TRADE LIBERALIZATION IN LATIN AMERICAN COUNTRIES AND THE AGREEMENT ON TEXTILES AND CLOTHING IN THE WTO

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ABSTRACT. The Agreement on Textiles and Clothing (ATC) deals with the progressive opening of these markets in high-income countries. This process should be finished by the year 2005, when the whole sector should be under the WTO rules. The scope of the liberalization, implemented up to now, has been limited. In the 90's the Latin American (LA) countries have liberalized their economies, which has been followed by a significant increase in their imports. This paper aims to disentangle the effect on Latin America of the delay in implementing the ATC. Specifically, it tries to find out to what extent the increase in LA imports has exposed the local producers to greater competition from foreign goods than it would be the case if the liberalization had been carried out at the same time by both sides. A General Equilibrium Multi-country Trade Model (GTAP) is used to simulate the elimination of trade barriers.

JEL Classification: D68; F11; F13; F14; F17.
Keywords: Liberalization; General Equilibrium Model; Opening policies.

RÉSUMÉ. L'Accord sur le Textile et le Vêtement fixe les termes de l'ouverture progressive de ces marchés dans les pays à revenu élevé, processus qui devrait être achevé en 2005 lorsque la totalité du secteur sera régi par les règles de l'OMC. Jusqu'à présent, l'étendue de la libéralisation appliquée a été limitée. Dans les années quatre-vingt-dix, les pays d'Amérique latine ont libéralisé leurs économies, ce qui s'est traduit par un accroissement sensible de leurs importations. Cet article isole l'effet, sur l'Amérique latine, d'un retard dans l'application de l'accord. Il cherche particulièrement à montrer dans quelle mesure la progression des importations en Amérique latine a exposé les producteurs locaux à une concurrence de la part des produits étrangers plus forte que si la libéralisation avait été mise en œuvre en même temps par les deux parties. Un modèle d'équilibre général calculable (modèle GTAP de commerce à plusieurs pays) est utilisé pour simuler l'élimination des barrières tarifaires.

Classification *JEL* : D68 ; F11 ; F13 ; F14 ; F17.
Mots-clefs : Libéralisation ; modèle d'équilibre général ; politiques d'ouverture.

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The Agreement on Textiles and Clothing (ATC) at the World Trade Organization (WTO) deals with the opening of the markets for these products in high-income countries, which favors the most vigorous exporters of developing countries. This process is to be completed by the year 2005, when the whole sector is going to be under the WTO rules. It is claimed that, up to now, the liberalization has been limited because the countries have committed themselves on non-restricted products, with little value added and with high tariff protection, – products in which the developing countries had little comparative advantage –, or have adopted temporary safeguards, antidumping measures or other restrictions.

In the 1990s, Latin America grew and opened up to the world. In the first half of the decade, most of the LA countries implemented unilateral opening policies, reducing their tariffs and eliminating other trade restrictions. Mexico joined NAFTA, the Common Market of the South (MERCOSUR) was created, and other regional agreements within the framework of ALADI were strengthened. In the period 1990-99, LA imports grew at an average rate of 11 percent while its exports increased at an average rate of 8.1 percent, improving its share in world trade (WTO, 2000). World trade in textiles and clothing increased more slowly than total trade: while world imports grew at an average annual rate of 6 percent between 1990 and 1999, textiles grew at a rate of 4 percent, and the share of textiles in world trade declined. In contrast, Latin American trade in textiles and clothing increased both its share in world imports and in the total imports of LA countries.

From 1988 to 1997, LA imports of textiles and clothing grew at an average annual rate of 12.4 percent[2]. This rapid growth accounted for 21.5 percent of total growth in world imports (a figure that is much higher than their share in world trade). TABLE 1 shows the evolution of the coverage rate of LA countries. At the end of the 1980s, seven LA countries appeared to be net exporters. In the period 1995-1997 only three of them continued to be exporters, but with a significantly lower coverage rate. This change is explained by the growth in LA imports. Mexico is the exception; it had been a net importer before and it became an exporter due to the rapid rise in its exports.

The composition of LA imports by geographic origin contrasts with that of the world as a whole, and with that of other regions. In fact, if the geographic bias of LA imports is measured using an index of trade intensity[3], it can be seen that LA purchases are biased towards the region itself, and towards developed countries, while the share of the leading exporters is much lower than what might be expected given their share in world exports (see TABLE 2). On the other hand, in Mexico and in Central America the share of developed countries is higher due to their trade links with the United States.

During the period analyzed, trade liberalization in Latin America contributed to reduce this bias, and the share in South American imports of leading exporting countries increased. In fact, in

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2. Textiles were defined as in chapter 65 of the SITC, and clothing as in chapter 84.
3. Defined as the ratio between the participation of each region in LA imports over the participation of the same region in world trade in the sector.

Table 1 -   Latin America: specialization in textiles and clothing, 1988-1997*

| | Coverage Ratio | | Average annual variation | | Contribution to variation | |
| | Exp/Imp | Exp. | Imp. | Exp. | Imp. | Exp. |
	1988-90	1995-97	1997/88	1997/88	1997/88	1997/88
Argentina	5.6	0.6	8.7	49.4	0.9	3.1
Bolivia	0.3	0.2	18.5	23.2	0.1	0.4
Brazil	4.6	0.8	3.5	33.6	1.0	5.6
Colombia	3.5	1.5	18.6	20.6	1.5	1.6
Costa Rica	0.3	0.4	9.9	24.6	0.5	1.0
Cuba	0.1	0.1	15.3	11.6	0.0	−0.1
Chile	0.2	0.2	−12.8	−3.0	0.5	2.8
Ecuador	0.4	0.5	27.4	23.9	0.2	0.4
El Salvador	1.2	0.5	12.0	28.3	0.2	0.8
Guatemala	0.5	0.3	6.8	17.0	0.1	0.8
Honduras	0.1	0.1	18.6	24.7	0.1	1.0
Mexico	0.5	1.1	18.3	6.2	4.0	1.8
Nicaragua	0.1	0.1	2.5	6.8	0.0	0.1
Panama	0.1	0.1	−10.7	0.8	−0.1	0.1
Paraguay	0.3	0.2	10.6	13.0	0.1	0.3
Peru	10.7	2.0	4.9	33.7	0.4	0.7
Rep. Dominican	1.1	0.7	−2.0	4.6	−0.2	0.6
Uruguay	6.0	2.3	−3.5	−3.4	−0.3	−0.7
Venezuela	0.3	0.1	8.8	24.4	0.7	0.6
Rest of America	0.4	0.4	−3.9	6.5	−0.1	0.6
Total LA	0.9	0.6	7.2	12.4	9.6	21.5

* All trade indicators were built using Feenstra, 2000 database of world trade. To attenuate the annual variations all the indicators of specialization and growth were built comparing the average of the three years 1988-90 with the three years 1995-97.

Source: Elaborated using Feenstra's 2000 database.

Table 2 -   Latin America: intensity of trade by origin region in textiles and clothing

| Origin region* | Textiles and Clothing | | | Textiles | | | Clothing | | |
	1988-90	1995-97	Variation	1988-90	1995-97	Variation	1988-90	1995-97	Variation
LA	2.46	3.23	1.31	3.35	4.07	1.21	1.68	1.98	1.18
EXP	0.44	0.53	1.22	0.53	0.56	1.05	0.36	0.51	1.44
IMP	2.52	1.89	0.75	2.04	1.61	0.79	3.10	2.29	0.74
RW	0.21	0.17	0.79	0.29	0.20	0.68	0.05	0.06	1.21

* Latin American imports from the following markets: Latin America (LA), leading exporters (EXP), developed importers (IMP), rest of the World (RW). Where: EXP Include Bangladesh, China, North Korea, United Arabian Emirates, Philippines, Haiti, Hong Kong, India, Indonesia, Macao, Malawian, Pakistan, Republic of Korea, Rumania, Singapore, Sri Lanka, Taiwan, Thailand, Turkey, Vietnam; IMP Include United States, Canada, Norway and European Union; LA Argentina, Bolivia, Brazil, Colombia, Costa Rica, Chile, Cuba, Ecuador, El Salvador, Honduras, Guatemala, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic, Uruguay, Venezuela, Rest of Latin America

Source: Elaborated using Feenstra's 2000 database.

the 1990s, the leading exporting countries which were subject to restrictions in developed markets reoriented their sales towards Latin America. However, this did not occur in Mexico nor in some Central American countries. While the impulse for imports growth in South American countries came from the exporters and, to a lesser extent, from the region itself, in Central America and Mexico it came from the importing countries. Therefore, this increase cannot be attributed solely to the diversion of exports from the big exporters. Other factors – among them the impact of the NAFTA mainly on the Mexican economy – ought to be investigated.

This paper aims to analyze to what extent the delay in the implementation of ATC may have caused an increase in imports in the LA countries, and exposed their industries to more competition than it would have been the case if both processes had taken place at the same time. To quantify these effects, a general equilibrium multi-country model, the GTAP, is used to simulate the effects of these policies on LA countries.

The paper is organized as follows. It first discusses the possible effects of the implementation of ATC and of trade liberalization in the LA countries. The model and the aggregation strategy are then, presented. The GTAP simulations and the results are analyzed. Conclusions are presented in the last section.

■ EFFECTS ON LATIN AMERICAN COUNTRIES OF THE DELAY IN THE IMPLEMENTATION OF THE ATC

Protectionist policies on textiles and clothing under MFA take different forms, among which the two main ones are voluntary export restrictions (VER) and high tariffs. The analysis of the effects on welfare of the changes in trade policy which affect the sector, should be seen from two points of view using partial equilibrium models: first, considering Latin America as an importer of textiles and clothing, and secondly, taking the region as an exporter.

Effects of voluntary export restrictions

The imposition of VER upon many developing countries by the big world importers leads to a reduction in exports and a rise in their price for exporters subject to quotas in the restricted markets. The decrease of exports results in an excess supply that is re-directed to their domestic market and to third markets not subject to quotas. Consequently, the equilibrium price in those markets that do not use quantitative restrictions is lower than it would be in the case of free trade.

These effects can be seen in FIGURE 1, which takes the diagram used by Martin and Suphachalasai (1990) and Yang, Martin and Yanagishima (1997) to analyze the impact of the elimination of MFA quotas. When a country imposes a quota on imports of a certain good, the volume of imports is determined by the quota (Q^* in the diagram on the right), while the domestic price of the imported good depends on demand (line D_d). The equilibrium price is determined when demand is equal to the volume of the quota (P_d), and is greater or equal to the price which would prevail without these restrictions (P_e).

Figure 1 -   Trade liberalization in the rest of the world under the presence of VER
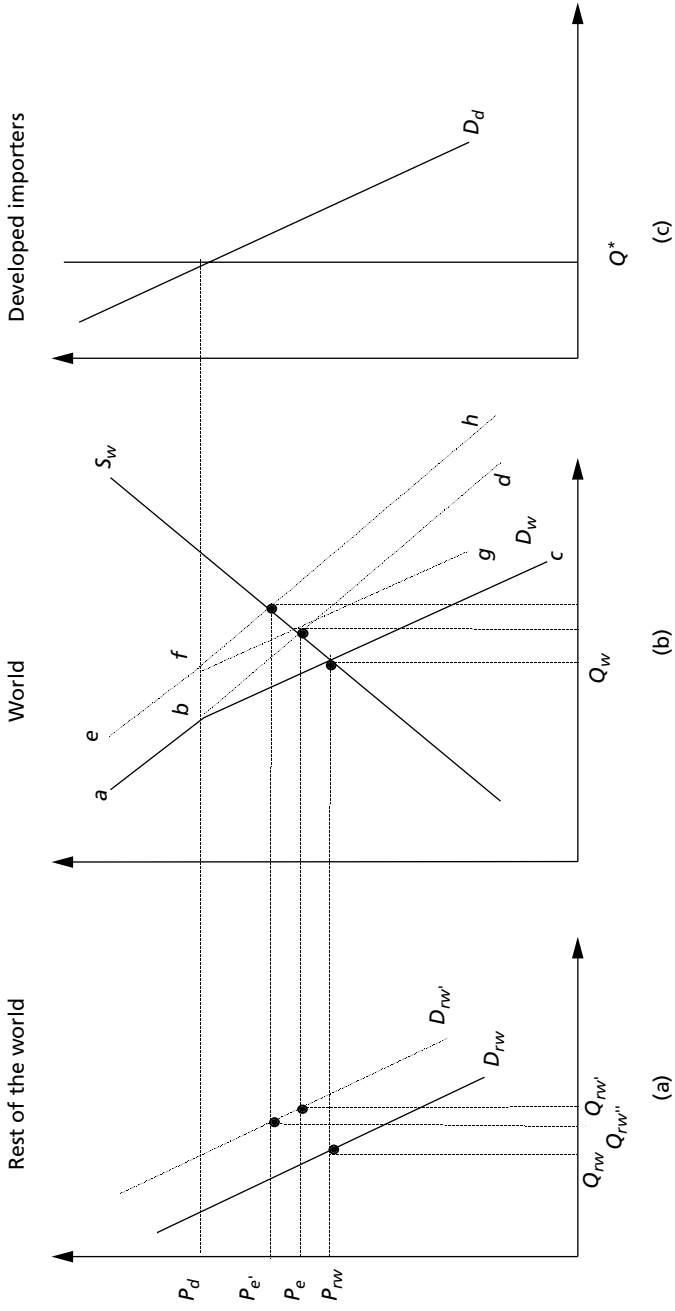
In the diagram on the left, the line D_{rw} represents the demand from the rest of the world, and the line D_w, in the central diagram represents world demand. The segment a-b is the sum of both demands, while b-c is the sum of Q^* plus D_{rw}. In the absence of quotas, the equilibrium price would be equal to P_e (where the line a-d cuts the line S_w). In the presence of quotas, the price in the rest of the world is P_{rw} (where demand b-c cuts supply S_w) which is lower than the price P_e. Therefore, the MFA quotas would generate a fall in the international prices of textiles and clothing in the rest of the world, and a higher level of imports in those countries than it would be the case under free trade.

The possession of a quota constitutes an asset for its owner. For the exporter its cost is given by the market value of the quota. Following Yang, Martin and Yanagishima (1997) it is assumed that all the quota rents are appropriated by the exporter country[4]. Under these assumptions, the quota might be seen as a tariff imposed on the exports of these goods, restricting their volume. The gains from the tariff remain in the exporting country. The level of this tariff is determined endogenously.

The effects of tariffs on the imports of developed countries

Developed countries do not only protect their markets with quotas, but they also impose high tariffs. It can be shown that when imports are restricted by a quota, tariffs do not affect the quantities imported by the developed countries, and therefore they do not have any effect on prices or quantities imported by the rest of the world. In contrast, the persistence of high tariff barriers in the absence of quotas would cause a decline in the terms of trade for the leading exporters, and an increase in imports in the rest of the world. It follows that the quotas and tariffs on the imports of textiles and clothing in the developed countries generate a fall in the export price of the big exporters to the rest of the world, and a rise of imports in the rest of the world.

Effects of trade liberalization of textiles and clothing in Latin America

The textiles and clothing markets in LA countries have been subject to high levels of protection. How do the foregoing conclusions change when these countries reduce their tariffs in this sector? FIGURE 1 is intended to illustrate this point. A tariff reduction leads to an increase in the demand for imports on the part of these countries (the line D_{rw} moves to the right to $D_{rw'}$) and this generates a rise in the world demand for imports and a rise in the international price. Imports would increase from Q_{rw} to $Q_{rw'}$ if the quotas of the MFA are maintained, while this rise would be lower (from Q_{rw} to $Q_{rw''}$) if the liberalization of trade was carried out simultaneously with a lifting of the restrictions of the MFA. The liberalization of trade in LA countries in the absence of quotas would lead to a lower increase in imports than what

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4. They pointed out that some empirical works show that in practice, in the case of the MFA, the developing countries do not always appropriate all the rents to themselves.

would be the case if the same change was carried out while the developed countries maintained their protection.

The magnitude of this effect depends on the relative size of the markets. In an extreme case it might be thought that the LA countries are small so they would not affect the international price. But the increase in imports that has taken place in these countries in recent years has been significant (it accounts for more than 20 percent of the increase in world trade in this sector), so this extreme assumption does not seem very realistic.

Effects of the removal of MFA quotas on non-restricted exporters

The second aspect to analyze is the impact that the elimination of quotas would have on LA exports. In fact, the LA countries are exporters of textiles and clothing to the developed countries and, since they are less competitive suppliers than others, they have been affected by lower quantitative restrictions. As exports from the most competitive countries are restricted, domestic prices in the big importer countries increase, and LA goods can be sold in those markets with higher prices than under free trade.

This point is shown in FIGURE 2. The line D_w represents world demand, and the lines S_x, S_{rw} and S_w represent supply from the leading exporters subject to quotas in the developing countries, in the rest of the world, and in the whole world, respectively. Exports from the big exporters are limited by a quota (Q^*), and hence, world supply is equal to the quota plus the supply from the rest of the world (the line a-b-c). The quota restricts world trade to Q_q and raises the price to P_q. Therefore, if the most competitive exporters are restricted, the rest of the world increases its exports. Once the quotas are eliminated, the world price and exports from the rest of the world will fall while exports from the exporters who had been subject to restrictions will rise.

■ OVERVIEW OF THE MODEL AND AGGREGATION STRATEGY

The partial equilibrium models analyzed in the previous section do not consider the global impact in the whole economy, which is a major advantage of general equilibrium analysis. The Global Trade Analysis Project (GTAP) is a particularly suitable tool for quantifying relative magnitudes in the hypothesis in question. It has a database, a general multi-country equilibrium model, and software which allows for the simulation of alternative policies.

The model is a rather standard multi-region static general equilibrium model (Hertel, 1997). It assumes perfect competition in the markets for goods and factors, and considers a single type of representative consumer. The goods are homogenous, but they are differentiated according to geographic origin using a specification of the Armington type. In its version 4, the model considers four factors of production: skilled labor, unskilled labor, capital and land. Regarding the production side, constant returns to scale are assumed and a Leontief production function is used in order to combine inputs with primary factors, while a nested

Figure 2 -   Effects of a VER on non-restricted exporters
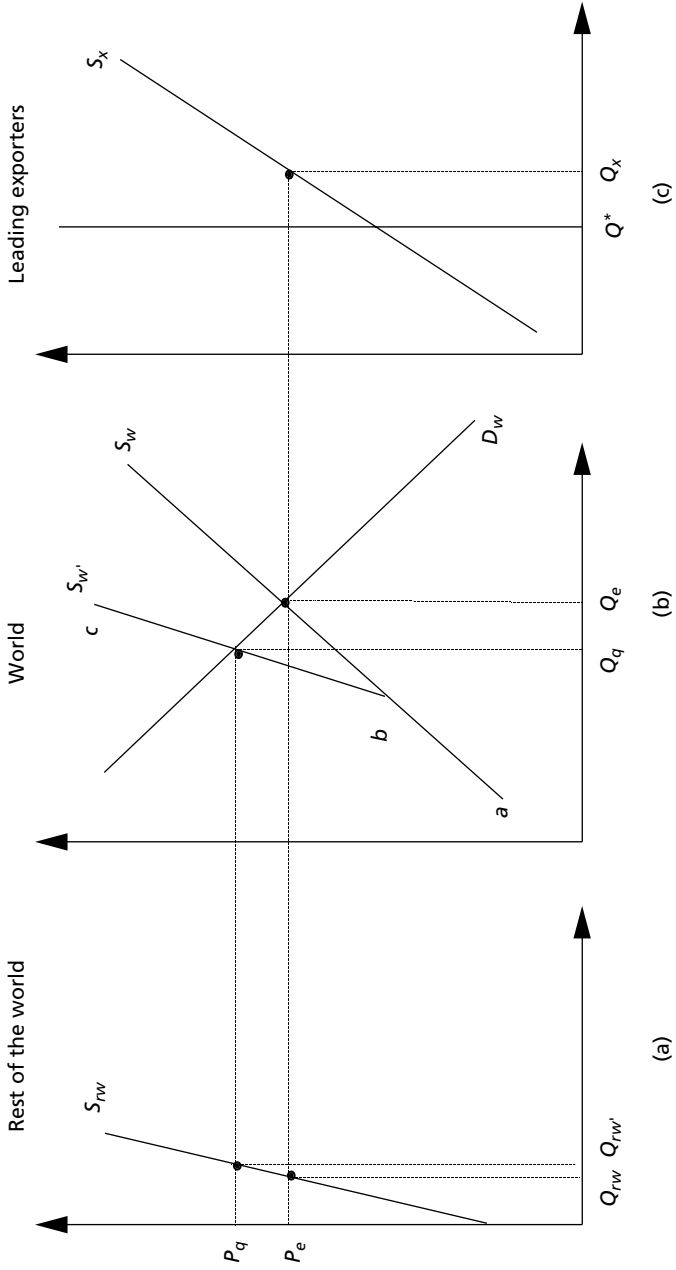
CES is used to combine primary factors. The firms determine the optimal mix of imported and domestic intermediate inputs independently of the prices of primary factors, using an Armington specification. The standard GTAP macroeconomic closure with exogenous capital stock and endogenous trade balance is adopted. The base year for the data is 1995 when liberalization in LA countries had already taken place.

The GTAP database includes the big importers of textiles who have made use of the MFA, most of the exporters subject to quotas, the biggest LA countries and those which showed the biggest import increase in the 1990s. Those LA countries which have not been incorporated into the GTAP database are included in the region denominated "The Rest of Latin America". The GTAP database consider the NAFTA as a free trade zone but other preferential treatment between LA countries were not considered.

Although the real protective impact of the MFA quotas is difficult to quantify, the GTAP4 databases include estimations on bilateral tax equivalents for textiles and clothing. In the standard GTAP model the volume of bilateral exports (qxs in the GTAP notation) is considered as an exogenous variable and the equivalent export tax (txs in the GTAP notation) as an endogenous one. The equivalent export tax was estimated as the ratio between the value of bilateral exports at FOB prices (VXWD in the GTAP notation) and the value of bilateral exports at market prices (VXMD in the GTAP notation). If the quota were binding, FOB prices (PFOB) should be greater than the market prices (PM) and txs > 0. On the contrary, if there were no quotas or the quotas were not binding, then PFOB = PM and txs = 0. This approach is adequate when the quota for exports do not shift status from binding to non-binding (or inversely) but it may prove inadequate if the economic conditions lead a change in their status (Hertel, 1997 and Bach and Pearson, 1996). Other protection tools – as anti dumping duties or safeguards – were not considered.

For the purposes of this paper, ten countries or regions have been considered: United States-Canada; Mexico; European Union; Developing countries with exports subject to quotas; Argentina; Brazil; Chile; Uruguay; Rest of Latin America; and Rest of the World. The first and the third regions comprise the group of importers among developed countries; the fourth group represents the leading exporters among developing countries; the next five groups are LA countries; and the last group gathers countries in the rest of the world. The countries comprised in these groups were selected on the basis of availability of information according to the International Textiles and Clothing Bureau (WTO). Mexico is a special case among LA countries not to be considered in this paper. Having become a major exporter in the nineties, due to its free access to the US market and its protective policy towards other countries, is not affected by the processes here analyzed. Countries included in the fourth category are listed at the bottom of TABLE 2. The sectors considered are: Textiles, Clothing and Others.

■ SIMULATIONS: STRATEGY AND RESULTS

The simulations have been formulated to answer the following questions.

i. To what extent the fall in international prices is caused by the maintenance of import quotas by the big importers?

ii. The same question can be asked with respect to tariffs applied by developed and developing countries to trade in this sector's goods.

iii. How do imports of LA countries react to a change in quotas or in tariffs? What effects do they have on production? How do these measures affect welfare?

iv. How do the above conclusions change if the LA countries lower their protection against imports during the period under analysis?

To answer these questions the following scenarios were simulated.

i. The elimination of quotas without a reduction in protection on the part of LA countries. The elimination of MFA quotas can be considered as a change which brings the equivalent tariffs on the MFA quotas to zero (txs in the GTAP notation). In the model, this effect is simulated as a reduction in the value of txs of developing countries to zero, whenever it is positive (see TABLE 3).[5] The quantities traded behave as an endogenous variable. Additionally, an increase in LA tariffs is simulated, lifting them to the levels prevailing at the end of the 1980's (see TABLE 3).

ii. The reduction of tariffs on textiles and clothing, in line with the commitments assumed in the ATC (14 percent for developing countries and 21 percent for developed countries). To carry out this simulation, the same path as Yang, Martin and Yanagishima (1997) was followed. A reduction in tariffs (tms) is simulated, equivalent tariffs in the textile and clothing sector are endogenous variables, and the exports of exporting countries subject to restrictions are maintained as an exogenous variable. In the case of Latin America, an increase in tariffs needed to reach the level of tariff in force at the end of the 1980s, and their reduction by 14 percent, are simultaneously simulated.

iii. The increase of protection in Latin America to react to the protection prevailing at 1990 with no change in other policy variables. As in the first experiment, an increase in Latin America's tariffs (tms) was simulated.

iv. The elimination of quotas and tariffs in line with the commitments of the ATC. In the case of Latin America the tariffs in force in 1995 were used, except in cases where the fall in tariffs from 1990 to 1995 had been less than 14 percent, in which case a reduction equal to the difference between them was simulated. Tariffs (tms) and equivalent tariffs (txs) were reduced, maintaining the quantities imported as endogenous.

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5. Negative values of txs represent export subsidies, and hence we do not modify these figures when we want to simulate changes in equivalent tariffs of MFA.

Table 3 - Tariffs

Country or Region	Equivalent Tariff on Exports by destination, 1995 (%)				Latin America: Tariff reduction, 1990-1995* Percent Change (%)		
	United States-Canada		European Union				
	Textiles	Clothing	Textiles	Clothing	Textiles	Clothing	Others
Export-Dev.	4.3	12.6	2.4	4.1	–	–	–
Argentina	–	–	–	–	25	16	4.4
Brazil	1.7	0.7	1.7	0.6	39	100	137.7
Chile	–	–	–	–	42	36	36.2
Mexico	0.1	–	–	–	–6	–42	–4
Uruguay	–	–	–	–	85	83	187
LA Ots.	–	0.5	–	–	153	167	176
Rest of the World	0.3	1.4	–	0.1	–	–	–

* Weighted Average Tariff, LAIA database.

Source: Elaborated using GTAP and ALADI database.

The following results were obtained by comparing scenarios 1, 2 and 4 with scenario 3. The last scenario shows how the world would have been in 1995 if countries in LA had not opened their markets and if other changes had not occurred between 1990 and 1995.

Table 4 -   Experimental design

Experiment	Exogenous variable	Shocked Variables
E1	txs	txs (textiles and clothing only) tms (LA countries only)
E2	qxs	tms (textiles and clothing) tms(LA countries)
E3	qxs	tms (LA countries only)
E4	txs	txs (textiles and clothing only) tms (textiles and clothing)

Removal of MFA quotas according with the commitments of the ATC with no reduction of protection in Latin America (Experiment 1-Experiment 3)[6]

The removal of the MFA quotas would generate a redistribution of world production and trade in textiles and, fundamentally, in clothing. The big exporters among the developing countries would increase their production and their exports, and displace other exporters in North America and the European Union (see TABLE 5). These results are similar to those of Yang, Martin and Yanagishima (1997). The leading exporters from developing countries expand their exports at the expense of the importing developed countries, but also against other developing countries – as LA –, which are less restricted.

The results show that the two hypotheses formulated above are useful to explain the estimated changes in trade in the sector. On the one hand there is a fall in exports of the LA countries in line with the hypothesis which predicted that the removal of the MFA restrictions would lead to a reduction in LA exports, displaced in the big markets by the increase in exports from the big exporters subject to restrictions. On the other hand, there is a reduction in imports in line with the hypothesis that the maintenance of MFA restrictions led to divert the export of leading exporters to LA markets. However, the effect on exports is larger, so that the removal of quotas leads to a fall in production in Latin America (see TABLE 5). LA countries would reduce their exports of clothing significantly. On the contrary, Uruguay, and to a lesser extent Argentina, would increase their exports of textiles.

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6. The results reported were obtained comparing the first scenario with the benchmark excluding the changes derived from increase the tariff in LA, which were estimated in the third scenario.

Table 5 - Impact on production and trade (% change)

	Production (qo)		Export (qxw)		Import (qiw)	
	Textiles	Clothing	Textiles	Clothing	Textiles	Clothing
MFA quotas removal						
USA-Canada	−3.3	−11.4	−1.0	−6.1	−1.3	27.8
Mexico	−4.2	−14.5	−3.0	−42.8	−2.2	0.4
EU	−1.0	−4.0	−0.8	−6.9	−0.7	2.6
Export-Dev	5.3	18.2	4.4	29.6	7.0	2.1
Argentina	0.0	0.0	0.4	−4.8	0.0	−0.4
Brazil	−0.4	−0.4	−5.0	−27.1	−0.4	−0.3
Chile	−0.4	−0.9	−2.7	−23.0	−0.3	−0.5
Uruguay	1.1	−1.1	2.1	−4.3	0.1	0.0
LA others	−5.3	−11.8	−1.3	−25.7	−2.7	−1.5
Rest World	−0.3	−1.6	1.5	−10.7	−0.5	−0.6
Trade liberalization in LA						
USA-Canada	0.1	−0.1	1.4	14.5	0.1	3.2
Mexico	−0.5	−1.6	−0.5	−7.3	−0.3	−3.0
EU	0.0	−0.1	0.1	−0.3	0.0	0.0
Export-Dev	0.2	0.3	0.5	0.4	0.2	0.1
Argentina	−0.5	−0.3	−3.3	14.2	9.5	12.6
Brazil	0.3	−0.4	11.3	2.4	1.8	42.7
Chile	−1.3	−1.4	9.1	1.1	3.3	7.9
Uruguay	5.9	3.8	13.9	38.7	15.1	41.1
LA others	−9.0	−2.0	12.5	27.5	19.4	38.3
Rest World	0.0	0.0	0.2	0.0	0.0	−0.1
ATC implementing plus trade liberalization in LA						
USA-Canada	−4.5	−13.9	−0.1	7.8	0.6	38.4
Mexico	−4.9	−15.6	−5.8	−54.1	−2.1	2.2
EU	−1.8	−7.1	−1.2	−11.1	−0.9	5.9
Export-Dev	7.2	24.4	12.1	40.9	15.1	8.4
Argentina	0.5	0.3	−2.6	9.3	9.6	13.2
Brazil	−0.3	0.2	12.8	−10.4	1.9	43.5
Chile	1.0	0.5	7.9	−17.1	3.1	8.6
Uruguay	−4.3	−5.2	17.0	33.9	15.4	41.8
LA others	3.3	−11.7	11.6	−3.1	15.6	35.7
Rest World	−0.5	−1.6	6.7	−3.8	3.6	4.7

TABLE 6 shows how the removal of the MFA quotas leads to a rise on exports from the big exporters to the protected markets of the developed countries, accompanied by a fall in their exports to Latin America and to other markets.

The prices of exports from the leading exporters to the European Union and the USA-Canada fall significantly, while they increase in the other final markets (TABLE 7), generating a displacement of LA exports towards other markets. LA goods would not be able to compete in the developed markets with those from the most competitive exporters. Similarly, as a consequence of the rise in prices of imports from big Asian suppliers, the elimination of the MFA quotas would lead to a reorientation of LA purchases towards other regional suppliers and North America.

Table 6 -   Effects on exports of leading exporters by destination (qxs) (% change)

Destination	USA-Canada	Mexico	EU	Export-Dev	Argentina	Brazil	Chile	Uruguay	Rest LA	Rest World
MFA quotas removal										
Textiles	10.1	−4.3	7.1	6.4	−1.4	−1.6	−1.8	−1.3	−3.9	−1.6
Clothing	81.4	−11.0	26.1	1.0	−2.4	−1.7	−2.2	−1.9	−4.9	−2.1
Trade liberalization in LA										
Textiles	0.0	−3.2	0.0	0.1	4.8	6.3	2.8	14.0	22.9	−0.1
Clothing	0.0	−75.4	0.0	0.0	5.9	39.5	6.6	37.0	41.9	−0.2
ATC implementing plus trade liberalization in LA										
Textile	14.6	1.9	11.1	15.5	3.8	5.3	1.3	13.1	17.8	5.4
Clothing	95.0	12.0	41.8	8.7	6.2	39.4	6.4	37.1	35.0	3.1

Table 7 -   Effects of MFA removal on import prices (pcif) (% change)

Dest. Origin	USA-Canada		European Union		Other	
	Textiles	Clothing	Textiles	Clothing	Textiles	Clothing
USA-Canada	−0.2	−0.6	−0.2	−0.6	−0.2	−0.6
Mexico	−0.4	−0.3	−0.5	−0.4	−0.3	−0.4
EU	−0.1	−0.2	−0.1	−0.2	−0.1	−0.2
Export-Dev	−3.9	−12.3	−2.1	−3.7	0.3	0.3
Argentina	−0.1	0	−0.1	0	−0.1	0
Brazil	1.7	1.6	1.7	2.2	−0.1	−0.1
Chile	1.3	0.6	1.3	1.2	−0.1	−0.1
Uruguay	0	0	−0.1	0	0	0
LA Ots.	−0.4	−0.9	−0.5	−0.4	−0.5	−0.4
Rest of the World	−0.3	−1.9	0	−0.4	0	0

TABLE 8 shows the effects of the removal of the MFA quotas on welfare – measured by the equivalent variations – , and on the terms of trade. The net effect for the world is positive, but it is clearly negative for Latin America, which cannot compete with the big exporters. On the other hand, the big winners are the United States and Canada, and the leading exporters.

Table 8 -   Welfare and terms of trade effects by experiment

	Experiment 1		Experiment 2		Experiment 3		Experiment 4	
	EV	TT	EV	TT	EV	TT	EV	TT
USA-Canada	4,026	0.1	−151	−0.1	2,650	0.1	6,000	0.2
Mexico	−329	−0.3	29	−0.1	83	0.1	−271	−0.2
EU	761	0.1	−124	0	1,915	0.1	2.410	0.1
Export Dev	1,822	0	1,245	0.1	1,272	0.1	5.907	0.1
LATIN AMERICA								
Argentina	−2	0	74	−0.1	458	0.5	456	0.5
Brazil	−79	0	904	−0.8	2,468	−3.9	2,421	−3.9
Chile	−2	0	−61	−0.4	−134	−0.8	−132	−0.8
Uruguay	1	0	9	−0.3	−6	−2.2	−5	−2.2
LA Ots.	−568	−0.4	317	−0.4	421	−1.6	−119	−2
Total LA	−650		1,243		3,207		2,621	
Rest of the World	−855	0	870	0.1	1,126	0.1	947	0.1
Total	4,775		3,114		10,254		17,614	

EV-Equivalent Variations ($US millons) TT- Terms of Trade.

Effects of the reduction in tariffs in line with the commitments of the ATC (experiment 2-experiment 3)[7]

A tariff reduction on textiles and clothing was simulated: 21 percent in the developed countries and 14 percent in the developing countries, in accordance with the commitments assumed in the ATC. The reduction in tariffs led to a rise on the demand for imports in the whole world. Since the leading exporters continue to be restricted in North America and Europe, imports from this source remain unchanged but imports prices go up. In turn, imports from other sources rise. LA imports increase significantly and its production falls. The removal of tariffs has a positive effect on LA countries welfare (except Chile). The leading exporters among the developing countries are the big winners. In contrast, the developed countries lose welfare due to the worsening of their terms of trade.

Reduction of protection in Latin America without implementation of the commitments of the ATC (experiment 3)

The third scenario involves a fall in the tariffs of LA countries without removing any other distortion on trade (see TABLE 3). The effects on welfare are more significant than in the two previous experiments. All regions increase their welfare except Chile and Uruguay. Brazil is the big winner (TABLE 8). The effects on production and trade of the fall in tariffs are concentrated in the region itself (TABLE 5), and have little effect on the rest of the world. The table shows a significant growth in the imports of all LA countries a growth which is bigger in the clothing sector. In general, the growth in imports is accompanied by a lower growth in exports. As a

7. The results reported were obtained by comparing the second scenario with the benchmark, excluding the changes caused by the tariff increase in LA, which were estimated in the third scenario.

consequence, the production of textiles in Argentina, Chile and the rest of Latin America falls, as does the production of clothing throughout the region (except Uruguay).

In this increase of LA imports, the LA countries themselves play a very important role, as do the United States-Canada, and the leading Asian exporters, the latter mainly in the case of clothing (see TABLE 5). In fact, the rates of growth of exports from the developing exporters to Latin America are much higher than those to the rest of the world. The opening up of Latin America without the simultaneous removal of the MFA restrictions could have accentuated the diversion of exports of the leading exporters, – found in the first experiment –, to Latin America. However, another phenomenon appears which is not explained in either of the two partial equilibrium models presented: the vitality of exports inside the region itself. Latin America exports had a strong geographic bias towards the region itself at the beginning of the 1990s. This geographic bias, along with the increased participation of Latin America in world imports of textiles and clothing, might explain the vigor of its exports inside the region. This result, obtained using a specification of the Armington type, is consistent with the observed growth of trade in textiles and clothing inside Latin America.

Joint implementation of the commitments of the ATC and a reduction of protection in Latin America (experiment 4-experiment 3)

This experiment combines the three previous ones. As in the first experiment, there is a geographic re-distribution of world production from all regions to the big exporters (see TABLE 5). Again, LA imports rise substantially, but this time they are accompanied by the growth imports in other regions. Latin America increases its exports of textiles (except Argentina) but decreases its exports of clothing (except for Uruguay and Argentina). In any case the effect of the diversion of trade would be small. What the simulations do show is that the opening up of Latin America compensates the fall in exports caused by the removal of the MFA, and in some cases reverses it.

In welfare terms, the United States, Canada and the leading exporters are the big winners (see TABLE 8). Latin America as a whole also increases its welfare because of the results for Argentina and Brazil. However, the other LA countries show a small welfare loss. The increase in LA imports is explained to a large extent by trade growth in textiles and clothing inside the region. However, in the case of the rest of Latin America, the origin of this growth is North America. The negative effect on welfare in Latin America caused by the removal of the MFA is compensated by the improvement in welfare derived from its own trade liberalization.

The results of trade liberalization in LA can be compared with the joint implementation with ATC (TABLE 5) in order to find out whether or not the postponement in implementing the ATC generated a rise in LA imports diverted by leading exporters. In the case of the textile sector, this diversion would occur for all the LA countries, while in the clothing sector the exceptions are Argentina and Uruguay.

◼ Conclusions

In the 1990s the LA economies underwent a significant trade liberalization process. Tariffs were reduced and other restrictive barriers were dismantled. Consequently, there was a significant increase in LA imports of textiles and clothing, coming mainly from the big exporting countries and from LA itself. This process was carried out before the worldwide liberalization of trade in textiles and clothing agreed in the ATC was made effective, so that world trade in the sector grew slowly.

The simulations show that the mere removal of the MFA quotas would lead to a rise in the production and the exports of the leading exporters, which would displace other suppliers in the markets of developed countries, particularly those from Latin America. In the same way, there would be a fall in LA imports, in line with the hypothesis that the MFA quotas generated a diversion of exports from the leading exporters towards Latin America, increasing its imports. The effect on exports seems to predominate, so the final result is a fall in LA production. The net effect for the welfare of the world is positive, but Latin America does not seem to benefit from the implementation of the ATC. This effect may be partially offset by the positive effect derived from Latin America's own commitments in the ATC, which would lead to a reduction in its tariffs.

The simulation of trade liberalization in Latin America gives results in line with the observed facts. LA imports grow significantly. The exports of the leading exporters to Latin America grow more than those to other regions, indicating that the liberalization of LA trade might have accentuated the diversion of trade caused by the MFA quotas. Similarly, there is a strong vitality of intrarregional exports in LA, which can be explained by the increased share of Latin America in world imports. The effect on welfare is positive.

Finally, the joint implementation of both policies leads to a fall in production, a rise in imports of textiles and clothing, and an increase in exports of textiles in Latin America. The delay in the implementation of the ATC would have led to a greater increase in imports that it would have been the case if both policies had been implemented simultaneously, but this happens only in some cases. The net effect on welfare in Latin America is positive. The negative effects of the removal of quotas are compensated by the positive effects of liberalization of LA trade and the reduction of tariffs on line with the commitments of the ATC. However, the comparison of scenario 3 with 4 suggests that LA countries should expect little changes in welfare from the implementation of the ATC. The rest of LA should experience a greater loss in welfare relative to the biggest LA countries. It must be signaled, however, that the results for these countries might change, as they are sensitive to the tariff equivalents used in the GTAP4 database, and those for Argentina, Brazil and Chile – countries that have been subject to MFA quotas – might be underestimated (values used are very small).[8]

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