expected, there are large increases in imports from Argentina. This reflects the increase in the competitive position of that country vis a vis the rest of the world and the lower prices facing Brazilian households and firms.

Aspects to be noted on Table 14 are the following:

except for ALLGRN, NONGRN and SERVIC all imports from Argentina more than double and in some cases the increase is almost six folds (MNFCAP);

for MNFRES and MNFCAP the increase in imports from Argentina, the European Union and the Pacific Countries, will be at the expenses of imports from other regions in the American continent. For example, imports from NAM of MNFCAP will be reduced by 73 percent;

imports of manufacture goods will generally increase more than imports of agricultural-based goods;

imports of FOODPR increase by about 60 percent. The bulk of this increase comes from Argentina. Trade is diverted from all other regions of the model, except the European Union; and

the European Union and the Pacific Countries will increase their share on Brazilian imports. This reflects the relatively high tariff levels that existed on imports from these countries. An exception to this is NONGRN imports from North America which will more than double, while imports from Argentina and the Pacific Countries increase very little.

Table 13: Percentage Changes in the Volume of Brazilian Exports

Commodities	European Union	Pacific Countries	Brazil	Mexico	North America	Latin America	Rest of the World	Total
NATRES	6.53	6.37	116.58	6.39	6.40	6.31	6.43	10.61
MNFRES	11.29	11.15	132.94	10.83	10.97	10.43	11.3	18.56
MNFCAP	36.28	35.57	251.34	36.41	36.01	34.71	36.17	80.25
OTHMEQ	31.88	31.69	186.95	30.88	31.53	29.97	31.93	51.67
ALLGRN	6.37	6.18	46.62	6.60	5.87	6.41	6.09	8.77
NONGRN	5.76	5.73	67.19	5.76	5.52	5.59	5.75	6.86
LVSTCK	6.61	6.50	54.27	6.32	6.42	6.61	6.52	9.49
FOODPR	8.90	9.28	97.13	8.99	8.85	8.99	9.21	10.60
MILK	6.78	7.18	104.94	7.02	6.55	6.89	6.75	61.45
SERVIC	5.74	5.69	6.63	5.45	5.49	5.56	5.69	5.73

Table 14: Percentage Changes in the Volume of Brazilian Imports

Commodities	European Union	Pacific Countries	Brazil	Mexico	North America	Latin America	Rest of the World	Total
NATRES	117.00	-14.50	135.62	-14.58	-9.85	1.62	-14.86	-8.61
MNFRES	77.95	104.77	421.79	-3.96	-28.34	-17.47	-13.57	57.90
MNFCAP	106.59	221.08	571.24	-5.45	-72.50	17.71	9.01	58.80
OTHMEQ	41.11	59.93	271.74	24.53	13.91	37.16	36.36	39.76
ALLGRN	73.55	74.65	6.33	-28.53	-11.26	40.20	3.80	2.14
NONGRN	56.25	14.15	2.59	-17.08	181.57	-1.63	-1.66	29.34
LVSTCK	41.13	-7.63	103.61	-52.87	-39.40	48.21	44.84	40.50
FOODPR	50.13	-16.74	202.15	-54.85	-45.50	-54.38	-52.05	59.81
MILK	28.45	29.07	135.25	-66.94	25.58	28.08	28.10	47.09
SERVIC	-2.47	-2.27	-4.68	-2.00	-1.89	-2.03	-2.11	-2.26

Source: GTAP database.

Table 16 shows that production will fall in most sectors. This is an expected outcome of the reduction in tariffs. Three exceptions are NATRES, for which the TEC is actually higher than what was practiced by Brazil, SERVIC and LVSTCK (where the increment is small). Total demand for livestock decreases (-0.31 percent) relatively less than the other commodities in the model, despite the large reduction in the tariff rate. The growth in exports is relatively small too, but nevertheless sufficient to induce an expansion of the output of the sector. In Argentina, on the contrary, the output in the livestock sector diminishes slightly, 0.27 percent.

Prices. The MERCOSUR experiment indicates a sharp increase in the domestic merchandise terms of trade for Brazil. The price indices of merchandise exports and imports decrease respectively 2.7 percent and 14.7 percent, giving rise to an increase in the domestic terms of trade of the order of 12 percent²⁶. The changes in the domestic prices for the ten commodities of the model are shown in Table 15.

Table 15: Percentage Changes in World and Brazil's Domestic Prices of Exported and Imported Goods

Commodities	World Price	Export Prices	Import Prices
NATRES	0.03	-1.09	3.30
MNFRES	-0.01	-1.94	-19.03
MNFCAP	-0.11	-4.73	-21.77
OTHMEQ	-0.03	-5.08	-21.80
ALLGRN	0.01	-1.45	-2.71
NONGRN	0.01	-1.50	-13.15
LVSTCK	0.01	-1.42	-14.00
FOODPR	0.02	-1.90	-29.58
MILK	0.01	-1.50	-18.04
SERVIC	0.02	-1.36	0.06
AVERAGE	-	-2.69	-14.66

The change in imported price is consistent with the reductions in tariffs that take place in this experiment. The reduction in export prices is caused by the use of cheaper imports in the production of domestic (and exported) goods and the fixed level of the current account.

Primary Factors We have already noted the impact on total primary factor income. Primary factor use increases in NATRES, LVSTCK and SERVIC (this is shown in Table 16). Consistent with the change in output, labor and capital use in OTHMEQ will be significantly reduced. Land use increases in the livestock sector and decreases in ALLGRN and NONGRN.

²⁶ The corresponding numbers for Argentina are as follows: the change in merchandise export prices is zero and the change in merchandise import prices is -11.4 percent, giving rise to an improvement in the terms of trade of 11.4 percent.

Table 16: Brazil: Percentage Changes in Production and In Primary Factor Use

Commodities	Production	Land	Labor	Capital
NATRES	3.58	0.00	3.62	3.56
MNFRES	-0.13	0.00	-0.09	-0.16
MNFCAP	-1.60	0.00	-1.56	-1.63
OTHMEQ	-6.29	0.00	-6.27	-6.33
ALLGRN	-0.61	-0.24	-0.83	-0.86
NONGRN	-0.63	-0.25	-0.84	-0.87
LVSTCK	0.15	0.38	0.07	0.03
FOODPR	-0.60	0.00	-0.56	-0.62
MILK	-1.67	0.00	-1.64	-1.70
SERVIC	0.43	0.00	0.47	0.39

There are two types of primary factors in the model: labor and capital, which are fully mobile; and land which is sector specific. Accordingly the price changes for the first two are the same in all sectors, namely -0.37 and -0.31 percent respectively. In the case of land, the changes in price differ slightly across sectors -1.421 in ALLGRN, -1.425 in NONGRN and -0.810 in LIVSTCK. This pattern is consistent with the observed changes in land use noted in Table 16. Additionally, because land is not used outside agriculture, the drop in its price is larger than the drop in labor and capital prices which can also be employed in the expanding non agricultural sectors.

Summary and Conclusions

At present, MERCOSUR is an imperfect customs union with a number of exceptions to the common external tariff in place. They must be eliminated before a true customs union starts to exist in South America. Substantial progress however, has been made in the integration process. The most important indication of that is the complete elimination of the tariffs for the member countries. This paper has analyzed the impacts of the tariff reforms that will be in effect when the MERCOSUR agreement is completed, in year 2006.

By the year 2006 a substantial liberalization of trade between the regional block and the rest of the world will take place. Nevertheless, the results show clearly that MERCOSUR is a small regional block both from the world's point of view and from the point of view of the largest partners (Argentina and Brazil). The economy wide effects in both countries are relatively small. But there are very significant changes in trade, both in exports and imports.

Brazil will expand significantly her exports of manufactured and capital goods, of mechanical equipment and of dairy products. The expansion of the latter will be targeted essentially to Argentina, but surprisingly, exports of the others for the rest of the world will grow around 30 percent. This is an indication that, despite the high level of protection given by past policies, some industrial sectors in Brazil are in a position to compete effectively in world markets.

Brazilian imports of most goods will increase. For natural resources, of which Brazil is a net exporter, however there is a decline in imports. This is due to the fact that the common external tariff is higher than

what is currently practiced in Brazil. There will be little increase in imports of grains. Additionally, imports of this commodity from Canada and the USA will decrease and substantial increases from the Pacific Countries and from the European Union will take place. This is likely to be a consequence of lesser wheat imports from Canada and the USA and more imports of rice from the Pacific Countries Surprisingly additional imports from Argentina are not large.

The process of integration is a complex one and success or failure depends on a number of other variables, some of which are non economical. Nevertheless, the results shown here indicate that despite the relatively small impacts, the gains for some sectors may be sizeable. Moreover, in a model like this not all important elements are properly considered. In particular, the positive impact on foreign investment that is likely to occur in consequence of a more transparent and stable trade policy is not fully accounted for.

Additionally, the model does not take into account economies of scale that are likely to exist in several segments of the industrial sectors in Argentina and Brazil and of the fact that the two economies have a significant degree of complementarity. This is not entirely apparent in the results of this paper because of the high level of aggregation of the analysis. Nevertheless, the fact that Brazilian exports of manufactured goods to Argentina increase substantially and the same is true for the Argentine exports to Brazil of livestock, processed food products and dairy products.

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APPENDIX 1

Structure of negotiations of MERCOSUR

The treaty of Asunción has created two intergovernmental groups to pursue the negotiations related do MERCOSUR they are:

* The market Common Counsel which has the power to deliberate about the measures that have to be implemented towards the creation of a common market.

*The Market Common Group which has the task to implement measures, agreeded by the Market Common Counsel, propose and organize the steps towards the common market. This Group conducts the work through eleven technical sub-groups:

*Trade Matters

*Custom-duties Matters

*Technical Norms

*Monetary and Fiscal Policies related to Trade

*Land Transportation

*Maritime Transportation

*Industry and Technological Policies

*Agriculture policy

*Energy Policy

*Coordination of Macroeconomic Policies

*Labor Relations, Employment and Social Security

On December 1994, three more inter-governmental groups were created.

*Trade Commission responsible for the supervision of the implementation of the common external tariff and problems related to it as custom valuation and rules of origin.

*Parliamentary Joint Commission

*Consultant Forum for Social and Economic Matters composed by private and governments members.

APPENDIX 2

Regions and Commodity of the MERCUSOR Aggregation of GTAP

Regions:

E_U European Union

PAC: Pacific Countries. Australia, New Zealand, Japan, Republic of Korea, Indonesia, Malaysia, Philippines, Singapore, Thailand, China, Hong Kong and Taiwan.

Brazil

Argentina

Mexico

NAM: North America, Canada and United States of America.

LAM: Latin America. Rest of Latin America.

ROW: Rest of the World. Sub Saharan Africa, Middle East and North Africa, Economies in transition, South Asia and Others.

Commodities:

NATRFS: Natural Resources, Forestry, Fisheries, Coal, Oil, Gas, Other Minerals and Lumber.

MNFRES: Manufactured Goods Intensive in Natural Resources. Textiles, Wearing Apparel, Leather, Pulp Paper, Petroleum, Coal, Nonmetallic Minerals, Primary Ferrous Metals, Nonferrous Metals and Fabricated Metal Products.

MNFCAP: Manufactured and Capital Goods. Chemical rubbers and plastics, Transport Industries and Other manufacturing.

OTHMEQ: Other Mechanical Equipment, Machinery and Equipment.

ALLGRN: Grains, Paddy Rice, Wheat, Maize and Cotton.

NONGRN: Other Agricultural Products. Horticulture, Fruits, Vegetables, Soybean and Soybean produce and Others.

LVSTCK: Livestock. Wool, Meat Products, Live animals and Other Livestock Products.

FOODPR: Processed Food Products. Processed Rice, Coffee, Sugar, Cocoa, Other Beverages, Tobacco and Other Processed Food.

MILK: Dairy Products.

SERVIC: Services, Electricity, Water, Construction, Trade an Transport, Other Private Services, Other Government Services; Ownership of Dwellings.

APPENDIX 3

Base Year Tariffs for Argentina and Brazil

Table A-3.1: Tariffs Practiced by Argentina

Commodities	European Union	Pacific Countries	Brazil	Mexico	North America	Latin America	Rest of the World	Mean Tariff
NATRES	1.27	1.18	1.24	1.12	1.18	1.16	1.19	1.20
MNFRES	1.28	1.33	1.26	1.31	1.31	1.29	1.29	1.29
MNFCAP	1.21	1.27	1.31	1.15	1.25	1.28	1.17	1.25
OTHMEQ	1.11	1.20	1.23	1.21	1.23	1.22	1.22	1.19
ALLGRN	1.20	1.13	1.13	1.12	1.18	1.16	1.20	1.18
NONGRN	1.18	1.14	1.18	1.15	1.14	1.19	1.19	1.17
LVSTCK	1.15	1.17	1.13	1.17	1.16	1.15	1.13	1.14
FOODPR	1.20	1.20	1.18	1.23	1.13	1.17	1.22	1.18
MILK	1.21	1.21	1.21	1.00	1.15	1.24	1.24	1.22

Source: GTAP database.

Table A-3.2: Tariffs Practiced by Brazil

Commodities	European Union	Pacific Countries	Brazil	Mexico	North America	Latin America	Rest of the World	Mean Tariff
NATRES	1.19	1.01	1.15	1.00	1.01	1.04	1.00	1.01
MNFRES	1.43	1.47	1.51	1.29	1.23	1.26	1.27	1.33
MNFCAP	1.48	1.57	1.53	1.32	1.11	1.36	1.36	1.32
OTHMEQ	1.46	1.49	1.50	1.43	1.40	1.45	1.45	1.45
ALLGRN	1.22	1.23	1.05	1.00	1.05	1.17	1.09	1.06
NONGRN	1.31	1.22	1.10	1.13	1.49	1.18	1.18	1.21
LVSTCK	1.26	1.15	1.27	1.00	1.05	1.27	1.26	1.24
FOODPR	1.58	1.40	1.63	1.23	1.28	1.24	1.25	1.44
MILK	1.36	1.36	1.36	1.00	1.35	1.36	1.36	1.36

Source: GTAP database.

Table A-3.3: Tariff Changes in Argentina*

Commodities	European Union	Pacific Countries	Brazil	Mexico	North America	Latin America	Rest of the World
NATRES	-17.61	-11.21	-19.23	-6.44	-11.07	-9.81	-11.70
MNFRES	-11.53	-14.56	-20.77	-13.06	-13.67	-12.11	-11.75
MNFCAP	-7.69	-12.35	-23.68	-2.85	-11.29	-13.34	-5.28
OTHMEQ	2.73	-4.88	-18.57	-5.61	-7.53	-6.69	-6.69
ALLGRN	-11.78	-6.81	-11.64	-5.78	-10.62	-8.75	-12.21
NONAGRN	-8.08	-4.98	-15.40	-5.85	-5.03	-8.85	-8.85
LVSTCK	-5.97	-8.03	-11.54	-7.56	-6.79	-5.87	-4.55
FOODPR	-6.28	-6.65	-14.90	-8.78	-0.60	-4.17	-8.25
MILK	-4.90	-4.90	-17.36	15.08	0.17	-7.42	-7.42

*Percentage Change in (1 + tariff rate)

Table A-3.4: Tariff Changes in Brazil*

Commodities	European Union	Pacific Countries	Argentina	Mexico	North America	Latin America	Rest of the World
NATRES	-11.58	4.46	-13.29	4.55	3.56	1.34	4.59
MNFRES	-20.74	-22.58	-33.73	-11.88	-7.37	-9.58	-10.32
MNFCAP	-24.71	-29.23	-34.45	-15.81	0.26	-18.35	-17.53
OTHMEQ	-22.02	-23.71	-33.38	-20.16	-18.88	-21.48	-21.48
ALLGRN	-13.85	-13.93	-4.50	5.52	0.47	-9.51	-3.09
NONGRN	-16.89	-10.71	-9.25	-3.93	-27.23	-7.60	-7.60
LVSTCK	-14.18	-6.21	-21.03	7.97	2.47	-15.00	-14.57
FOODPR	-28.73	-19.58	-38.48	-8.84	-12.26	-9.05	-9.98
MILK	-15.57	-15.62	-26.63	15.08	-15.02	-15.45	15.45

* Percentage Change in (1 + tariff rate)

APPENDIX 4

Table A-4.2: MERCOSUR - Real Exchange Rate Index
March/1991 = 100

Years	Months	R\$/P\$	R\$/US\$	P\$/US\$	
1991	Mar.	100.00	100.00	100.00	
	Apr.	107.01	103.39	96.62	
	May	110.66	110.91	100.23	
	June	111.41	110.19	98.91	
	Jul.	112.59	109.13	96.97	
	Aug.	111.25	105.89	97.88	
	Sep.	113.51	111.57	88.29	
	Oct.	129.30	124.97	96.86	
	Nov.	130.21	126.02	96.78	
	Dec.	136.70	131.47	96.18	
	1992	Jan.	139.39	132.94	95.03
		Feb.	141.92	130.54	91.94
Mar.		146.02	134.51	92.33	
Apr.		148.33	135.35	91.25	
May		143.07	131.38	91.45	
June		143.53	130.48	90.91	
July		145.18	132.10	90.99	
Aug.		147.31	134.25	91.13	
Sep.		148.23	135.51	91.69	
Oct.		149.02	136.67	91.71	
Nov.		152.14	139.06	91.40	
Dec.		150.12	138.24	92.09	
1993	Jan.	147.23	138.13	93.85	
	Feb.	150.67	142.71	94.53	
	Mar.	149.89	142.87	95.31	
	Apr.	150.85	145.13	96.20	
	May	156.38	151.60	97.57	
	June	155.30	153.74	98.68	
	July	155.70	154.56	99.22	
	Aug.	153.78	156.00	101.46	
	Sep.	153.54	157.20	102.38	
	Oct.	156.73	150.73	101.88	
	Nov.	157.22	161.17	102.51	
	Dec.	155.61	162.26	104.27	
1994	Jan.	153.56	162.41	105.83	
	Feb.	153.87	162.63	105.63	
	Mar.	150.02	158.83	105.88	
	Apr.	151.93	162.57	107.00	
	May	155.18	186.44	107.26	
	June	152.05	183.73	107.68	
	July	155.71	189.35	108.78	
	Aug.	147.59	181.72	109.58	
	Sep.	141.25	153.60	108.74	
	Oct.	135.11	145.63	107.76	
	Nov.	131.12	148.82	111.98	
	Dec.	130.51	148.31	114.02	

Source: Central Banks of countries.

Table A-4.3: Brazil: Exports to Argentina, by Main Groups

Categories	1987	1988	1989	1990	1991	1992
	In US\$ Millions					
Food products	75.6	50.8	31.1	48.4	120.7	255.1
Agricultural/ Raw Materials	16.8	24.4	11.5	9.2	20.3	24.5
Fuels	23.2	38.1	1.6	7.6	8.1	20.2
Ores and Metals	96.5	102.7	148.3	120.9	134.6	155.1
Manufactured Goods	399.6	538.4	372.3	456.9	1,190.5	2,814.2
	611.8	754.7	568.6	645.1	1,475.5	3,089.7
	Percent of Total Trade					
Food products	12.3	6.7	5.5	7.5	8.2	8.3
Agricultural/ Raw Materials	2.8	3.2	2.0	1.4	1.4	0.8
Fuels	3.8	5.0	0.3	1.2	0.5	0.7
Ores and Metals	15.8	13.6	26.1	18.7	9.1	5.1
Manufactured Goods	65.3	71.3	65.5	70.8	80.7	85.2
Total Exports	100	100.0	100.0	100.0	100.0	100.0

Source: CEPAL

Brazil: Total Exports, by Main Groups

Categories	1987	1988	1989	1990	1991	1992
	In US\$ Millions					
Food products	8470.2	9919.7	9372	8396.4	7881.3	9206.8
Agricultural/ Raw Materials	924.5	1129.5	1167.7	1051.1	1047.2	1165.5
Fuels	952.6	897.6	853.1	653.2	437	576.7
Ores and Metals	2888.5	3824.6	4190.8	4297.3	4552.2	4300.7
Manufactured Goods	12995	1771.2	18393.6	16285.1	17345.3	20833.9
Total of Exports	26225.6	33760	34293.9	31411.6	31621.8	36206.8
	Percent of Total Trade					
Food products	32.3	29.4	27.3	27.7	24.9	25.4
Agricultural/ Raw Materials	3.5	3.3	3.4	3.3	3.3	3.2
Fuels	3.6	2.7	2.5	2.2	1.4	1.6
Ores and Metals	10.3	11.3	12.2	13.7	14.4	11.9
Manufactured Goods	49.5	52.5	53.6	51.5	54.9	57.0
Total Exports	100	100.0	100.0	100.0	100.0	100.0

Source: CEPAL

Table A-4.3: Argentina: Exports to Brazil, by Main Groups (continuacion)

Categories	1987	1988	1989	1990	1991	1992
In US\$ Millions						
Food products	272.8	275.2	575.2	792.4	822.9	846.7
Agricultural/ Raw Materials	8.0	17.4	12.3	15.4	10.5	21.6
Fuels	0.1	4.1	19.3	5.8	29.8	122.9
Ores and Metals	15.6	12.2	24.5	21.3	13.4	9.2
Manufactured Goods	242.7	298.9	492.6	587.3	611.5	871.0.2
Total of Exports	539.4	607.9	1,124.4	1,422.7	1,488.5	1,671.4
Percent of Total Trade						
Food products	50.6	45.3	51.2	55.7	55.3	50.7
Agricultural/ Raw Materials	1.5	2.9	1.1	1.1	0.7	1.3
Fuels	0.0	0.7	1.7	0.4	2.0	7.3
Ores and Metals	2.9	2.0	2.2	1.5	0.9	0.6
Manufactured Goods	45.0	49.2	43.8	41.3	41.1	40.1
Total Exports	100	100.0	100.0	100.0	100.0	100.0

Source: CEPAL

Argentina: Total Exports, by Main Groups

Categories	1987	1988	1989	1990	1991	1992
In US\$ Millions						
Food products	3,883.5	5,447.5	5,259.2	6,948.5	7,191.2	7,484.2
Agricultural/ Raw Materials	225.1	432.8	333.97	486.9	408.4	296.1
Fuels	97.4	157.0	333.5	965.4	768.4	1,086.3
Ores and Metals	153.45	221.16	246.48	302.1	203.42	142.9
Manufactured Goods	1,996.2	2,871.4	3,382.2	3,616.4	3,399.5	3,241.6
Total of Exports	6,380.2	9,134.8	9,565.4	12,351.5	11,974.9	12,234.9
Percent of Total Trade						
Food products	61.1	59.6	55.0	58.3	60.1	61.0
Agricultural/ Raw Materials	3.5	4.7	3.5	3.9	3.4	2.4
Fuels	1.5	1.7	3.5	8.0	6.4	8.9
Ores and Metals	2.43	2.4	2.6	2.4	1.7	1.2
Manufactured Goods	31.4	31.4	35.4	29.3	28.4	26.5
Total Exports	100	100.0	100.0	100.0	100.0	100.0

Source: CEPAL