

REGIONAL TRADE AGREEMENTS FOR MERCOSUR: A COMPARISON BETWEEN THE FTAA AND THE FTA WITH THE EUROPEAN UNION

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ABSTRACT. This paper analyzes the impact on Mercosur of a free trade area in the Americas (FTAA) and a free trade area with the EU. The results show that trade liberalization generates substantial economic gains for Mercosur, although the FTAA option is slightly inferior to that of the FTA with the EU. Hemispheric integration stimulates export specialization in manufacturing industries relative to primary sector industries. Latin America greatly contributes to this result, since exports to this destination have a higher capital and technology content than exports to North America. The FTA with the EU expands agricultural exports.

JEL Classification: C68; F13; F15.

Keywords: CGE Models; Trade Related Externalities; Regional Integration; Scale Economies.

RÉSUMÉ. Cet article analyse les répercussions, pour le Mercosur, d'une zone de libre-échange des Amériques (ZLEA) et celles d'une zone de libre-échange avec l'Union européenne (UE). Les résultats montrent que la libéralisation commerciale génère, pour le Mercosur, des gains économiques très importants, bien que légèrement moindres dans le cas de la zone avec les Amériques comparés à ceux obtenus avec l'UE. L'intégration hémisphérique stimule la spécialisation à l'exportation dans les industries manufacturières relativement à celles du secteur primaire. L'Amérique latine contribue largement à ce résultat car les exportations vers ce marché ont un contenu en capital et en technologie plus élevé que celles à destination de l'Amérique du Nord. L'accord de libre-échange avec l'UE accroît les exportations agricoles.

Classification *JEL*: C68; F13; F15.

Mots-clefs: Modèles EGC; externalités liées au échanges; intégration régionale; économies d'échelle.

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■ INTRODUCTION

As regional integration has proliferated in the Western Hemisphere and elsewhere, it has increasingly become a promising policy instrument for the challenges developing countries face in integrating their economies into the global markets. Mercosur countries have adopted this strategy and, since the signing of the Treaty of Asuncion in 1991, they have aimed to consolidate their integration efforts. During the 90s, the bloc eliminated most of the trade barriers among themselves and established an "almost perfect" customs union. For a decade, the group achieved one of the highest levels of integration in Latin America; however, the economic slowdown in the region in the last few years, and especially in Argentina, has put a halt to that virtuous process, which brought fast export growth and promoted export diversification among its members. In spite of its current weakness, Mercosur is still leading the four member countries' international agenda.

Since the launch of the customs union, Mercosur has been seeking an international agenda as a bloc, and now faces two challenging negotiations: a free trade area in the Americas (FTAA) and the a free trade area with the European Union. The countries in the Hemisphere formally launched negotiations to create a hemisphere-wide FTA by 2005 at the second Summit of the Americas in April 1998. In spite of considerable skepticism regarding the prospects of liberalizing a number of sensitive sectors, the FTAA process has steadily progressed and has already generated significant positive impacts in a variety of areas. Among other things, it has increasingly served as a catalyst for widening and deepening regional integration, as well as supplementing the commitment of the multilateral system to achieve more free and open trade in the hemisphere and beyond.

Trade talks between Mercosur and the EU started with the Interregional Framework Cooperation Agreement, signed in December 1995, which was designed to increase economic cooperation, enhance political dialogue and prepare for the bilateral liberalization process. At the Rio de Janeiro Summit, held in June 1999, the two sides agreed to launch negotiations for the creation of an FTA through a gradual and reciprocal process. Although both blocs recognize the importance of creating an FTA, one of the most difficult challenges lies in the negotiations in agriculture, in which Mercosur has a clear competitiveness, while the EU maintains a protectionist CAP (Common Agricultural Policy). This issue is increasingly dominating the agenda of the trade negotiations, and the possibilities of deepening and balancing trade links between the two blocs will depend greatly on the progress in this area. An important aspect of the Mercosur-EU relationship is that in light of the growing US trade dominance and the ongoing hemispheric negotiations, Mercosur views the EU as a counterbalance to the US, particularly in the FTAA negotiation process. For the EU, Mercosur is an important extra-regional trade partner; it absorbs some 50 percent of its exports to Latin America, and represents half of total exports from Latin America to the EU market. Mercosur has been a traditional stronghold in the Americas, and is now an increasingly important part-

ner to block US dominance and to restore its lost share in Latin America by strengthening trade relations and promoting business opportunities. Since the EU and the US are competitors in the South American market, this is a very important parallel agenda to the FTAA.

It is expected that these agreements will bring about large gains and benefits for Mercosur in both trade and GDP growth, but also substantial structural changes with important domestic economic and political implications. In this paper, we analyze the potential impact on Mercosur countries of the formation of the two FTAs (individually and simultaneously considered), using a computable general equilibrium (CGE) model. We use a multi-country, multi-sector, and comparative static model benchmarked in 1997. The model incorporates trade-linked externalities that increase efficiency in the production process. It is widely acknowledged how important economies of scale can be in assessing the results of trade liberalization. In this spirit, the model also incorporates economies of scale in the manufacturing sectors, thus allowing countries to take further advantage of the scale of the new market created.

As in most studies dealing with trade liberalization, we use tariff elimination as the main trade policy variable. Tariff protection in the paper includes ad valorem as well as ad valorem equivalents of specific and mixed tariffs plus tariff-rate quotas (TRQ). The inclusion of the non-ad valorem protection is an important issue in order to have a model as close to reality as possible, since nearly 45 percent of agricultural tariff lines are specified in non-ad valorem terms in the US and the EU.

In the simulations, it is assumed that all trade barriers in the model are completely removed, even in agricultural products in the developed countries. It is likely, however, that a final agreement may exclude sensitive agricultural products, especially in the EU FTA case; thus our simulation results should be interpreted carefully, and conditioned on the achievement of full liberalization in all sectors. The results show the large trade creation generated by the two agreements, although we also observe some trade diversion away from the extra-agreement partners when tariffs are removed. While free trade with the EU brings about higher gains in terms of growth in trade and GDP for Mercosur, the Hemispheric integration promotes more capital and technology intensive manufactured exports than integration with the EU market. In relative terms, exports to Latin American partners in the FTAA agreement are more oriented towards manufactured exports than exports to the US market (especially for Brazil). Since countries may be interested in increasing net exports of technology intensive goods, these findings can be extremely useful. The sectoral results also allow for the identification of the effects on sensitive sectors and to target key dynamic industries. The combined net gains of achieving the two agreements simultaneously are greater than the sum of the individual effect, since trade creation increases and trade diversion decreases. Contributing to the observed increase in trade creation is the realization of greater economies of scale resulting from an enlarged export market.

We also observe that the gains in production are heterogeneously distributed across sectors. The impact is greater on the primary sector, since its base production is relatively small, and

the benefits of the realization of economies of scale in manufactures spill over to the rest of the sectors as output further grows in all industries (with the lone exception of the contracting machinery and equipment sector in Argentina).

The rest of the paper is organized as follows. It presents the model and its main characteristics. Then, it analyzes the countries' trade at the benchmark year, it deals with the results and, finally, concludes.

■ THE MERCOSUR CGE MODEL

This section presents a brief description of the Mercosur CGE model. The model is a multi-region, multi-sector and static general equilibrium model with 15 sectors and 12 regions that follows the standard theoretical specifications of trade-focused CGE models.² All regions are fully endogenized, including the rest of the world, and linked through trade.³ The model deals with the real side of the economy and therefore does not consider financial or monetary markets. The base year used is 1997. TABLE 1 summarizes the main features and assumptions underlying the model.

The model incorporates elements crucial to an accurate evaluation of Mercosur's integration policy. It identifies key industries and partners of the block's external agenda and incorporates the main trade agreements in effect in the Western Hemisphere: US preferential trade arrangements with Latin American countries (GSP, Caribbean Basin Initiative, Andean Trade Preferences Act), bilateral agreements (Mercosur-Chile, Chile-Canada, Mexico-Chile), and regional agreements (Mercosur, NAFTA, CACM and CARICOM, Andean Community, and G-3 among Mexico, Colombia and Venezuela).⁴ Obviously, the model also incorporates the EU.

The Mercosur CGE model extends beyond standard static CGE models in two directions. First, it incorporates trade-related externalities that induce efficiency gains as a result of increased trade. It is widely acknowledged that greater liberalization has dynamic effects resulting from economies of scale, technical changes, technological spillover, specialization and increased investment (Lewis, Robinson and Wang, 1995; Coe, Helpman and Hoffmaister, 1997). Today this is a critical element in Latin America where trade, namely exports, has become an important source of growth and foreign currency earnings and a key policy variable. In order to capture some of these dynamic effects, the model includes three types of trade-productivity links.⁵ The first one is a sectoral export externality linked to sectoral export performance: higher sectoral export growth leads to an increase in domestic productivity at the sectoral

2. The model is an extension of Dervis, de Melo and Robinson (1982). The sectors of the model are: grains; vegetables, oilseeds and soybeans; sugarcane and coffee; livestock and other agriculture; mining; meat products; processed foods; textiles and apparel; other light manufactures; petroleum and chemicals; iron and steel; automobiles and parts; machinery and equipment; utilities and construction; and trade and services.

3. The regions are: Argentina, Brazil, Chile, Canada, United States, Mexico, Central America and the Caribbean (CA), Colombia, Venezuela, Rest of Andean Community (Rest AC), European Union, and Rest of the World (ROW).

4. That is, preferential tariff treatment from these agreements is incorporated.

5. The model draws its theoretical structure from de Melo and Robinson (1992), and follows the work of Hinojosa-Ojeda, Lewis and Robinson (1995, 1997) on Western Hemisphere integration in its empirical implementation.

Table 1 - Main features and assumptions of the Mercosur CGE model

Items	Description
1. Production sectors	All regions produce 15 goods using primary inputs and intermediate goods with a CES production technology. The 15 sectors in ROW are fully endogenized. Version A assumes CRTS across sectors. Version B assumes IRTS for the manufacturing industries.
2. Market structure	Version A applies perfect competition to all sectors. In version B, manufacturing industries face a contestable market structure, and the other sectors a perfect competition structure.
3. Demand	Final demand in each country or region is derived from household's utility maximizing behavior subject to budget constraint. Intermediate demands are determined by the fixed proportion of the input-output coefficients.
4. Trade	Exports are specified by a CET function, and differentiated by market of destination and from domestic supply. Imports are modeled with a CES specification, and differentiated by market of origin.
5. Factors	
(i) Land	Sectorally mobile and used only in agriculture. Total supply in each country or region is fixed.
(ii) Capital	Sectorally mobile, but immobile internationally. Total supply in each country or region is fixed.
(iii) Labor	Same as capital.
6. Trade-linked externalities	
(i) Sectoral export externality	
(ii) Import externality of intermediate inputs and capital goods	
(iii) Aggregate export externality	
7. Major assumptions	
(i) Saving-Investment Identity: Current amount of savings are fully utilized for investment.	
(ii) Balanced trade: Trade remains balanced for each country and region; i.e. initial balance of trade in goods and services remains constant.	
(iii) Balanced budget: Government balances revenues and expenditures including exogenous foreign transactions.	
(iv) No financial market: The model deals with the real side of the economy.	

level. The second one is an externality associated with aggregate imports of intermediate inputs and capital goods, the degree of efficiency gains in each sector depending on the import share of intermediates and capital goods in production. The last one is an aggregate export externality; in this case, an increase in total exports raises the physical productivity of capital, thereby leading to economy-wide efficiency gains in the production process.

The three externalities are expressed in equations (1)-(3). E_i^k is sectoral exports where i represents the sector and k the region, $ETOT^k$ and $MTOT^k$ correspond to the aggregate exports and imports in each region. The exponents ηe^k , ηm^k and ηk^k are the externality elasticities, and n_i is the import share of intermediate inputs and capital goods. The subscript 0 refers to the benchmark.

$$\text{Sectoral export externality:} \quad SEE_i^k = \left(E_i^k / E_{0i}^k \right)^{\eta^e} \quad (1)$$

$$\text{Import externality:} \quad ME_i^k = n_i \cdot \left(MTOT^k / MTOT_0^k \right)^{\eta^m} + (1 - n_i) \quad (2)$$

$$\text{Aggregate export externality:} \quad AEE^k = \left(ETOT^k / ETOT_0^k \right)^{n^k} \quad (3)$$

The sectoral export externality (SEE_i^k) and import externality (ME_i^k) improve efficiency in the use of factors of production and modify the factor demands derived from the firm's optimization behavior. The aggregate export externality (AEE^k) improves capital productivity, which is embedded in the capital stock.

The externality elasticities are key parameters that will influence the simulation results. We used estimations from the work of Moreira and Najberg (2000) on productivity of Brazilian manufacturing industries in 1990-97, the most expansionary phase of the Mercosur integration process. The parameters are estimated from sectoral trade data for Brazil and are applied to other regions in Latin America in the model, adjusted by trade flows with industrial countries and regions.⁶ In all regions the estimations of the trade externalities are larger in manufacturing sectors than in agricultural ones.

A second extension of the model is the inclusion of economies of scale in manufacturing industries. Following the pioneering work by Harris (1984), the nature of industrial organization – scale economies, imperfect competition, and product differentiation – has been introduced into the static framework, and applied to the evaluation of trade liberalization (Rodrik, 1988; Norman, 1990; Melo and Tarr, 1992).⁷ The degree of economies of scale is specified in the model with one parameter, the cost disadvantage ratio (CDR), defined by the difference between average cost and marginal cost over average cost for the industry or representative firm in each sector, namely the ratio of fixed cost over total cost. Thus, scale economies are modeled by introducing a fixed cost component in the cost function, where the fixed cost component is directly estimated by multiplying the CDR by the total cost. Under the assumption of uniform factor share between the fixed and value-added components at benchmark, we derive the factor demands associated with each component. The

6. For the developed countries, the parameters were estimated on the basis of the productivity growth analysis by Roberts (2000) and Stiroh (2001) for the United States; for Canada and the European Union, we sectorally adjust the estimations done by Lewis, Robinson and Wang (1995), and Hinojosa-Ojeda, Lewis and Robinson (1997). The externality values range from zero (no externality) for agricultural sectors such as livestock and services to 0.25 for some capital and intermediate goods.

7. Some applications for multi-region models include Roland-Holst, Reinert and Shiells (1994) for NAFTA, Harrison, Rutherford and Tarr (1994) and Brown, Deardorff and Stern (1995) for Chile's accession to NAFTA and for hemispheric integration. On Mercosur, Flores (1997) examined trade policy scenarios using a multi-region static model with imperfect competition and scale economies.

larger the CDR, the greater the potential gains from trade liberalization due to the realization of scale economies. Industrial data to estimate the CDR (or direct estimations drawn from the literature) are available for four countries: Brazil, Mexico, the United States, and the European Union. The parameter values for the other Latin American countries are averaged from these industrial data from the Western Hemisphere countries.

To model the presence of scale economies in manufactures, we apply a contestable market structure. This is the simplest way to deal with increasing returns to scale in a CGE model, since it implies a structure analogous to perfect competition in the presence of constant returns to scale. Contestable market assumes low-cost entry or exit and that the threat of entry drives the incumbent firms to behave competitively so that it sets price at average costs. Thus, the average cost pricing under the contestable market implies that no firm will enter or exit from the industry. Since the number of firms in an industry is constant, the efficiency gains are directly influenced by industry output as each firm moves down its average cost curve and by the trade externalities arising from increased trade; thus if trade liberalization leads to an expansion of output, the incumbent firms will increase production while lowering their average costs.

The rest of the model follows the standard specifications for trade-focused CGE models. Exports are modeled with a constant elasticity of transformation function (CET), differentiated by country of destination. Following the "Armington" assumption, imports are modeled by a constant elasticity of substitution (CES) function, differentiated by country of origin. The rest of the world is simply modeled as a large supplier of imports to, and demander of exports from, each of the partners. Since the model includes a wide country coverage and, accordingly, the rest of the world (ROW) contracts, it would not be realistic to model trade with the ROW at fixed world prices. Instead, we modeled it with a upward-slope export supply curve and downward-slope import demand curve.

In the model, there are three key macro closures: saving-investment identity, balance of trade, and balanced budget. Since our model is a comparative static model, investment is to be completely financed by savings from various sources in each region. Trade is also balanced for each region, valued at world prices. In other words, the initial balance of trade (in goods and services) remains constant, and the exchange rates are the endogenous variables that adjust to achieve external balance in each region. The government also maintains a balanced budget. On the revenue side, taxes from various sources are endogenous while foreign borrowing and income transfers to institutions are set exogenously. On the expenditure side, government consumption is held constant in real terms, while the nominal expenditure is endogenized. Government savings are the residual from total revenue minus total expenditure.

It is important to note that although the introduction of trade externalities and scale economies in the model will clearly lead to a higher output expansion after a trade liberalization, the effects on resource allocation among sectors are, ex-ante, ambiguous, being that this is

merely an empirical question. For example, factor demand per unit of output decreases, as externalities enter into play especially in manufacturing industries, but the overall factor demand per industry depends also on the effects on total output, which in turn depends on other elements such as trade-externalities and degree of economies of scale in other countries, initial sectoral protection, etc.

■ ECONOMIC STRUCTURE AT BENCHMARK

A close look at the structure of production, trade and protection of the countries in the base year is crucial in understanding the simulation results.⁸

The traditional Heckscher-Ohlin theory based on different relative factor endowments may explain much of the trade patterns among countries. Compared with the US and the EU, which are relatively more capital intensive and have a revealed comparative advantage in the production and export of capital-intensive goods, Mercosur countries show a revealed comparative advantage in the production of labor-intensive goods. Within Mercosur, Brazil is more capital intensive than Argentina and its heavy manufactures exports account for some 40 percent compared with 28 percent in Argentina. Yet, both Argentina and Brazil are more capital-intensive than Central America and Caribbean (CA) and the Andean Community and on average, supply more capital and technology-intensive manufactured goods.

Regarding the patterns of trade, Brazil is the main destination market for Argentine exports, a trend that has intensified since the formation of Mercosur. In 1997, Argentina's exports to Brazil amounted to almost a third of its total exports; and imports from Brazil had a share of around 20 percent of the country's total imports. On the other hand, Brazil's dependency on the Argentine market is smaller (the Argentine share in both Brazilian exports and imports was some 10 percent). Intra-regional trade between Argentina and Brazil is highly characterized by intra-industrial trade of manufactures, accounting for more than 70 percent of the intra-regional trade. By product, automobiles and parts are the leading sectors (almost 30 percent), followed by machinery and equipment and petroleum and chemicals – particularly in Brazil. There is, however, considerable asymmetry in the structure of intra-regional trade between Argentina and Brazil. Exports of agricultural origin (grains, processed foods and vegetables) have a substantial weight in Argentine exports, while manufactured goods are the main products exported by Brazil. TABLE 2 shows the relative sectoral intensity of bilateral exports.⁹ The index shows that intra-regional exports are more oriented toward heavy manufactures than are total exports in both countries; it also shows that Brazil has a very low concentration on primary goods relative to the composition of its

8. The major data sources include: FTAA database for trade and protection; GTAP data for input-output tables, final demand and sectoral taxes; International Financial Statistics (IMF) for national accounts; Government Finance Statistics (IMF) for public finance; Industrial Statistics (UNIDO) for manufacturing production; and Labor Statistics (ILO) for sectoral employment wages.

9. A value equal to one means that the sector has the same weight in the country's bilateral exports that it has in the country's total exports.

Table 2 - Sectoral intensity of exports by market

Argentina											
	Brazil	Chile	Canada	US	Mexico	CA	Colombia	Venezuela	Rest AC	EU	ROW
Primary	0.93	1.56	0.60	0.99	0.21	0.87	0.67	0.88	0.63	0.98	1.03
Light manufactures	0.51	0.71	1.43	1.13	1.11	1.45	1.03	1.25	0.71	1.53	1.26
Heavy manufactures	1.68	0.82	0.85	0.84	1.64	0.57	1.29	0.80	1.72	0.34	0.65
Brazil											
	Argentina	Chile	Canada	US	Mexico	CA	Colombia	Venezuela	Rest AC	EU	ROW
Primary	0.24	0.10	1.15	0.55	0.45	0.35	0.09	0.08	0.06	1.96	1.00
Light manufactures	0.52	0.43	0.80	0.92	0.26	0.58	0.48	0.31	0.61	1.20	1.27
Heavy manufactures	1.61	1.73	1.08	1.22	1.72	1.53	1.70	1.82	1.61	0.51	0.82

Note: Measured by the sectoral share in bilateral trade over the sectoral share in total trade. Exports in services excluded. See footnote 3 for a description of the regions.

Sources: FTAA database for the Western Hemisphere partners. OECD database for the European Union, and the GTAP database for the rest of the world.

total exports.¹⁰ Thus, although both countries have been taking advantage of the internal market to diversify exports towards more technology-intensive products, this has been particularly the case for Brazil, as the country specializes in exports of heavy manufactures.¹¹

With respect to other partners, the US buys 18 percent of Brazilian exports and 9 percent of Argentine exports. The sectoral intensity indexes show that exports to the US are more oriented towards heavy manufactured goods than total exports for Brazil, and more light-manufactured goods oriented for Argentina. Mercosur's purchases from the US account for 23 percent of the region's total imports; capital and intermediate goods are the main imports accounting for more than 85 percent of the total imports from the US. For Mercosur, the EU is the most important partner. At the base year, it accounted for 23 percent of the bloc's total exports, and 26 percent of total imports. Biregional trade between Mercosur and the EU is highly complementary. Agricultural products, including meat and processed foods, dominate Mercosur's exports to the EU market, while manufactured products, dominated by capital goods (machinery and equipment) and intermediates (petroleum and chemicals), are the bloc's main imports from the EU. Compared with the sectoral intensity of exports to the US, exports to the EU are much more concentrated in primary goods (especially for Brazil). Mercosur's import composition from the EU and US is very similar: more than 85 percent are heavy manufactures and around 8 percent light manufactures; primary imports have a share of 5 percent for imports from the US and 1 percent for imports from the EU.

Regarding exports to other Latin American countries, exports from Argentina are composed less of primary goods and are more oriented towards manufactures than total exports (except to the Chilean market). In the case of Brazil, its exports to the Latin American market are clearly oriented toward heavy manufactures.

TABLE 3 shows Mercosur's ad valorem intra-regional and MFN rates in the base year. Almost all intra-regional trade was already liberalized and even as sensitive a sector as automobiles has a tariff of only around 3 percent in Argentina. The result is that the average trade-weighted tariff for intra-bloc trade is similar and low in both countries. In contrast, the MFN tariff shows a higher average protection (trade weighted) in Brazil (16 percent) than in Argentina (14 percent). Sectorally, both countries applied the higher degree of protection to manufacturing goods.

Besides ad valorem tariff protection for all countries, we incorporate estimations of ad valorem equivalents for specific and mixed tariffs levied by the EU and NAFTA (Canada, the

10. To facilitate the analysis, we group the sectors into three macro-sectors. Primary industries include: grains; vegetables, oilseeds and soybeans; sugarcane and coffee; livestock and other agriculture; and mining. Light manufactures include: meat products; processed foods; textiles and apparel; and other light manufactures. Heavy manufactures include: petroleum and chemicals; iron and steel; automobiles and parts; and machinery and equipment.

11. We are assuming that as we move from primary goods to light manufactures and to heavy manufactures we are on average moving toward more technology intensive goods. Using indicators of "technology-producer" intensity, the OECD (1999) classifies manufactures into three categories based on their level of technology: low, medium and high technology industries. In our model, the light manufactures industries are low-technology industries and the heavy manufactures are medium-high and high technology industries.

Table 3 - Mercosur's ad valorem tariff rates (1997)

(%)

Sectors	Intra-region		MFN	
	Argentina	Brazil	Argentina	Brazil
Grains	–	–	8.14	8.66
Vegetables and fruits	–	–	10.48	10.48
Sugarcane, coffee and soybeans	–	–	8.73	8.73
Livestock and other agriculture	–	–	10.16	10.23
Mining	–	–	5.41	6.75
Primary	–	–	7.34	7.47
Meat products	–	–	14.87	14.87
Processed foods	0.26	0.08	16.19	16.39
Textiles and apparel	0.65	0.07	20.24	20.05
Other light manufactures	1.07	–	16.62	15.98
Light manufactures	0.65	0.05	17.43	17.50
Petroleum and chemicals	0.02	0.02	10.83	11.02
Iron and steel	1.56	–	16.01	15.36
Automobiles and parts	3.15	–	16.50	26.35
Machinery and equipment	0.02	–	14.09	18.16
Heavy manufactures	1.34	–	13.71	16.68
Utilities and construction	–	–	–	–
Trade and services	–	–	–	–
Average	1.17	0.01	13.80	15.82

Note: The sectoral protection rates are estimated as the simple average of the corresponding tariff line schedules. "Average" is measured as an aggregate weighed by trade flows excluding utilities and construction, trade and services.

Sources: FTAA Hemispheric Database.

United States and Mexico). For the US, ad valorem equivalents of tariff-rate quotas are also included. The US' highest protection (16 percent) is on processed foods followed by textiles and apparel (10 percent). Incorporating non-ad valorem tariffs doubles the protection in the former sector, indicating the importance of taking into account these tariffs for agriculture related products. Chile has a moderate and uniform protection across sectors (11 percent). Mexico is the country with the highest average protection among the countries at the benchmark year (12 percent) and heavily protects its agricultural related industries (grains, meat products and processed foods). While having completely liberalized intra-regional flows, the EU heavily protects agricultural sectors by imposing MFN tariffs with rates as high as 44 percent on sensitive goods such as grains and meats. TABLE 4 indicates the MFN ad valorem protection applied by Mercosur's selected partners.

■ SIMULATION RESULTS

We simulate three integration scenarios: scenario 1 examines the creation of the FTAA where the countries in the Western Hemisphere eliminate all tariff barriers to intra-hemispheric trade while keeping their individual protection structures with third partners, namely the EU and the Rest of the World. Scenario 2 simulates the formation of an FTA between Mercosur

Table 4 - MFN ad valorem tariff rates by mercosur partners

Sectors	Chile	Canada	US	Mexico	CA	Colombia	Venezuela	Rest AC	EU
Grains	11.00	11.62	2.35	36.73	12.97	12.50	12.32	11.94	44.21
Vegetables and fruits	11.00	4.69	7.12	16.18	16.10	13.46	13.42	13.32	12.93
Sugarcane, coffee and soybeans	11.00	2.65	1.29	10.88	10.98	9.26	9.65	8.64	6.19
Livestock and other agriculture	11.00	13.57	1.65	13.89	12.32	14.58	14.65	13.14	13.29
Mining	11.00	0.83	0.32	8.85	4.92	5.23	5.27	5.86	0.11
Primary	11.00	1.52	0.73	11.44	8.15	11.84	10.93	10.35	3.42
Meat products	11.00	46.49	4.88	53.55	28.80	20.00	20.00	20.00	43.80
Processed foods	11.00	28.97	16.49	27.14	18.72	18.13	18.19	17.94	26.22
Textiles and apparel	11.00	15.47	9.84	21.36	13.93	18.14	18.14	18.21	7.92
Other light manufactures	10.91	5.72	4.55	15.23	14.22	13.95	14.36	14.63	2.20
Light manufactures	10.96	15.76	8.25	20.82	15.52	16.64	16.80	17.17	9.54
Petroleum and chemicals	11.00	5.25	4.96	9.80	6.50	8.64	9.11	8.75	4.56
Iron and steel	11.00	4.61	3.27	12.75	6.93	10.42	10.91	10.22	2.05
Automobiles and parts	10.27	6.62	3.17	13.87	12.15	13.18	12.83	13.18	4.14
Machinery and equipment	10.72	3.48	2.57	11.49	6.12	9.33	10.01	9.19	2.53
Heavy manufactures	10.71	4.57	3.21	11.44	8.74	9.68	10.47	9.72	3.16
Utilities and construction	-	-	-	-	-	-	-	-	-
Trade and services	-	-	-	-	-	-	-	-	-
Average	10.77	6.44	3.88	12.33	10.59	10.83	11.37	11.45	4.71

Note: Data for Canada, the US and Mexico includes ad valorem, specific, mixed tariffs plus TRQs. EU data include ad valorem, specific and mixed tariffs. All other countries include only ad valorem tariffs.

See footnote 3 for a description of the regions.

Sources: FIAA Hemispheric Database for the countries and regions in the Western Hemisphere. EU agricultural protection prepared by J.C.Bureau with data from WTO General List and Comext; industrial protection from UNCTAD (Indicators of Tariff and Non-Tariff Trade Barriers, 2000).

and the EU with both blocs maintaining their protection vis-à-vis third partners. Lastly, scenario 3 is designed to measure the impact of simultaneously creating the FTAA and the FTA with the EU, with Mercosur serving as a hub for the two integration processes.

The results reveal that regional integration generates considerable gains for all countries in the agreement, substantial changes in trade patterns, and structural adjustment in domestic production. Overall exports to intra- and extra-hemispheric markets grow for Argentina and Brazil as efficiency gains and global competitiveness increase. Guaranteed access to large markets, enabling firms to exploit economies of scale, and the dynamic externality effects resulting from the trade liberalization enhance the gains.

TABLE 5 shows the aggregate impact on all countries, and TABLE 6 the impact on Mercosur countries' exports and imports by macro-sector.

FTAA increases total exports from Western Hemisphere countries by 2.2 percent. The agreement induces export growth by 3.8 percent in Argentina and 5.1 percent in Brazil. Exports destined for the US are up by 9.2 percent in Argentina and 7.6 percent in Brazil. Due to the relatively high initial protection and low base exports, exports to Central America and the Caribbean (CA) as well as to the Andean Community see a substantial increase of more than 15 percent. For these countries, export growth under FTAA is 6.7 percent in Central America and the Caribbean and 4.4 percent in the Andean Community. The expansion of exports in the NAFTA countries is smaller than in other hemispheric partners (1.7 percent) since they already formed a highly liberalized market.

The efficiency gains associated with trade liberalization make Mercosur countries more competitive in international markets, while exports to the countries outside the agreement also increase (especially light manufactures). However, the EU – excluded from the agreement – faces trade diversion in the Mercosur market as imports from the EU decrease by 3.1 percent and 3.8 percent in Argentina and Brazil, respectively (especially in light and heavy manufactures). Imports from the rest of the world also decrease by 4.1 percent in Argentina and 4.0 percent in Brazil, largely in the same manufacturing products.

For Mercosur, integration with the EU generates a greater impact on export performance than the FTAA, as exports grow an additional 3 percentage points. In addition to the 38.4 percent and 23.2 growth in exports to the EU from Argentina and Brazil, respectively, exports to third countries also increase (translating the increased efficiency into an overall increase in other countries' import market share). The Mercosur-EU FTA is also likely to create negative trade effects for countries left outside the agreement: imports of light and heavy manufacturing products from some non-EU countries are displaced in the Mercosur market (especially machinery and equipment). For the EU, the FTA brings an export growth of 0.38 percent.

The simultaneous arrangement scenario (scenario 3) generates important gains for Mercosur. The combined gains are greater than the sum of the gains from the individual approaches,

Table 5 - Aggregate impact (percentage change)

	Benchmark (\$billion)		Scenarios		Benchmark (\$billion)		Scenarios		Benchmark (\$billion)		Scenarios			
	FTAA	Both	EU FTA	Both	FTAA	Both	EU FTA	Both	FTAA	Both	EU FTA	Both		
	Gross Exports						Gross Imports						Real GDP	
Argentina	26.2	3.82	7.12	11.08	30.7	3.59	6.03	9.65	336.5	1.60	2.43	4.14		
Brazil	52.4	5.14	8.31	13.64	64.5	4.74	6.64	11.47	808.2	2.49	3.16	5.83		
Mercosur	78.6	4.70	7.91	12.79	95.2	4.37	6.44	10.88	1,144.7	2.23	2.94	5.33		
Chile	16.7	5.20	0.02	5.25	16.7	4.87	0.03	4.93	76.1	1.76	0.01	1.78		
Canada	196.6	1.26	-0.03	1.23	190.4	1.33	-0.02	1.31	594.1	0.41	-0.01	0.40		
United States	623.2	1.82	-0.04	1.79	856.2	1.06	0.00	1.06	7,914.3	0.25	0.00	0.25		
Mexico	110.1	1.84	-0.03	1.82	105.4	1.93	-0.02	1.92	380.5	0.99	-0.01	0.98		
NAFTA	929.9	1.71	-0.04	1.67	1,151.9	1.18	0.00	1.18	8,889.0	0.29	0.00	0.29		
CA	30.3	6.69	-0.04	6.64	30.3	4.19	-0.01	4.18	93.8	1.75	-0.01	1.74		
Colombia	10.5	4.32	-0.04	4.28	13.9	4.33	0.00	4.33	93.7	1.04	-0.01	1.04		
Venezuela	22.8	3.71	0.05	3.79	14.6	6.37	0.07	6.49	84.7	1.53	0.01	1.55		
Rest AC	13.1	5.57	0.03	5.63	15.9	5.23	0.04	5.29	91.4	1.62	0.00	1.63		
AC	46.4	4.37	0.02	4.42	44.4	5.32	0.04	5.38	269.8	1.39	0.00	1.40		
Western Hemisphere	1,101.9	2.22	0.53	2.77	1,362.8	1.71	0.45	2.16	10,397.3	0.55	0.55	0.55		
EU	1,917.2	-0.09	0.38	0.28	1,908.3	-0.04	0.35	0.30	7,957.9	-0.01	0.06	0.04		

Note: Exports and imports exclude trade in services. See footnote 3 for a description of the regions.

due to an increase in trade creation and a reduction in trade diversion. It more than doubles the bloc's trade and GDP gains when compared to the FTAA, and increases it by as much as 60 percent compared to the Mercosur-EU FTA. The growth of exports for other countries in the Western Hemisphere remains virtually unchanged from the level of gains realized in the FTAA scenario. Mercosur's imports from the rest of the world decrease by 4.2 percent.

The impact on welfare measured in real GDP is highly correlated with trade performance. FTAA induces a growth in Mercosur's real GDP of 2.2 percent, followed by Chile (1.8 percent) and Central America and the Caribbean (1.7 percent). Mercosur's gains from integration with the EU are greater than under the FTAA, and real GDP grows by 2.9 percent. Mercosur benefits from the cross-fertilization effects of simultaneous integration, which increases by more than 2.4 times the real GDP growth from the FTAA and is 80 percent greater than in the case of integration with the European Union.¹²

Although the overall effects of the two FTAs appear similar, they yield substantially different sectoral effects with important implications for the countries' industrial structure and labor markets. FIGURE 1 presents the impact on export growth from the benchmark by macro-sector and FIGURE 2 shows the composition of the increased exports. A more detailed look at the sectoral analysis reveals that the light manufacturing sector experiences the highest export growth across the macro-sectors in the three scenarios. It grows by 15 percent under the Mercosur-EU FTA scenario and by around 7 percent under the FTAA formation.

In terms of products or sectors, the Mercosur-EU FTA generates a more heterogeneous export growth across sectors than the FTAA, which presents a smaller degree of growth deviations across sectors. Under the Mercosur-EU FTA, the sectors that exhibit the most dynamic export growth are "meat products," growing by more than 30 percentage points above the average in Argentina, and "grains" which growth approximately 40 percentage points greater than the average in Brazil.¹³ In Brazil, exports of "meat products" also expand 20 percentage points above the average. The agriculture-related products account for more than 75 percent of the increased exports in Argentina and 65 percent in Brazil (FIGURE 2). At the other extreme, "machinery and equipment" is the slowest-growing export sector in the two countries; in fact, it contracts in Argentina by 2.2 percent. The regional market suffers from the increased EU competition in heavy manufactures as intra-regional trade in machinery and equipment decreases; however, it is interesting to note that Brazilian exports of these goods to countries outside the agreement marginally increase, showing a sector well prepared to compete in international arenas.

12. Compared with similar studies modeled with a standard framework (static and without endogenous growth effects), our estimated welfare gains are substantially greater. For instance, Harrison, Rutherford, Tarr and Gurgel (2002) report that the FTAA hardly raises the bloc's welfare measured as change in consumption, but the EU-Mercosur agreement increases it by 1.4 percent. However, once externality effects are captured even in a static framework as in our study the welfare gains become substantial. In this vein, Diao, Diaz-Bonilla and Robinson (2002) show that the FTAA raises real GDP by 3.3 percent for Argentina and 2.8 percent for Brazil.

13. The high export growth of "grains" in Brazil is due primarily to the small value of exports in the base year and the EU's highest initial MFN tariff (44 percent) on the sector.

Table 6 - Impact on exports and imports by macro-sector and selected market (percentage change)**Exports****Argentina**

	Bra	Chile	CA	US	Mex.	EU	ROW	Total
Scenario 1: FTAA								
Primary	0.5	6.9	9.9	2.1	27.8	0.9	2.4	2.9
Light Mfg.	-0.5	12.4	32.2	17.0	45.8	2.1	4.2	6.6
Hevy Mfg.	-2.5	7.5	8.7	4.0	18.9	1.2	3.0	1.2
Total	-1.3	8.6	21.5	9.2	31.0	1.6	3.4	3.8
Scenario 2: Mercosur-EU FTA								
Primary	1.1	0.0	0.8	0.3	1.0	28.5	1.1	5.0
Light Mfg.	1.7	2.3	2.1	2.3	2.5	49.2	4.5	14.1
Hevy Mfg.	-0.4	0.4	0.6	0.5	0.5	5.4	1.5	0.5
Total	0.4	0.7	1.4	1.2	1.4	38.4	2.9	7.1
Scenario 3: FTAA plus Mercosur-EU FTA								
Primary	2.1	6.9	10.7	2.4	28.8	29.4	3.2	8.0
Light Mfg.	1.5	14.9	34.9	19.5	49.2	51.9	8.6	20.9
Hevy Mfg.	-2.5	7.9	9.2	4.5	19.4	6.6	4.4	1.8
Total	-0.4	9.3	23.3	10.5	32.8	40.4	6.1	11.1

Brazil

	Arg	Chile	CA	US	Mex.	EU	ROW	Total
Scenario 1: FTAA								
Primary	1.3	11.3	4.6	4.3	15.8	1.6	3.5	2.8
Light Mfg.	1.7	13.2	33.9	14.8	43.8	2.9	5.1	6.9
Hevy Mfg.	1.2	8.7	9.1	4.4	21.1	2.0	4.3	4.9
Total	1.3	9.4	14.9	7.6	22.6	2.2	4.5	5.1
Scenario 2: Mercosur-EU FTA								
Primary	4.8	2.1	1.5	2.2	1.1	15.0	3.1	9.0
Light Mfg.	3.1	2.5	2.8	2.5	3.1	41.3	6.0	16.6
Hevy Mfg.	2.1	0.8	0.9	1.0	1.0	6.0	2.2	2.2
Total	2.4	1.1	1.6	1.6	1.2	23.2	4.0	8.3
Scenario 3: FTAA plus Mercosur-EU FTA								
Primary	6.9	13.7	6.2	6.6	17.1	17.0	6.7	12.0
Light Mfg.	4.5	16.2	37.9	17.9	48.6	45.4	11.6	24.2
Hevy Mfg.	1.9	9.7	10.2	5.5	22.3	8.2	6.7	6.9
Total	2.6	10.7	16.9	9.4	24.2	26.0	8.7	13.6

Imports**Argentina**

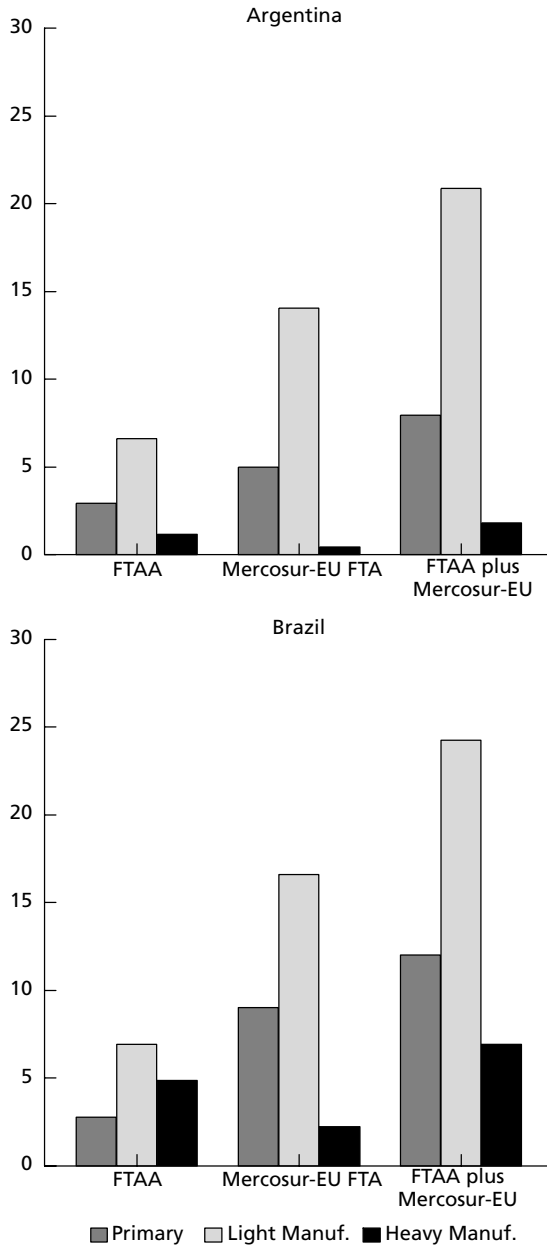
	Bra	Chile	CA	US	Mex.	EU	ROW	Total
Scenario 1: FTAA								
Primary	1.3	8.6	12.9	14.0	17.8	-0.2	-0.2	5.4
Light Mfg.	1.7	15.0	27.3	26.7	28.9	-2.9	-3.9	5.2
Hevy Mfg.	1.2	14.4	19.9	18.2	19.4	-3.2	-4.5	3.2
Total	1.3	14.1	20.8	18.6	20.7	-3.1	-4.1	3.6
Scenario 2: Mercosur-EU FTA								
Primary	4.8	3.0	3.8	4.1	2.8	19.1	3.8	4.6
Light Mfg.	3.1	-0.7	-0.6	-0.6	-0.4	29.5	-0.7	6.7
Hevy Mfg.	2.1	-1.0	-1.3	-1.3	-1.0	21.1	-1.8	6.0
Total	2.4	-0.5	-0.8	-1.0	-0.9	22.0	-1.2	6.0
Scenario 3: FTAA plus Mercosur-EU FTA								
Primary	6.9	12.6	18.0	19.5	22.0	19.7	4.3	10.9
Light Mfg.	4.5	15.0	27.4	26.9	29.2	26.6	-3.6	12.3
Hevy Mfg.	1.9	13.8	19.0	17.2	18.8	17.9	-5.6	9.1
Total	2.6	14.2	20.4	18.0	20.3	18.8	-4.6	9.7

Brazil

	Arg	Chile	CA	US	Mex.	EU	ROW	Total
Scenario 1: FTAA								
Primary	0.5	5.7	11.4	10.6	13.2	-0.6	-0.1	2.6
Light Mfg.	-0.5	14.5	25.1	26.0	27.4	-3.1	-4.0	4.1
Hevy Mfg.	-2.5	9.7	23.1	23.7	22.6	-3.9	-5.2	5.2
Total	-1.3	9.5	20.9	23.2	22.9	-3.8	-4.0	4.7
Scenario 2: Mercosur-EU FTA								
Primary	1.1	1.8	0.3	1.9	1.5	15.5	2.4	2.2
Light Mfg.	1.7	-0.6	-0.6	-0.3	-0.5	28.9	-0.3	6.0
Hevy Mfg.	-0.4	-0.3	-0.9	-1.3	-0.7	26.8	-1.6	7.5
Total	0.4	0.3	-0.6	-1.1	-0.7	26.9	-0.6	6.6
Scenario 3: FTAA plus Mercosur-EU FTA								
Primary	2.0	8.2	12.4	13.3	15.6	15.5	3.0	5.6
Light Mfg.	1.5	14.3	24.8	26.1	27.4	25.3	-3.7	10.4
Hevy Mfg.	-2.5	9.6	22.3	22.4	22.0	22.2	-6.2	12.7
Total	-0.4	10.2	20.6	22.2	22.4	22.4	-4.1	11.5

Note: See footnote 3 for a description of the regions.

Figure 1 - Impact on exports by macro-sector for Mercosur
% change



Note: Primary sector includes: grain; vegetable, oilseeds and soybeans; sugarcane and coffee; livestock and other agriculture; and mining.
 Light manufactures include: meat products; processed foods; textiles and apparel; and other light manufactures.
 Heavy manufactures include: petroleum and chemicals; iron and steel; automobiles and parts; and machinery and equipment.

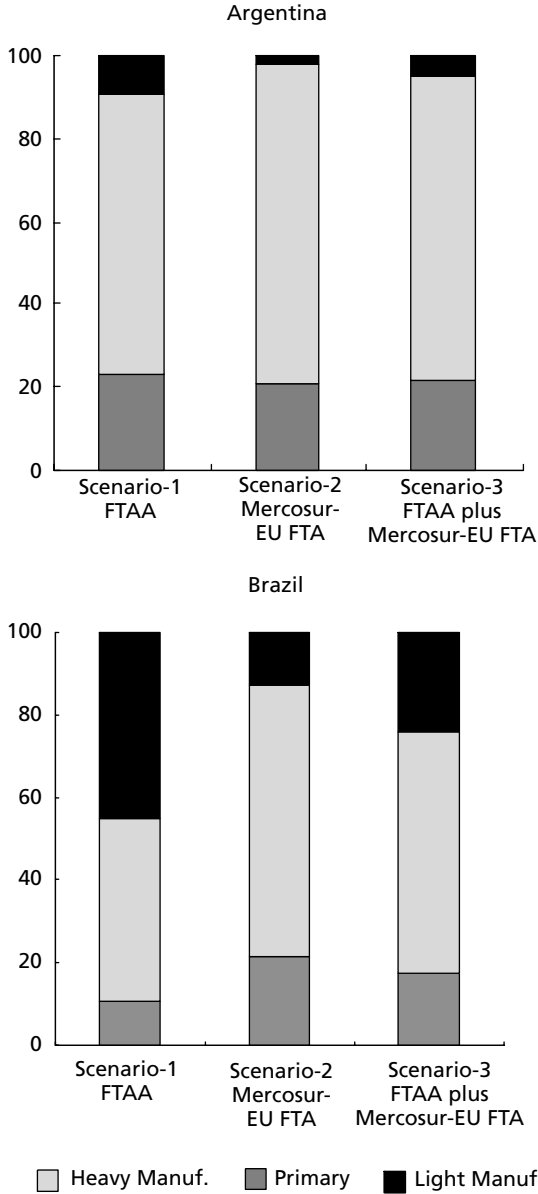
Under the FTAA, Argentina's most dynamic sector is "processed foods" that grows 4.1 percentage points above the average, while in Brazil "textiles and apparel" is the fastest growing sector (6 percentage point above the average). The slowest growing sectors are "mining" in Brazil, and "automobiles and parts" in Argentina that contracts by 2.1 percent. Argentina's exports to Brazil shrink by 1.3 percent, especially heavy manufacturing exports that decrease by 2.5 percent, although total exports of these products go up by 1.2 percent, as exports to extra-Mercosur countries increase. Brazil is better positioned in the regional market compared to Argentina and expands its intrabloc exports by 1.3 percent.

Both the Mercosur-EU FTA and FTAA reinforce Mercosur's specialization in "processed foods", that was already, in 1997, the main product exported with shares of 22 percent in Argentina and 15 percent in Brazil. A strong competitiveness in the global market and a high protection in both the EU and US prior to the agreement are the main reasons behind this result. The success of "meat products" under the Mercosur-EU FTA is due largely to the high protection prior to liberalization in the EU market, while the same applies to "textiles and apparel" under the FTAA due to the high protection throughout the Western Hemisphere before the agreement.

An important difference between the two scenarios is that FTAA brings a stronger export growth in the heavy manufacturing sectors than the Mercosur- EU FTA, particularly in Brazil. In value terms, heavy manufactured exports in the FTAA account for nearly half of the increased exports in Brazil, and around 9 percent in Argentina; in the Mercosur-EU FTA the share is 13 percent and 2 percent in Brazil and Argentina, respectively. In contrast with these figures, agriculture-related exports, comprised of raw products and agro-products, constitute more than 90 percent of the bloc's increased exports to the European Union, and meat products and processed foods alone account for approximately 70 percent of those exports destined to the EU market. This result is due to the differences in Mercosur's export composition between the Hemispheric and European markets in the base year, together with the initially highly protected European market for agricultural goods (primary and agro-products such as meat and processed goods).

Exports to Latin American countries are more manufacture-oriented for both countries than exports to the US; thus, the South-South component of the FTAA makes a qualitative difference, in comparing the agreement with the Mercosur-EU FTA. Exports of manufactures can increase technology accumulation and productivity gains by increasing human capital through a learning by doing process. To the extent that an increasing share of manufacturing exports leads to a more competitive industrial base, this is a very stimulating result. Another important result is that, in relative terms, the new manufacturing exports to Latin American partners in the FTAA agreement are more technology-intensive than manufacturing exports to the US market, especially for Brazil. For Mercosur, the South-South component of the FTAA plays then a significant role as a catalyst to reinforce production base of capital and technology-intensive manufacturing industries as well as to enhance intra-industrial trade within the bloc and in South America.

Figure 2 - Impact on the composition of the increased exports by macro-sector for Mercosur
%



Note: Primary sector includes: grain; vegetable, oilseeds and soybeans; sugarcane and coffee; livestock and other agriculture; and mining.
 Light manufactures include: metal products; processed foods; textiles and apparel; and other light manufactures.
 Heavy manufactures include: petroleum and chemicals; iron and steel; automobiles and parts; and machinery and equipment.

The impact on import growth is more balanced than on exports. In value terms, however, heavy manufactured goods, typified by intermediate (petroleum and chemicals, and iron and steel) and capital goods (machinery and equipment) account for more than three-quarters of the increased imports in both the FTAA and Mercosur-EU FTA scenarios. In the Mercosur-EU FTA it accounts for nearly 85 percent of the manufactured imports from the EU.

Mercosur countries undergo a substantial adjustment in production. The aggregated income effects of the FTAA and Mercosur-EU FTA formations induce an expansion in production in all sectors, except machinery in Argentina. Production capacity expands more rapidly in the primary and light manufactures industries, the latter presenting a strong export orientation.¹⁴ Given the fixed resource constraint, these adjustments in production effect a reallocation of domestic resources (labor and capital). Labor and capital thus move away from manufacturing industries, especially from heavy industries such as machinery and equipment, into agriculture. Manufactures experience the highest productivity increase from the trade liberalization, and thus increase output and decrease factor demands (especially light manufactures), while labor-intensive primary sectors absorb factors, mainly labor.

In relative terms, the results of the scenario involving the simultaneous FTAs (scenario 3) lie between those of the two individual arrangements. Light manufactures lead the bloc's export growth: 21 percent in Argentina and 24 percent in Brazil. Processed foods account for nearly half of the increased exports in Argentina and 40 percent in Brazil. Exports of heavy manufactures grow at a slow pace (1.8 percent) in Argentina, but show an increase of 7 percent in Brazil. Heavy manufactures account for 24 percent of the new exports in Brazil. The booming economy forces domestic industries to undergo an even larger structural adjustment in the production and factor markets. As in the other two scenarios, production capacity expands more rapidly in agriculture and light manufacturing industries than in heavy industries. Processed foods undergo the largest production increase.

Finally, comparing these results with those simulated with a standard framework, with static and no endogenous growth effects, we observe that the productivity gains push up production capacity and the benefits of the realization of scale economies in manufactures spill over to other sectors in the economy, as we see further growth in outputs across industries. In the FTAA, the externalities' cumulative effect contributes 14 percent to the increased total exports in Argentina and 18 percent in Brazil, while the scale effects contribute 15 percent in both countries. Both effects are greater in heavy manufactures than in light manufactures, having the smallest effect on primary goods. In the Mercosur-EU FTA, due to the rapid expansion of agricultural-related exports, the economy-wide scale effects are small and constitute 6 percent of the increased total exports in Argentina and Brazil. The externalities

14. In general, we observe a relative export specialization – an increase in the ratio of exports over production, $d(E/X)/(E/X)$ – in manufacturing industries, especially in Brazil due to the high export growth in heavy manufacturing (where E is exports and X is production).

account for 13 percent and 10 percent of the growth in Brazil and Argentina, respectively. In the simultaneous scenario, the effects of externalities and economies of scale fall between the effects of the two independent scenarios. Roughly, externalities account for 15 percent of the increased exports and the scale effects by 10 percent. In Brazil, these effects contribute to the export expansion of heavy manufactures: 19 percent the externalities effects and 17 percent the scale effects. Given the fixed factor supply, mobile factors are reallocated from manufacture to non-manufactured and from less competitive sectors to competitive ones. Thus, the output expansion in manufacturing industries is mainly driven by productivity gains and scale economies, whereas an increase in factor use is the force behind output expansion in non-manufacturing sectors.

■ SUMMARY AND CONCLUSIONS

Regional integration is not simply a process of maximizing potential economic gains, but rather a strategic process that also involves political elements concerning the adjustment costs arising from structural reforms and transformation, particularly labor market adjustment and industrial lobbying from the sensitive sectors. As is the case for many other countries in Latin America, the members of Mercosur have an active regional integration agenda that includes the FTAA and an FTA with the EU, the two broadest agreements under negotiation.

Applying a multi-region, multi-sector general equilibrium model incorporating trade-linked externalities and scale economies in manufacturing industries, this study examines the potential economic gains and structural adjustment of the two FTAs under negotiation (individually and simultaneously considered).

The simulation results show that trade liberalization generates substantial economic gains for the two Mercosur countries. FTAA is a slightly inferior option than the FTA with the EU, when all trade barriers are completely eliminated. Hemispheric integration greatly stimulates export specialization in manufacturing industries relative to the primary sector; this impact being stronger in Brazil than in Argentina. Latin American countries greatly contribute to this result, since exports of Mercosur to these countries have a higher share of technology-intensive manufactures than exports to the North-American neighbors. Countries should be aware of the importance of reinforcing the trade links with other Latin American countries as a means to increase these exports. On the other hand, mainly due to the region's larger share in agricultural exports and the EU's initially high tariff protection in agriculture, integration with the EU largely expands agricultural exports, in which Mercosur has a clear competitiveness in global markets. The simultaneous approach generates greater gains than the sum of benefits from the individual FTAs, as trade creation increases, while trade diversion decreases. The bloc expands manufactured exports to the hemispheric market, and agricultural exports to the European Union, while heavily concentrating on imports of capital and intermediate goods from both sources. However, trade liberalization of this size generates

negative effects on intra-regional trade, especially in Argentina. Among sectors, Argentina's exports of heavy manufactures to the Brazilian market suffer a slight decrease in all scenarios, as they are displaced by more efficient producers in the Hemisphere, in one case, and more efficient European producers in the other. For Brazil, intra-regional exports decrease only in a few sectors, showing a better-position prior to the agreements.

The increase in industry outputs is largely met by the efficiency gains arising from trade-linked externalities and scale economies. The results show that output grows after liberalization in most sectors should be read with caution. The substantial adjustment in production induces a strong adjustment in factor markets as domestic resources are reallocated from manufacturing or contracting industries into the primary sectors freely and costlessly, not taking into consideration that the reallocation of labor has considerable social and political costs.

Mercosur faces a difficult period in its drive toward trade liberalization and regional economic integration; a moment made especially crucial by its prolonged internal economic instabilities. In the meantime, the group will confront a busy timetable for its external agenda in the coming years, which will require crucial decision-making. While being a formidable challenge, it may also offer an excellent opportunity for the bloc to harmonize internal and external policies, to identify common grounds and interests, and to raise global credibility and competitiveness in an increasingly globalized economy¹⁵.

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