Chapter 4

Competing with the Dragon: Latin American and Chinese Exports to the US Market

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Abstract

How sensitive are Latin American exports to the impact of Chinese competition in the United States, their main market? This chapter calculates US import-substitution elasticities and uses them to estimate changes in Latin American and Chinese market shares under three scenarios: a substantial appreciation of the Chinese currency, regional free trade in the Americas and full elimination of US import quotas on textiles and apparel. The first two of these international policy shifts would benefit Latin American exports in US markets, and the third would not, but all three effects are not as large as one might imagine. External events cannot suffice to redress Latin America's relatively poor trade performance *vis-à-vis* China. The authors suggest attention throughout the region to policies that could boost its productivity performance.

Introduction

The recent emergence of China on the international economic scene is a momentous event profoundly transforming the world. Not a day goes by without headlines announcing how the Asian giant impacts commodity prices, capital flows, current account balances and factor and goods markets around the globe. Reactions to the way China affects the world economy vary from hope to fear to outright fatalism. Some observers see China as a vast and brisk market with enormous growth potential and opportunities. Others see it as a

disruptive threat to existing industries in higher-wage countries. Still others feel there is little countries can do to cope with the mixture of threats and opportunities that China represents.

This wide range of views can be found in Latin America and the Caribbean (LAC). Whereas, for example, Southern Cone countries have benefited from the increased demand and consequent price rises of copper, iron ore, soybeans and other primary products, Central American and Caribbean countries have felt the brunt of Chinese export competition in world apparel markets. Reactions vary even within the countries of the region. Brazilian agricultural producers are upbeat about the rise of China, while Brazilian manufacturers complain of unfair competition and call for protectionist measures.

This chapter measures the extent to which China might impact LAC countries through heightened competition in world markets[2]. Competition in the US market is especially important because the United States has traditionally been LAC's trading partner *par excellence* as already stressed in Chapters 2 and 3 of this book. Hence the analysis focuses particularly on assessing how international economic policy changes could affect Latin American exports to the United States. The relevance of such an exercise is apparent. The exorbitant US trade deficit with China, which exceeded $200 billion in 2005, has created tension between the two countries. Protectionist feelings against China are hence on the rise in the United States. Amidst an ongoing debate on the underlying nature of the ballooning trade deficit and of global current account imbalances in general, some analysts blame China's exchange-rate policy for keeping its currency, the renminbi (RMB), undervalued. Absent a correction of the Chinese policies that prevent an appreciation of the RMB, US policymakers have proposed slapping surcharges on all Chinese exports to the United States. While RMB appreciation would reduce Chinese exports to the United States, the relative price of exports from the rest of the world would fall, making exports from Latin America and other regions more appealing to US consumers. A key question then is how much Latin American exporters would gain from a revaluation of the Chinese currency.

Another reason to care about assessing the sensitivity of LAC exports to Chinese competition is the emphasis that current US trade policy gives to the pursuit of bilateral trade agreements with Latin American countries. In addition to having free trade agreements in place with Mexico (1994) and Chile (2004), the United States has recently signed an agreement with five Central American countries and the Dominican Republic, has finalised negotiations with Colombia and Peru in 2006, and is currently engaged in

talks with the Ecuadorean government. While the political momentum toward establishing a hemisphere-wide free trade area has fizzled, it is worthwhile asking how much the elimination of US tariffs on all Latin American countries might help them compete with Chinese goods in US markets.

Latin American countries have worried particularly about the elimination of import quotas on textile and apparel products, in compliance with the WTO's Agreement on Textiles and Apparel (the Multi-fibre Agreement, or MFA). Import quotas restricted access to US and European markets for Asian exporters. Analysts have argued that Latin American countries, faced with higher labour and energy costs than their Chinese counterparts, would be greatly affected by the elimination of quotas. In January 2002, the third stage in the elimination of quotas was put in place, coinciding with a sharp increase in Chinese apparel exports and a parallel decline in LAC sales to the United States. In January 2005 the fourth and final stage was implemented. Was the decline in LAC exports after 2002 the result of the elimination of quotas? Does the final elimination presage even more trouble for Latin American exporters?

Although changes in the international economic policy environment such as those described above would certainly be expected to tilt the balance between China and Latin America in selling to the United States, exports could also be affected by domestic factors that reduce the ability of Latin American firms to compete in world markets. In marked contrast to China, productivity growth in Latin America has been downright disappointing. That may go far to explain the lethargic export performance of the region. Therefore, the analysis here offers a tentative assessment of the extent to which slow productivity growth may explain Latin America's limited exports.

To assess how Latin American exports would be affected by Chinese competition under each scenario, the chapter relies on the authors' estimates of the elasticity of substitution between imports from different countries in US consumption. López-Córdova *et al.* (2005) present a technical account of the methodology used for deriving these estimates. The analysis here emphasises their policy applications.

Evolution of Latin American and Chinese Exports to the United States

The United States has been Latin America's most important trade partner in the post-war era. Trade with the United States stood at 60 per cent of the region's trade with the world in 2000[3], up from less than 47 per cent in 1960,

having grown continuously since the mid-1970s (Figure 4.1). Latin America has also been an important trade partner for the United States, but with significant fluctuations over the last three decades. As Figure 4.2 shows, total trade with Latin America fell in importance through the late 1980s, but has since picked up. Figure 4.2 also highlights the growing importance of US-China trade, which has risen from an insignificant fraction of US trade to more than 5 per cent currently.

The remarkable growth in US trade with China and the challenges it portends for Latin American countries are most impressive in US import data (Table 4.1). From 1990 to 2003, Latin American exports to the United States increased from $58 billion to $196 billion, growing in real terms at an annual rate of 6.9 per cent. As US imports from the world as a whole grew at 4.8 per cent over the same period, Latin America's share of the US market rose from 13.5 per cent in 1990 to 17.5 per cent in 2003. In the meantime, however, Chinese sales to the United States grew at a breakneck 16.6 per cent annually, reaching $147 billion in 2003. China's export dynamism pushed its share of US imports to increase four-fold to 13.2 per cent in 2003.

Although Latin America as a whole had a fair export performance over the last decade, aggregate figures mask important differences among countries in the region. The lion's share of the increase in exports from Latin America, more than 80 per cent, came from Mexico, which raised its share of the US market from 6 per cent to 11.5 per cent from 1990 to 2003. Over the same period, exports from Caribbean, Andean and other South American countries grew more slowly than world exports to the United States; only Central America, along with Mexico, performed better than the world as whole. Even Mexico, despite being bound to the United States by geography and by the North American Free Trade Agreement (NAFTA), has not been able to keep up with China's export dynamism. By 2003 China had surpassed Mexico as the United States' second most important import supplier, behind Canada.

Aggregate trade figures also hide differences in the sector composition of Chinese and Latin American exports to the United States (Table 4.2). LAC is an important supplier of agricultural and mining products (including oil) to the United States, with shares of around 50 per cent and 30 per cent of US import demand respectively. Close to a quarter of all Latin American exports consist of non-manufactured goods – around three quarters for the Andean countries. At the opposite extreme, Mexico has the highest share of manufactured exports to the United States (86 per cent), followed by Central America and South America (84 per cent in both cases). Central in particular saw a significant change in the composition of its exports. In a shift from

Table 4.1. **Chinese Export-Price Elasticity of US Imports, by Region, 2001**

(Per cent change in US imports from each region in response to a 1 per cent reduction in the prices of Chinese goods)

	Total Trade	Agriculture	Mining	Manufactured Goods			
				Total	Leather, Apparel, Textiles	Machinery and Equipment	Other
World	0.421	0.040	0.000	0.482	1.024	0.414	0.428
LAC	-0.080	-0.002	-0.001	-0.094	-0.244	-0.085	-0.030
Mexico	-0.084	-0.002	-0/001	-0.093	-0.246	-0.086	-0.046
Central America	-0.104	-0.001	-0.001	-0.129	-0.142	-0.184	-0.035
Caribbean	-0.099	-0.003	-0.002	-0.111	-0.207	-0.107	-0.008
Andean	-0.011	0.000	-0.001	-0.045	-0.185	-0.082	-0.009
South America	-0.110	-0.004	-0.002	-0.097	-0.797	-0.049	-0.015
China	3.690	1.940	0.443	3.679	4.533	3.757	3.021
Rest of the World	-0.074	-0.004	-0.001	-0.082	-0.383	-0.073	-0.027

Source: Authors' calculations.

Table 4.2. **Chinese Revaluation and US Imports, by Region, 2001**

(Per cent change in US imports from each region in response to a 20 per cent RMB revaluation)

|	Total Trade	Agriculture	Mining	Manufactured Goods			
				Total	Leather, Apparel, Textiles	Machinery and Equipment	Other
World	-2.524	-0.239	-0.002	-2.895	-6.145	-2.483	-2.567
LAC	0.478	0.011	0.005	0.566	1.461	0.508	0.181
Mexico	0.507	0.011	0.005	0.555	1.474	0.517	0.279
Central America	0.626	0.003	0.004	0.774	0.852	1.106	0.208
Caribbean	0.592	0.015	0.010	0.667	1.243	0.641	0.050
Andean	0.066	0.002	0.004	0.271	1.111	0.493	0.056
South America	0.660	0.025	0.010	0.584	4.781	0.295	0.091
China	-22.140	-11.641	-2.661	-22.075	-27.198	-22.544	-18.126
Rest of the World	0.444	0.023	0.004	0.490	2.300	0.438	0.163

Source: Authors' calculations.

Figure 4.1. **Latin America's Trade with the United States, 1960-2000**
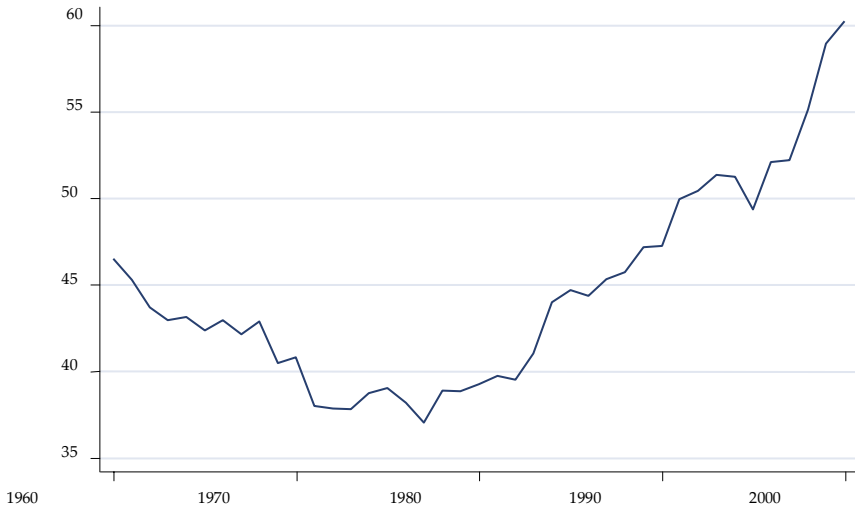
Note: Total trade is the sum of exports and imports.
Source: Based on IMF data.

Figure 4.2. **US Trade with China and Latin America, 1960-2000**

Share of Total US Trade
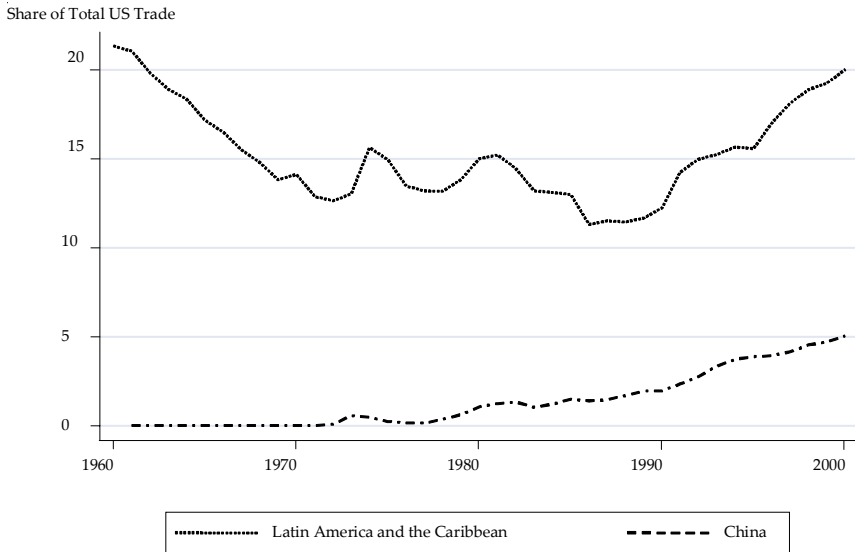
Note: Total trade is the sum of exports and imports.
Source: Based on IMF data.

Table 4.3. **Tariff Elimination on Latin American Goods and US Imports, by Region, 2001**
(Per cent change in US imports from each region in response to tariff reduction
on Latin American exports to the level of Mexico in 2001)

	Total Trade	Agriculture	Mining	Total	Manufactured Goods		
					Leather, Apparel, Textiles	Machinery and Equipment	Other
World	0.403	0.367	0.004	0.429	3.100	0.104	0.134
LAC	3.055	0.780	0.024	3.693	20.165	0.790	1.275
Mexico	0.801	0.961	0.000	0.836	2.796	0.678	0,599
Central America	20.869	0.000	-0.005	26.966	36.292	0.607	0.000
Caribbean	8.944	-0.126	0.000	9.698	21.117	1.000	0.603
Andean	1.311	-0.016	0.051	5.929	28.845	2.257	0.713
South America	6.360	1.930	0.010	5.700	36.020	2.115	3.185
China	-0.304	-0.031	-0.003	-0.239	-1.098	-0.045	-0.006
Rest of the World	-0.134	-0.020	-0.004	-0.155	-1.695	-0.029	-0.023

Source: Authors' calculations.

agricultural to manufactured exports the share of agricultural exports dropped by 20 percentage points. In contrast with Latin America, China is a relatively insignificant supplier of agricultural and mining exports, while manufactures represent over 99 per cent of its exports to the United States. AmericaImportant differences appear within the manufacturing sector as well (Table 4.3). In 2003, leather (including footwear), textile and apparel products comprised approximately a fifth of all Chinese exports to the US market, compared with 8 per cent to 9 per cent for Mexico and South America and 75 per cent for Central America. Moreover, machinery and equipment exports amounted to almost half of all Chinese sales to the United States compared with 5 per cent and 10 per cent for the Andean and Central American countries, respectively and 76 per cent for Mexico.

China's strong export performance – and Latin America's relative weakness – have become patently manifest since 2000. During 2000-2003, as US demand for world goods declined at a rate of 3.2 per cent per year (2.7 per cent for Latin American goods), Chinese exports to the United States expanded by 11.9 per cent per annum (Table 4.1). The figures for manufacturing are more dismal, showing a yearly drop of 3.9 per cent in overall Latin American exports and declines as high as 12 per cent and 17 per cent, respectively, for the Caribbean and Andean nations (Table 4.3). Chinese exports of leather goods, apparel and textiles climbed by 7.3 per cent annually, compared with negative rates greater than 8 per cent for Mexico and South America; for Latin America as a whole, such exports fell by more than 5 per cent per year. In machinery

and equipment, while China's exports grew by 15 per cent annually, exports from Central America contracted at almost 18 per cent per year, although the region as a whole performed slightly better.

China's export dynamism has been undeterred by higher tariffs levied in the United States against it relative to Latin America. In 2003, average tariffs on manufactured imports were more than three times as high on Chinese as on Latin American goods. Mexican exports of leather goods, textiles and apparel paid on average 0.8 per cent *ad valorem*, compared with 9.4 per cent paid on Chinese exports. Of course, averages hide differences in the composition of exports coming from each country and should be read with caution. Still, tariff provisions under NAFTA, the Andean Trade Preference Act (ATPA) or the Caribbean Basin Initiative (CBI) give a preferential edge to some Latin American nations over China. While some studies demonstrate that tariff preferences (e.g. those under NAFTA) indeed have led to increased exports to the United States, China appears to have a comparative advantage that is difficult to compensate through low tariffs on Latin American exports.

One cannot extract causal conclusions regarding the impact of Chinese competition on LAC exports from the previous figures. LAC's modest export performance after 2000 could have resulted from slowdown of the US economy or from internal factors that hinder export competitiveness in the region. Indeed, Hanson and Robertson (2006), looking at Mexico, conclude that China is responsible for just a small fraction of the decline in Mexican sales to the United States, with the lion's share explained by factors that constrain Mexico's own export capacity. Still, China's and Latin America's export baskets are increasingly similar (Devlin *et al.*, 2005), especially for LAC countries that export manufactures, and as a result LAC would be vulnerable to heightened Chinese competition.

The picture that emerges from the foregoing barrage of trade statistics shows that China has become a direct competitor with Latin American countries in their prime export destination, and that such competition may be eroding their share of the US market. That appears to be particularly the case for exporters of manufactures, such as Mexico, Central America and the Caribbean, and especially in low-wage industries, like leather-goods, textiles, and apparel.

A natural question to ask is how changes in the policy environment would alter the current situation. Some of the countries that appear more vulnerable to Chinese competition are in the process of establishing trade agreements granting them preferential access to the US market – e.g. CAFTA[3] – and the region as a whole contemplates a hemispheric-wide *Free Trade Area of the*

Americas (FTAA) agreement. Both might help the region compete more effectively with China in the United States. On the other hand, the January 2005 removal of quotas in place under the MFA presages increased Chinese presence in US apparel and textile consumption[4]. Beyond changes in the realm of trade policy, other factors that come to mind are the potential impact on Latin American exports of renminbi appreciation, or of China continuing to outpace Latin America in productivity growth.

Estimating the Sensitivity of LAC Exports to Chinese competition

The analysis here of how LAC competes with Chinese products in the US market first computes US import elasticities. Assume that there is a set of goods and that each country can produce a different variety of each good. For goods produced in a given sector, US imports are characterised by a constant elasticity of substitution (CES) demand function. The flexible specification used allows different preferences for each good and variety. It also allows preferences for goods from a given country as well as the US expenditure share in each sector to vary over time. López-Córdova *et al*. (2005) present a complete description of the empirical framework. The import elasticities are computed using a two-stage least squares approach and bilateral US import data for 1990-2003. The US Customs data are disaggregated at the 6-digit harmonised system level and cover imports from more than 150 countries around the world.

Assuming that all sectors have the same elasticity of substitution, the estimates suggest that the within-sector US import demand elasticity is around five. This lies in the range of previous studies – in the lower bound of Romalis (2003) for Mexico, for example. The assumption that the elasticity of substitution is constant across sectors is rather strong, however. Contrary to previous papers[5], the methodology permits relaxing that assumption. The results presented below assume different within-sector elasticities, which are computed for five different sectors (agriculture, mining, textiles, fabricated metal products, machinery and equipment and other manufacturing products). The results reported in López-Córdova *et al*. (2005) show that within manufacturing, textiles products have a significantly larger elasticity of substitution (seven). For agriculture the elasticity is three whereas it is almost seven for mining, consistent with what one should expect for such a commodity sector. To summarise, within-sector elasticities vary significantly across sectors, and it is important to consider such heterogeneity in estimating the potential effect of any change in trade policies on bilateral trade flows.

What do the elasticity estimates tell us about China-LAC competition? Table 4.1 (see also Annex on page 128) presents forecast estimates of how a one per cent drop in the price of Chinese exports to the United States affects sales to US consumers, from both China and the rest of the world. Naturally, a price drop leads to an expansion of Chinese exports to the United States, by 3.7 per cent according to these results, while exports from other regions fall. Sales from Latin America and the rest of the world decline by 0.1 per cent each. Overall US imports increase by a mere 0.3 per cent. As expected, the biggest impact occurs in the manufacturing sector, where China's export offer is concentrated. Chinese exports of leather goods, apparel and textiles rise by 4.5 per cent, drastically displacing exports from Mexico (0.2 per cent) and South America (0.8 per cent). Machinery and equipment sales from Central America decline by 0.2 per cent as they are displaced by a 3.8 per cent increase in Chinese exports.

Policy Scenarios

Consider now how exports to the United States from LAC, China and the rest of the world may change under alternative policy scenarios. Three such scenarios are constructed – for a revaluation of the RMB, for an elimination of US tariffs on imports from Latin America, and for the ending of US quotas on textile imports from China – the latter two being US trade policy variants. Finally, the analysis looks at productivity growth differentials as determinant of lagging export performance in Latin America. The methodology for computing such forecasts is described in López-Córdova *et al*. (2005).

Currency Revaluation

One can apply the elasticities in Table 4.1 to an assessment of the potential implications for US imports of a revaluation of the Chinese currency. The analysis is admittedly crude, as it assumes that exchange-rate appreciation leads only to changes in the prices of Chinese goods with no general equilibrium effects on either the Chinese economy or the rest of the world. Indeed, it assumes that the exchange rates of other countries remain unchanged, which is probably a strong assumption, especially regarding other Asian nations. Potential adverse effects of the revaluation on the Chinese economy, such as disruptions in the financial sector, also are ignored.

Consider what would happen if the RMB is revalued by 20 per cent. This does not imply that the prices of Chinese exports increase by the same percentage. Chinese exports embody a large fraction of imported inputs – as much as 70 per cent of the value of exports, according to some authors. Taking that figure as valid and assuming that a revaluation increases only the prices of Chinese inputs, including labour, embodied in exports (30 per cent of their value) a 20 per cent revaluation implies a 6 per cent increase in the price of Chinese exports. Table 4.2 (see also Annex on page 128) shows the forecasts for US imports under this scenario.

These estimates suggest that a 20 per cent RMB revaluation would reduce Chinese exports to the United States by more than a fifth, or $54 billion based on 2005 trade figures. Chinese sales of leather products, apparel and textiles would be the most sensitive, falling by close to 27 per cent. Importantly, such a renminbi revaluation would have only a modest impact on total US imports, which would decline by a mere 2.5 per cent ($42 billion). Since the US current account deficit in 2005 exceeded $200 billion, the view that a relaxation of China's exchange-rate policy would provide the silver bullet to correct US external imbalances is probably misplaced. Solving global imbalances requires a multi-dimensional strategy, involving perhaps greater RMB flexibility in addition to greater economic dynamism in Europe and a fiscal adjustment in the United States.

A change in China's exchange-rate policy would not reduce US imports significantly because, as one would expect, an RMB appreciation would result in improved export competitiveness in the rest of the world. In particular, Latin American sales to the United States would grow by 0.5 per cent or close to $1.4 billion from the 2005 level. While South and Central American countries would benefit most, the Andean countries would see marginal increases in exports due to the prominence of oil in their export baskets. Exports of leather, apparel and textiles from this region would grow by 1.5 per cent – 4.8 per cent for South America. Thus, the message emerges that just as the United States should not view a revaluation in China as a solution to its trade imbalances, Latin America should not expect it to boost sales to the US market significantly.

Elimination of US Tariffs on Latin American Goods

What would a reduction in US tariffs on Latin American goods mean for the region's exports? This question arises because since 1994, when the United States adopted NAFTA, it has engaged in negotiations with other countries in the region to establish similar free-trade agreements. In 2004 it approved an FTA with Chile; it recently finished negotiating CAFTA and is holding negotiations with Andean nations on similar agreements.

Table 4.3 (see also Annex on page 128) considers the elimination of US 2003 tariffs on imports from all of LAC. In the aggregate, LAC exports increase by 3 per cent, although there is wide variation among the different sub-regions. The biggest increase would take place in Central America, with shipments to the United States expanding by 21 per cent, driven largely by increased sales of leather goods, apparel and textiles, which grow by 36 per cent. Indeed, for almost all of LAC such exports would grow the fastest: 21 per cent for the Caribbean, 29 per cent for the Andean countries and 36 per cent for South America. The smallest increase would come from Mexico, which by 2003 had seen tariffs on its exports to the United States drastically reduced as a result of NAFTA.

These forecasts fall in line with others. For example, a United States International Trade Commission report (USITC, 2004) analysing the potential impact of CAFTA on trade patterns estimates that US imports from the five Central American counterparts in the agreement (Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua) and from the Dominican Republic would increase by 26 per cent, which falls within the forecast here for the Caribbean and Central America. With an FTAA, Hertel *et al*. (2004) estimate that total US imports would rise by around 2.2 per cent, whereas Watanuki and Monteagudo (2002) put the figure at 1.1 per cent; in contrast, the estimate here foresees an increase of only 0.4 per cent.

The results here highlight the importance of preferential trade between the United States and Latin America for boosting exports from the region. The flip side reveals small reductions in exports from China and the rest of the world to the United States of around 0.3 per cent and 0.1 per cent, respectively. The largest declines, as expected, would occur in exports of leather, apparel and textiles, and in manufacturing in general. While the decline in exports from China and the rest of the world should raise concerns about the trade-diverting effects of free trade agreements, the increase in overall US imports (by 0.4 per cent) suggests that an FTAA would create enough trading opportunities to offset any trade diversion.

Table 4.4. US Apparel Imports and Average Tariffs, by Origin

	Volume ($ million)				Regional Distribution (per cent)				Average Tariffs (per cent)			
	1997	2000	2003	2004	1997	2000	2003	2004	1997	2000	2003	2004
World	47 084	62 928	66 499	70 533	100.0	100.0	100.0	100.0	12.6	12.1	11.2	10.9
LAC	13 669	19 376	18 150	18 517	29.0	30.8	27.3	26.3	5.6	5.5	3.4	3.3
Mexico	5 317	8 704	7 178	6 930	11.3	13.8	10.8	9.8	1.0	0.4	0.7	0.7
Central America	4 781	6 702	7 159	7 560	10.2	10.7	10.8	10.7	8.9	9.9	6.0	6.0
Caribbean	2 871	2 987	2 540	2 481	6.1	4.7	3.8	3.5	6.9	7.5	2.5	2.3
Andean	575	844	1 062	1 331	1.2	1.3	1.6	1.9	13.1	14.7	4.1	1.8
South America	125	140	211	215	0.3	0.2	0.3	0.3	10.3	12.9	14.1	12.3
China	7 279	8 307	10 997	13 106	15.5	13.2	16.5	18.6	11.8	10.5	10.0	9.5
Rest of the World	26 136	35 245	37 352	38 909	55.5	56.0	56.2	55.2	16.6	16.1	15.3	14.9

Note: Average tariffs are calculated duties divided by the value of imports.

Source: US Customs data, authors' calculations.

Elimination of Textile Quotas:

Latin American countries probably have felt the brunt of Chinese competition in the textile and apparel sector. As Table 4.4 shows, whereas from 2000 to 2004 China's share of US apparel imports rose from 13.2 per cent to 18.6 per cent, Latin America's participation in the US market declined from 30.8 per cent to 26.3 per cent. China's increasing market share and Latin America's loss came despite a greater decline in US tariffs on imports from LAC than in those on Chinese goods. One potential explanation for the rising presence of Chinese apparel during this period was the elimination in 2002 of a number of import quotas on textile and apparel imports under the MFA. MFA quotas binding on China and other Asian nations limited market access on apparel exports from those countries. During the Uruguay Round, countries agreed to dismantle such quotas gradually, removing them altogether by 1 January 2005. The recent implementation of the final stage of quota elimination in the United States and elsewhere has created widespread apprehension in Latin America that unfettered Chinese exports to the United States will continue to erode the region's exports to the US market.

Previous studies that tried to predict the impact of MFA quota elimination on Latin American exports offered gloomy prospects for the region. For example, Nordas (2004) found that China's share of the US apparel market would jump from 16 per cent to 50 per cent; in contrast, Mexico's share would fall from 10 per cent to 3 per cent, and that of the rest of Latin America from 16 per cent to 5 per cent. Does the elasticity-based methodology yield similarly negative predictions? To apply this framework to the analysis of the potential impact that MFA quota elimination might have on exports to the United States requires some measure of how much the relative price of Chinese and LAC exports would change without quotas. To that end, one can use available estimates of the export tariff equivalents of the quotas and apply the estimated elasticities of substitution to understand the implications of the ensuing relative price changes. According to USITC (2002), the export tariff equivalent of the quota for Chinese apparel sales to the United States was approximately 21 per cent. In estimating the elasticities of substitution, López-Córdova *et al.* (2005) assume that all Chinese apparel exports were subject to this export tariff equivalent in addition to the usual duties applied in the United States.

Column one of Table 4.5 presents the forecasts of the impact of quota elimination on US imports. Chinese exports increase by an impressive 75 per cent, paralleled by falls everywhere else. US imports grow by a modest 2.2 per

Table 4.5. **Elimination of MFA Quotas and US Apparel Imports, by Region, 2003**

	Using Elasticities of Substitution		Based on Difference-in-Difference Results	
	Imports (% change)	Market Share Change (percentage points)	Market Share Change (percentage points)	P-value of Point Estimate
World	2.2	0.0	--	--
LAC	-7.7	-2.6	-2.5	0.3
Mexico	-8.2	-1.1	-2.2	0.3
Central America	-7.0	-1.0	-1.8	0.3
Caribbean	-7.8	-0.4	-0.3	0.8
Andean	-7.3	-0.1	0.4	0.4
South America	-17.0	-0.1	-0.6	0.4
China	74.9	11.8	25.3	0.0
Rest of the World	-14.4	-9.1	-24.4	0.0

Source: Authors' calculations.

cent. Latin America is undeniably affected, but the forecasts are smaller than in the apparent common perception – between 7 per cent and 8 per cent, except for 17 per cent for South America. Column 2 shows what the forecasts imply for the change (in percentage points) in each region's share of the US market. China's share rises by 11.8 points, Latin America's falls by 2.7 points, and the rest of the world accounts for the balance.

Because these results clearly contrast with previous findings, one must assess whether they are reasonable. An alternative strategy to measure the impact of removing quotas on each region's market participation employs a difference-in-differences approach to compare changes in market shares from 2000 to 2003 in tariff lines that had import quotas removed in 2002 (the treatment group), with those in tariff lines that had quotas eliminated in 2005 (the control group); see Appendix C in López-Córdova *et al.* (2005) for details. Columns three and four of Table 4.5 present the findings alongside the previous elasticity-based results. For Latin America and the Caribbean, these point estimates are remarkably similar to the previous findings – a market-share loss of around 2.5 percentage points – although one cannot reject the null hypothesis that the impact on market share is zero, which is true for all sub-regions of Latin America. In contrast, the estimates for China and the rest of the world are substantially higher (in absolute terms). Overall, the difference-in-differences approach suggests that Chinese market-share gains have come mainly not at the expense of Latin America, but at the rest of the world's. Even if the impact is small, the recent adoption of safeguard measures against Chinese exports to the United States should give a respite to LAC countries in the face of Chinese competition[6].

Productivity Growth and Chinese Exports

So far the different scenarios have shown that the relative under-performance of Latin America *vis-à-vis* China in exporting to the US market has little to do with any under-appreciation of the renminbi or with increased access to the US market for Chinese products that might have resulted from the elimination of MFA quotas. Moreover, whereas US tariff preferences in the context of a regional trade agreement would help Latin American exports compete with China and other countries, Latin America should not rely on preferential access as a long-term solution to its competitiveness challenges. Mexico, which gained market access to the United States under NAFTA in 1994 but has recently seen its tariff advantage erode, should serve as an example.

Latin American countries should give special attention to productivity growth as a way to sustain export dynamism. Improvements in productivity allow a country to produce goods at lower cost and consequently to compete more effectively in world markets. Unfortunately, Latin America has lagged in this area; the challenge it faces becomes evident in comparison with China. China's productivity performance has been impressive since it embarked on economic liberalisation. Annual TFP growth estimates range from as low as 1.4 per cent to as high as 4 per cent (Moreira, 2004). In contrast, Latin America's productivity growth has been modest if not rather disappointing. During the 1980s and 1990s, TFP growth was negative for the region as a whole (Loayza *et al.*, 2002). López-Córdova and Moreira (2004) estimate TFP growth in the late 1990s at 1.1 per cent for Mexico and 2.7 per cent for Brazil.

In light of the sharp differences in productivity performance between China and Latin America, it is reasonable to ask to what extent poor productivity growth in LAC may explain the increasing gap in export performance of the two regions. Although offering a rigorous answer to that question is beyond the capabilities of the methodology here, one can venture a back-of-the-envelope calculation. Between 2000 and 2003, the annual difference in the growth rates of US manufactured imports from China and Latin America equalled 15.9 percentage points. Assume that the gap in productivity growth between China and Latin America from 2000 to 2003 continued at around two percentage points per year and that each point in TFP growth translates one-to-one into declines of export prices. Then, the results in Table 4.6 would suggest that faster productivity growth in China accounts for 7.4 percentage points – or slightly less than one-half – of the difference in the annual growth rates of exports to the United States[7]. A similar

Table 4.6. **China-Latin America Productivity Growth Differentials and US Imports by Region, 2001**

(Change in US imports from a 2 per cent TFP growth gap between China and Latin America)

	Total Trade	Agriculture	Mining	Manufacturing			
				Total	Leather. Apparel, Textiles	Machinery and Equipment	Other
World	0.841	0.080	0.001	0.965	2.048	0.828	0.856
LAC	-0.159	-0.004	-0.002	-0.189	-0.487	-0.169	-0.060
Mexico	-0.169	-0.004	-0.002	-0.185	-0.491	-0.172	-0.093
Central America	-0.209	-0.001	-0.001	-0.258	-0.284	-0.369	-0.069
Caribbean	-0.197	-0.005	-0.003	-0.222	-0.414	-0.214	-0.017
Andean	-0.022	-0.001	-0.001	-0.090	-0.370	-0.164	-0.019
South America	-0.220	-0.008	-0.003	-0.195	-1.594	-0.098	-0.030
China	7.380	3.880	0.887	7.358	9.066	7.515	6.042
Rest of the World	-0.148	-0.008	-0.001	-0.163	-0.797	-0.146	-0.054

Source: Authors' calculations.

exercise for the leather, apparel and textiles sector suggests that 9.1 points of the 12.4 percentage-point gap between Chinese and Latin American exports are explained by faster productivity growth in China.

Although this exercise is rather rough and demands careful interpretation, it stresses the need for countries in the region to embark on an introspective examination of the factors that may be holding back productivity growth. Latin American countries consistently trail other regions in the integrity of their institutions, in the quality and availability of their infrastructure, in R&D spending and in the number of available skilled workers. These are among the factors that the region must address in order to participate successfully in world markets and compete effectively with China and other countries.

Final Remarks

China's rise in world markets has been a source of apprehension in Latin America. While its sheer size and labour abundance make China a formidable competitor, the scenarios considered here suggest that Latin American countries should not expect changes in economic policies at the international level to give a big and long-lasting boost to their ability to compete in world markets. First, although a large appreciation of the renminbi (by 20 per cent)

would have a significant impact on Chinese sales to the United States, reducing exports by more than one-fifth, Latin American exports would increase by only 0.5 per cent. Moreover, in a by-product of the analysis, the impact on overall US imports would be modest so that a revaluation of the Chinese currency would not significantly dent US external imbalances in the absence of additional changes in the international economy. Second, the removal of MFA quotas would lead to a sharp increase in Chinese sales to the United States (75 per cent), but Latin America would see its share of the US market decline by only around 10 per cent (2.5 percentage points). China's gains would come mainly at the expense of other regions of the world. Third, hemispheric free trade would increase Latin America's exports to the United States by around 3 per cent, with an especially significant impact on Central American exports (a 21 per cent increase). Nonetheless, to the extent that the United States negotiates trade agreements with others (e.g. Thailand) or that it further reduces MFN tariffs, tariff preferences represent no long-term remedy for Latin America's modest export performance. Last, a rough calculation suggests that lagging productivity growth is a main culprit for the region's poor export performance. It explains about half of the gap in export growth between China and Latin America in recent years. In light of all these findings, stress should go on the importance of addressing the factors that may affect Latin America's productivity performance.

Notes

1. Ernesto López-Córdova is an economist at the Inter-American Development Bank (IDB); Alejandro Micco was at the time of writing an economist in the IDB Research Department and later with the Banco Central de Chile; Danielken Molina is an economist from the University of California at San Diego. The opinions expressed herein are those of the authors and do not necessarily reflect the views of the IDB or the Banco Central de Chile.

2. See Devlin *et al*. (2005).

3. "Trade" here means the sum of imports and exports.

4. The US-Dominican Republic-Central America Free Trade Agreement.

5. In November 2005 the United States adopted safeguards on Chinese textile products. The safeguards will be in effect through 2008.

6. In his paper Romalis (2004) states that "...there is insufficient tariff variation to obtain meaningful substitution elasticity estimates for detailed industries."

7. See endnote 5.

Table A4.1. **US Imports and Average Tariffs, by Origin**

	US Imports													
	Volume ($ millions)			Distribution (Per cent)				Annual Real Growth Rate (Per cent)			Average Tariffs (Per cent)		
	1990	2000	2003	1990	2000	2003	1990-2000	1990-2003	2000-2003	1990	2000	2003
World	431 318	1 153 203	1 116 347	100.0	100.0	100.0	7.3	4.8	-3.2	4.6	2.5	2.1
LAC	58 286	198 906	195 848	13.5	17.3	17.5	10.0	6.9	-2.7	3.0	1.3	0.8
Mexico	25 872	124 408	128 430	6.0	11.1	11.5	14.2	10.2	-2.2	2.8	0.8	0.4
Central America	2 704	11 824	11 654	0.6	1.0	1.0	12.7	9.0	-2.7	5.0	5.2	4.4
Caribbean	4 494	9 770	9 913	1.0	0.8	0.8	5.1	2.9	-4.1	4.9	3.3	2.2
Andean	14 670	29 295	25 011	3.4	2.5	2.2	4.2	1.5	-7.2	1.4	0.7	0.5
South America	10 546	19 609	21 560	2.4	1.7	1.9	3.5	2.9	1.0	4.3	2.4	1.6
China	14 254	98 267	146 989	3.3	8.5	13.2	18.0	16.6	11.9	7.8	4.7	3.6
Rest of World	358 778	855 030	773 510	83.2	74.2	69.3	6.1	3.3	-5.4	4.7	2.6	2.2

Notes: Annual real growth calculated using US CPI as deflator. Average tariffs are calculated duties divided by the value of imports

Source: Authors' calculations based on US Customs data.

Table A4.2. US Imports and Average Tariffs, by Origin and Sector

	Volume ($ million)			Regional Distribution (Per cent)			As Per cent of Imports from Region			Annual Real Growth (Per cent)			Average Tariffs (Per cent)		
	1990	2000	2003	1990	2000	2003	1990	2000	2003	1990-2000	1990-2003	2000-2003	1990	2000	2003
Agriculture															
World	10 350	17 621	18 266	100.0	100.0	100.0	2.4	1.5	1.6	2.6	1.8	-1.0	3.6	1.4	0.7
LAC	5 243	8 499	8 848	50.7	48.2	48.4	9.0	4.3	4.5	2.1	1.4	-0.9	2.9	0.6	0.3
Mexico	1 873	3 152	3 491	18.1	17.9	19.1	7.2	2.5	2.7	2.5	2.2	1.2	5.2	0.6	0.2
Central America	988	1 820	1 706	9.6	10.3	9.3	36.6	15.4	14.6	3.4	1.6	-4.3	0.7	0.1	0.1
Caribbean	142	163	170	1.4	0.9	0.9	3.2	1.7	1.8	-1.4	-1.3	-0.9	0.6	0.0	0.0
Andean	1 188	1 611	1 622	11.5	9.1	8.9	8.1	5.5	6.5	0.3	-0.2	-2.0	2.2	0.2	0.1
South America	1 052	1 173	1 860	10.2	9.9	10.2	10.0	8.9	8.6	2.4	1.8	-0.2	2.1	1.6	0.7
China	105	298	401	1.0	1.7	2.2	0.7	0.3	0.3	8.0	8.0	8.0	2.4	28.5	1.8
Rest of the World	5 003	8 824	9 017	48.3	50.1	49.4	1.4	1.0	1.2	3.0	1.9	-1.5	4.3	1.2	1.0
Mining															
World	49 326	104 516	126 384	100.0	100.0	100.0	11.4	9.1	11.3	4.9	4.7	4.2	0.3	1.2	0.0
LAC	13 100	31 523	36 311	26.6	30.2	28.7	22.5	15.8	18.5	6.2	5.3	2.5	0.2	0.1	0.0
Mexico	5 064	12 116	14 589	10.3	11.6	11.5	19.6	9.4	11.4	6.1	5.7	4.1	0.2	0.0	0.0
Central America	25	154	181	0.1	0.1	0.1	0.9	1.3	1.6	16.6	13.3	3.2	0.3	0.3	0.0
Caribbean	782	980	2 735	1.6	0.9	2.2	17.4	10.0	29.8	-0.5	7.3	37.7	0.2	0.0	0.0
Andean	6 912	17 325	17 110	14.0	16.6	13.5	47.1	59.1	68.4	6.6	4.4	-2.6	0.3	0.2	0.0
South America	318	948	1 696	0.6	0.9	1.3	3.0	4.8	7.9	8.5	10.8	18.8	0.4	0.1	0.1
China	725	608	329	1.5	0.6	0.3	5.1	0.6	0.2	-4.4	-8.3	-20.2	0.7	0.2	0.3
Rest of the World	35 501	72 385	89 743	72.0	69.3	71.0	9.9	8.5	11.6	4.5	4.6	5.1	0.3	1.7	0.0
Manufacturing															
World	371 642	1 030 066	971 697	100.0	100.0	100.0	86.2	89.4	87.0	7.7	4.9	-4.1	5.2	2.7	2.4
LAC	39 943	158 884	150 689	10.7	15.4	15.5	68.5	79.9	76.9	11.7	7.9	-3.9	3.9	1.6	1.1
Mexico	18 935	113 140	110 351	5.1	11.0	11.4	73.2	88.1	85.9	16.3	11.5	-3.0	3.3	0.9	0.4
Central America	1 690	9 849	9 767	0.5	1.0	1.0	62.5	83.3	83.8	16.0	11.5	-2.5	7.6	6.2	5.2
Caribbean	3 570	8 627	6 288	1.0	0.8	0.6	79.4	88.3	68.4	6.2	1.7	-12.0	6.1	3.7	3.2
Andean	6 571	10 359	6 279	1.8	1.0	0.6	44.8	35.4	25.1	1.8	-2.9	-17.2	2.5	1.7	1.8
South America	9 177	16 980	18 004	2.5	1.6	1.9	87.0	86.2	83.5	3.4	2.6	-0.1	4.6	2.6	1.8
China	13 424	97 361	146 259	3.6	9.5	15.1	94.2	99.1	99.5	18.6	17.0	12.0	8.2	4.6	3.6
Rest of the World	318 274	773 822	674 749	85.6	75.1	69.4	88.7	90.5	87.2	6.3	3.2	-6.5	5.2	2.7	2.5

Notes: Annual real growth rates calculated using the US CPI as deflator. Average tariffs are calculated duties divided by the value of imports.
Source: Authors' calculations based on US Customs data.

Table A4.3. US Manufactured Goods Imports and Average Tariffs, by Origin and Industry

	Volume ($ million)			Regional Distribution (%)			% of Manufactured Imports			Annual Real Growth (Per cent)			Average Tarifs (Per cent)		
	1990	2000	2003	1990	2000	2003	1990	2000	2003	1990-2000	1990-2003	2000-2003	1990	2000	2003
Textiles and Apparel															
World	43 417	97 872	102 232	100.0	100.0	100.0	11.7	9.5	10.5	5.5	4.0	-0.7	12.9	10.3	8.7
LAC	5 678	23 742	21 662	13.1	24.3	21.2	14.2	14.9	14.4	12.2	8.0	-5.1	13.0	6.0	4.6
Mexico	1 211	18 810	8 907	2.8	11.0	8.7	6.4	9.6	8.1	21.1	13.6	-8.3	12.0	2.4	0.8
Central America	876	6 806	7 241	2.0	7.0	7.1	51.8	69.1	74.1	19.4	14.6	-0.1	14.0	8.7	6.8
Caribbean	1 362	3 249	2 769	3.1	3.3	2.7	38.1	37.7	44.0	6.1	2.9	-7.3	13.8	8.5	6.5
Andean	375	952	1 147	0.9	1.0	1.1	5.7	9.2	18.3	6.8	6.1	4.1	14.5	10.6	10.0
South America	1 854	1 925	1 598	4.3	2.0	1.6	20.2	11.4	8.9	-2.4	-3.7	-8.1	12.1	10.6	10.0
China	6 319	21 710	28 680	14.6	22.2	28.0	47.1	22.3	19.6	10.1	9.4	7.3	11.6	11.8	9.4
Rest of the World	31 420	52 420	51 990	72.4	53.6	50.8	9.9	6.8	7.7	2.4	1.2	-2.4	13.1	11.5	10.1
Machinery and Equipment															
World	193 344	611 125	563 178	100.0	100.0	100.0	52.0	59.3	58.0	9.1	5.8	-4.8	4.2	1.6	1.3
LAC	15 227	93 195	92 528	7.9	15.2	16.4	38.1	58.7	61.4	16.6	11.9	-2.4	2.6	0.7	0.4
Mexico	12 470	85 640	83 570	6.4	14.0	14.8	65.9	75.7	75.7	17.9	12.8	-3.0	2.7	0.7	0.4
Central America	90	1 602	954	0.0	0.3	0.2	5.3	16.3	9.8	29.8	16.8	-17.7	1.9	0.4	0.5
Caribbean	283	881	970	0.1	0.1	0.1	7.9	10.2	15.4	9.0	7.1	1.0	2.0	0.5	0.5
Andean	189	345	315	0.1	0.1	0.1	2.9	3.3	5.0	3.3	1.3	-5.0	1.6	0.6	0.6
South America	2 196	4 728	6 719	1.1	0.8	1.2	23.9	28.0	37.3	5.0	6.2	10.0	1.8	0.6	0.6
China	2 517	44 330	71 850	1.3	7.3	12.8	18.7	45.4	49.1	29.6	26.0	14.9	5.1	2.3	1.9
Rest of the World	175 600	473 600	398 800	90.8	77.5	70.8	55.2	61.2	59.1	7.4	3.7	-7.6	4.3	1.7	1.5
Other Manufacturing															
World	134 881	321 069	306 187	100.0	100.0	100.0	36.3	31.2	31.5	6.1	3.7	-3.7	4.1	2.4	2.3
LAC	19 039	41 946	36 499	14.1	13.1	11.9	47.7	26.4	24.2	5.2	2.4	-6.6	2.3	1.2	0.7
Mexico	5 254	16 690	17 874	3.9	5.2	5.8	27.7	14.8	16.2	9.2	7.0	0.1	2.7	0.9	0.3
Central America	725	1 441	1 572	0.5	0.4	0.5	42.9	14.6	16.1	4.2	3.4	0.7	0.6	1.1	0.7
Caribbean	1 925	4 497	2 549	1.4	1.4	0.8	53.9	52.1	40.5	5.9	-0.5	-19.0	1.2	0.9	0.6
Andean	6 007	9 062	4 817	4.5	2.8	1.6	91.4	87.5	76.7	1.4	-4.2	-20.8	1.8	0.8	0.6
South America	5 127	10 255	9 687	3.8	3.2	3.2	55.9	60.7	53.8	4.3	2.3	-4.0	3.1	2.1	1.4
China	4 588	31 321	45 729	3.4	9.8	14.9	34.2	32.2	31.3	17.9	16.2	11.0	5.3	2.9	2.8
Rest of the World	111 254	247 802	223 959	82.5	77.2	73.1	35.0	32.0	33.2	5.4	2.8	-5.4	4.4	2.6	2.5

Notes: Annual real growth rates are calculated using the US CPI as deflator. Average tariffs are calculated duties divided by the value of imports.
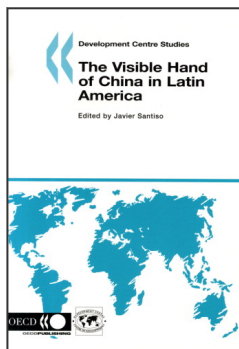*Source:* Authors' calculations based on US Customs data.

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