

LESSONS FOR LATIN AMERICA FROM THE ASIAN TEXTILE INDUSTRY EXPERIENCE

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ABSTRACT

This paper examines recent statistics in US textile and clothing trade with selected Latin American and Asian economies, comparing data on textile exports from the top 10 suppliers between 1995 and 2003. It evaluates the initial effects of the Agreement on Textiles and Clothing (ATC) of 1995, which provided for a 10-year quota phase-out process for WTO member countries. Since its accession into WTO, China has replaced Mexico as the top supplier of goods to the US. In addition, a brief comparison with other international experience of emerging economies is provided in order to elucidate the relevance of the textile industry in the region and world economy. This empirical work can be the starting point for policy-makers to design long-term policies that are needed for Latin America to compete successfully in the US market and promote the restructuring of clothing and textile production at the country level.

JEL: F13, F14

KEY WORDS: Textile Industry, Asian Economies, Latin America, International Trade

INTRODUCTION

With the formation of WTO in 1995, trade analysts around the world expected that the removal of import restrictions would foster an increased growth in clothing and textile trade, as well as a reorganization of production at the country level. In particular some experts anticipated a dramatic shift of production to China to the detriment of exports from other developing nations (Martin 2007:1), such as Mexico, South Korea and Turkey. In the influential *The Travels of a T-shirt in the Global Economy*, Pietra Rivoli (2005), an economics professor at George Town University, discussed how the lifting of trade tariffs would lead to Chinese dominance in international trade and a backlash against it in the Western world, particularly the US.

While Latin America's comparative advantage lies mostly in garment production made by cheaper labor, the US's lies in textile manufacture and brand retailing (Dicken, 2003: 351). Within this context, the emergence of East Asia, particularly China, as a key textile and clothing exporter highlights some of the factors that help explain the growth experience of Asia, especially since the elimination of the quota system in 2005. This has certainly become a constraint on US's ability to adjust effectively to the rising competition in the global and regional environments. As global production, revenues and exports are elevated, there are increased pressures to reduce costs and eliminate jobs. These issues are especially alarming in developing countries such as Mexico and have been more pronounced because of greater competition from China and other Asian economies.

This paper discusses the impact of the phase out of quotas on clothing imports/exports, examining data on exports from the top 10 suppliers to the US market between 1995-2003. In particular, it examines the US-China experience and provides recommendations for Latin America. Did the gradual lifting of import restrictions foster an increased growth in Chinese exports to the US market at the expense of Latin American exports? This paper argues that Latin America will retain a sufficient critical edge in textile business with the US and that the impact of a "surge" in Chinese exports has been exaggerated. While the rising competition from China is evident in salient trends in US trade balance with Asia, the net effect of

this competition on US imports from Latin America is unclear and subject to market dynamics and particular trade strategies of respective governments in the region and globally. These factors have the potential to mitigate some of the negative impacts of Chinese competition on Mexican exports. After examining internal and external macroeconomic factors that have shaped textile trading since 1995, the paper recommends policies necessary to maintain Latin America's access to the US market and adjust to the rising competition from China.

LITERATURE REVIEW

In the 1970's, several analysts examined textile production in developing countries within the context of import-substitution industrialization as the primary development strategy (Perez-Stable, 2006; Wilson 1992; Safa, 1981; Bonancich and David, 1994). The ISI "involved the local production of previously imported manufactured goods" which was mainly characterized by an active role of the state in promoting industrialization (Chandra, 1992:95). Following the rapid liberalization of international trade and the increasing number of overseas suppliers in the early 1980's, the majority of the trade research has been oriented towards a successor development strategy known as export-led industrialization. Unlike import substitution geared towards the protection of domestic industries through trade barriers, export-led industrialization aimed to promote industrialization of a country through export of manufactured goods destined for sale in overseas rather than domestic markets. Its strategy included lifting of tariff barriers along with opening domestic markets to foreign investment and competition in exchange for access to other markets. Export-led industrialization fostered the development of Asian economies, including those regarded as successful models such as Hong Kong, South Korea, Taiwan and Singapore, and most recently China.

Wilson (1992) suggested that global factors, such as the needs of US multi-national corporations to expand production and reduce labor costs, triggered the emergence of export-led industrialization. This was a period when the US "was keen to protect and foster successful examples of capitalism in a region thought to be turning communist" (Smith, 1992:149). In the presence of greater international competition during the early 1970's, multi-national firms were moving production offshore in order to set up "export-processing zones" for their foreign assembly operations. Out of 79 export zones in 35 countries, Asian countries accounted for 55% of the world's employment whereas Mexico, Caribbean and the Central America accounted for 30%--with Mexico employing over half-of that amount and South America, Brazil, Colombia, and Chile about 8%. In addition to electronics, textiles, apparel and footwear have been the main sources of export manufacturing in these zones (Wilson, 1992:9).

Global and economic factors figure prominently in comparative advantage theory, especially cheap labor and trade liberalization—the driving forces of export-led growth. The support for this view is largely prevalent among mainstream economists who conceptualize East Asian economies developing on the basis of free market, free-trade policies—the kind of policies that exist in the West, particularly the US. Adopting this interpretation, one IMF (2001) study has recently noted that "trade opening (along with opening to foreign direct investment) has been an important element in the economic success of East Asia, where the average import tariff has fallen from 30 percent to 10 percent over the past 20 years". Other experts, however, suggested that any convincing account of development should take into account local, social and political factors within a nation-state, especially those that involve the contribution of industrial policy to economic growth. In Asia, this is witnessed by the direct involvement of state in fostering exports, which ranged from the "creation of export processing zones to the manipulation of state finances through the banking system, to shaping the capital cities by influencing the planning process" (Smith, 1992:149).

The neo-classical growth theory, which emphasizes the contribution of efficient technology and low cost production, does not hold up well against the evidence of Asian exporters who increased market share in

the face of wages higher than China's or Mexico's. As Gereffi suggested, East Asian NICs were able to mobilize and attract capital investment even in the presence of uncertain economic circumstances, such as oil price increases, labor shortages, currency crises and even protectionist barriers in their major export markets (Gereffi, 1999:38).

Furthermore, a competitive market is a function of changes in the supply-demand chain at the firm level. From an organizational point of view, vertically integrated firms are becoming the world's leading suppliers. For example, major retailers in the US are working with two types of suppliers in Asia. The first are "mega companies with management headquarters in Asia and production networks around the world.... The other types are highly skilled, flexible companies located near buyers, which could also benefit from preferential market access" (Knappe, 2005). Furthermore, the global market is dominated by large firms in the major importing countries such as high-volume discount chains that develop their own brands and outsource clothing from subcontractors in the developing world. This was made possible by a transition of Asian manufacturers from mere assembly operations (like cutting fabrics) to more complex operations, such as lean retailing, that involved working with large retailers and utilizing information technology to speed up the delivery process (Hayashi, 2005:8). On the supplier side, such flexibility allowed Asian retailers to monitor every step of the product value chain, from raw material sourcing to manufacturing, design and even delivery of finished garments to the shop floor.

The Asian model has failed to produce the results that experts predicted, such as higher living standards, lower production costs and higher productivity. In an article disputing the "statistical realities" of the Asian model, Young (1995) estimated that "total factor productivity growth rates" in Asia were somewhat closer to the experience of OECD and Latin American economies. Except for the growth of output and manufacturing exports, however, total productivity growth was not exceptional by historical standards (Young, 1995:641). Other criticisms include the structural weakness of the model and its extreme dependence on foreign capital as a source of economic growth. Such exposure to exogenous factors make economies specialized in comparative advantage potentially unstable if demand for their products falls. As we saw in the recent Asian financial crisis, this was especially true of ASEAN, such as Indonesia and Malaysia, which experienced a sharp decline in import demand for capital and intermediate goods from Japan and Asian NICs. The net impact of financial crises in return affected other countries like China that experienced a sharp decline in private capital inflows and sluggish growth.

When measured by the amount of manufactured exports, the growth of Asian economies is undeniable. Those skeptical of this growth, however, pointed to the negative impact of Asian competition on exports from developing nations and the new challenges for US-Asian trade in the conclusion of the Uruguay Round that established the WTO in 1995. Some experts predicted strengthened multilateral trading at the expense of intensified trade competition since the elimination of quotas on January 1, 2005 (Barfield, 1997).

With global competition getting much sharper every day, there is a downward pressure on prices in the US; the overall impact of this competition is reflected in the decline in factories and manufacturing jobs brought on by outsourcing into lower-wage and lower-skilled countries, which are nonetheless moving to higher-valued production like Asia. US firms are exporting intermediate goods like fabric products that overseas suppliers are turning into final goods for re-exporting. Outsourcing has had major implications for small, vulnerable economies, with their low-value products and fragmented industries forced to compete at the same level with highly skilled Asian producers in the global environment.

THE WTO AGREEMENT ON TEXTILES AND CLOTHING (ATC)

From 1974 until the end of Uruguay Round in 1995, the Multi-Fiber Arrangement (MFA) governed the international regulation of textile goods. The MFA established a worldwide quota system, selective

import restraints and bilateral agreements that permitted the use of imports quotas for countries facing damage from surging imports from developing countries. Under the system, a large portion of exports to the US and Europe were subject to a system of quotas that restricted importing of man-made and other non-cotton fibers, including all made-up textile products (synthetic fibers, wool) and clothing (Dicken, 2003:337-338, WTO, 2010).

In January 1995, the Agreement on Textiles and Clothing (ATC) replaced the MFA, establishing the WTO and a plan to eliminate quotas in three stages over a ten-year period by January 1, 2005 (Table 1). This ten year transitional program—also known as the WTO Agreement in Textiles and Clothing (ATC) 1995-2004—aimed to integrate the textile and garment sectors fully into GATT rules by phasing out the MFA over a ten-year period. A slow transition period would provide sufficient time for textile manufacturers to get ready for more competition in the post-ATC era. This included the three stages of the liberalization process for the integration of the textile and clothing products into the GATT rules by the beginning of 2005 (WTO, 2010). At the beginning of the years 1995, 1998, 2002 and 2005, it was required that parties to the ATC eliminate quotas for a certain percentage of trade in textiles and clothing. The ATC also “required that products from different categories—textiles, clothing, wool, cotton or man-made fibers, etc—to be included in each of the four stages of the quota phase-out, in part to make it more difficult to protect a particular segment of the clothing and textile industry during the transition” (Martin, 2007:3).

Table 1: Quota Elimination Stages of the ATC

Steps	Percentage of products to be brought under the GATT	Percentage of products to be brought under the GATT
Step 1: 01/1995 to 12/1997	16% (minimum)	6.96% per year
Step 2: 01/1998 to 12/2001	17%	8.7%
Step 3: 01/2002 to 12/2004	18%	11.05%
Step 4: 1 Jan. 2005	49% (maximum)	Full integration into GATT

Source: WTO, 2010, *Understanding the WTO: The Agreements, Textiles: Back in the Mainstream*, Available at http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm5_e.htm

While the ATC was a step in the right direction, it did not bring about “free trade” for textiles and clothing as some experts predicted. The use of safeguard measures made the ATC an instrument of managed liberalization rather than a free market. In this regard, three factors reduced the full impact of trade liberalization after the termination of all ATC quotas On January 1, 2005. First, the ATC was limited to the “removal of quotas,” meaning that countries could still impose tariffs on clothing and textiles in order to protect domestic manufacturers from foreign competition. For example, the US uses “peak tariffs rates” on imports in special circumstances whose range change from product to product—from a lowest 3.9% to highest 32%.

Second, the ATC was also limited because it did not prevent countries from using safeguard measures to restrain the import of certain products such as anti-dumping and counter-veiling duty cases. Third, there are particular requirements that member countries agreed to after China’s accession to WTO in December 2001. Any WTO member can invoke a special safeguard mechanism if Chinese textile and clothing goods are causing “market disruption” to the importing country. If there is no agreement with China, the WTO member has the right to enforce the quota unilaterally. Available only until December 31, 2008, the safeguard mechanism for textile goods was invoked by a number of WTO members such as Brazil, Colombia, the European Union and the US (Martin, 2007:5).

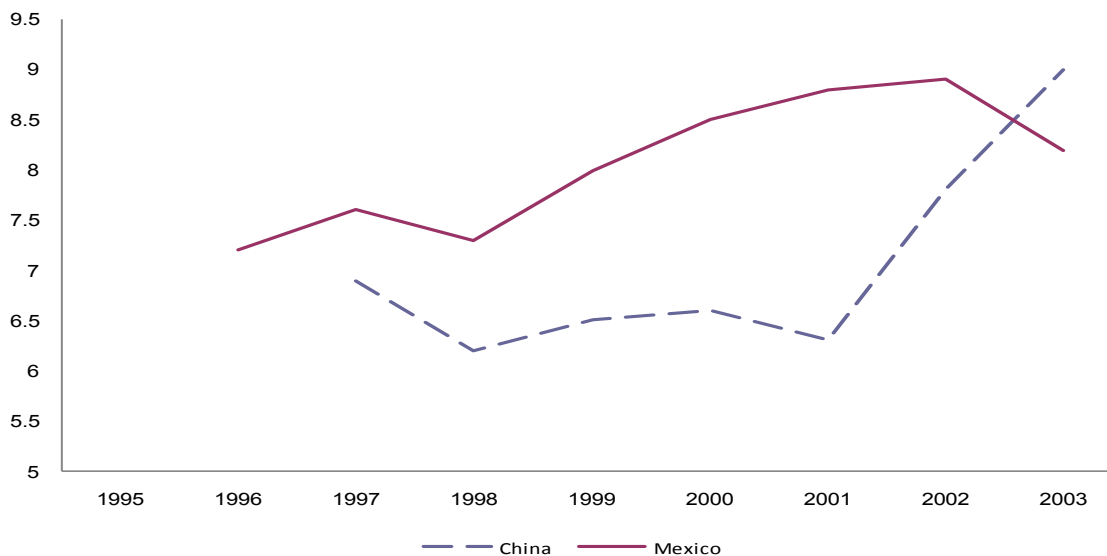
METHODOLOGY AND DATA

The Analysis of Variance (or ANOVA) is a powerful and well-known statistical procedure in the social sciences. It can test a variety of situations. In statistics, ANOVA is a combination of statistical models,

and their related procedures, in which the observed variance is divided into components due to different sources of variation. By generalizing two-sample t-test to more than two groups, ANOVA can test whether or not the means of several groups are all equal. ANOVAs have certain advantages over a two-sample t-test. If multiple two-sample t-tests are conducted, for example, there is a higher possibility of committing a type I error. Hence, ANOVAs are effective in comparing three or more means.

The comparison between the actual variation of the group averages and the expected are expressed in terms of the F ratio: the F-test ($F = \text{Variance between countries} / \text{variance within countries}$). This is used for comparisons of the components of the total deviation. As in most other analyses, time series analysis presumes that the data display a “systematic pattern” (“usually a set of identifiable components”) and “random noise” (“error”), which usually makes a pattern difficult to identify. Time series techniques are useful in involving some form of “filtering out noise” in order to make the pattern more relevant (Hill and Lewicki, 2006)

Figure 1: Mexico-China Share of the US Textile Market (%)



This figure discusses trends in Mexico-China competition as measured by the supply of textile goods to the US market in 1995-2003. This information, consistent with the data in other Figures, captures the impact of China’s accession to WTO on Mexico and Asian competition in the US market. Early during this decade, Mexico has lost grounds in the textile market and it seems that this trend will continue over time.

The difference between textile and clothing is crucial to understanding countries’ production advantages and availability of resources in different commodity groups. Textile is distinguished by any material made of interlocking natural or artificial fibers that are similar to lengths of thread or yarn. On the other hand, clothing refers to a finished piece of fabric that can be used for wearing, covering a body or certain parts of things. In this comparison, Mexico and China are given special consideration as the two largest suppliers of goods to the U.S, even as China replaces Mexico as the chief source of US imports since 2003 (Godoy, 2010) (refer to Figure 1). The details of merchandise trade by product and trade in commodity groups identify the most relevant trends in the data and illustrate them with Figures 2 through 4.

This paper utilizes time series analysis and other statistical tools in order to identify most salient trends in US merchandise trade within the textile and clothing sectors. Overall, Figure 2, Figure 3 and Figure 4 detail important trends in US bilateral and multilateral trade and highlight leading changes in industry/commodity groups for each of the 10 larger trading partners in 1995-2003. This period focuses on the data through three stages of the quota elimination process (Table 1). The shifts in trade flows

(exports, imports) reflect internal and external macroeconomic conditions that influenced US merchandise trade performance with Asia and Latin America during this period. Some of the trading partners, such as Mexico, the Dominican Republic and Brazil are members of the free trade agreements that enjoy preferential market access to the US market (NAFTA, CAFTA-DR) or to other markets of Latin America (MERCOSUR). Regional trade agreements indicate emerging centers of production within the region (as a direct competition to Mexico and other low cost producing countries).

EMPIRICAL ANALYSIS: FACTORS AFFECTING TRENDS IN US TEXTILE TRADE WITH LATIN AMERICA AND ASIA

The increase in the volume of textile and clothing trade has intensified competition between Asia and Latin America, especially between Mexico and China as two largest garment suppliers to the US market. Consistent with the trend in trade balance from 1995 to 2002, US imports from China increased while those from Mexico gradually declined in the top 25 import items. While US imports from Mexico (\$130.8 billion) still exceeded US imports from China (\$109.2 billion) in 2001, Mexico's share declined by 3.2% and China is increased by 1.9%. In 2002, US imports from China increased at a faster rate than imports from Mexico (GAO, 2003:63). Although both countries experienced economic growth during this period, the Asian competition increasingly altered maquila trade—the largest component of the US-Mexico trading relationship and the driving engine of the economies of both US and Mexican border states, such as Baja California, Juarez, Tijuana, El Paso, etc. This competition is increasingly evident in US trade balance with China and Mexico. Whereas Mexico had a positive trade balance of only \$4.8 billion with the US in February 2010, China maintained a trade surplus of \$16.5 billion (Godoy, 2010).

One GAO (2003) study on the maquila crisis noted that Mexico is losing market share in the US not only because of China's cost advantages, but also due to declining maquiladora employment, factory closings in Mexico and impending financial crisis in the US since 1998. Between 1995 and 2002, the share of US imports from Mexico declined for 47 of the 152 categories of items. Whereas China appeared to have gained market shares in the US in all categories of imports, Mexico lost ground in major import items, especially garments of textile fabrics. For these 47 categories in 2002, the total value of imports from Mexico was \$25.5 billion compared to the value of imports from China that was \$23.4 billion, reflecting China's production cost advantages. Although it is difficult to estimate growth from this disparity, Mexico has lost ground to China in major export items such as toys, furniture, electrical household appliances, television and video equipment and parts and apparel and textiles (GAO, 2003:63-64).

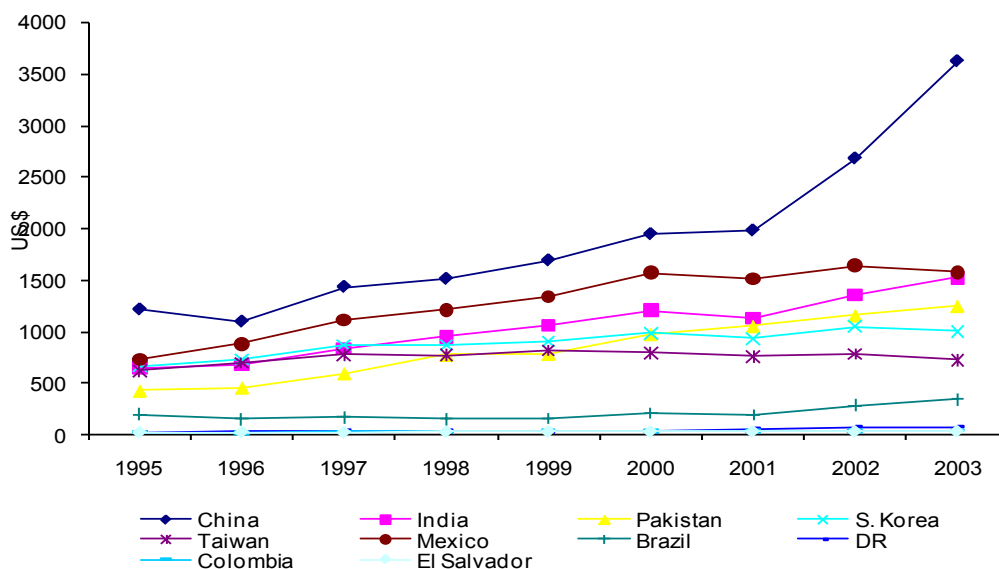
The increasing competition in the US market for imports came at a time when labor productivity levels in Mexico were declining in comparison to newly industrializing economies of Asia. This has been function of emerging centers of production globally as well as regionally, such as Central America and the Caribbean. Secondly, a particular effect on Mexican competitiveness was the rising value of peso in 1995, which made the Mexican exports products by maquila more expensive in world markets. Third, the restrictive provisions of NAFTA with respect to Mexico's trade with non-NAFTA members created particular disadvantages for Mexican producers. Under NAFTA, the US required Mexico to restrict the duty-free importation of inputs from non-NAFTA countries, therefore a creating a problem for maquila operations dependent on raw materials from non-NAFTA sources, so the "tightening of imports from these non-NAFTA produced supplies came precisely at the time that the current crisis started" (Pacheco, 2003).

Most importantly, Latin American exports are directly affected by a US policy of promoting non-NAFTA countries' access to the US market. The US actively promoted liberalization in textile assembly trade on several occasions, including the Doha Round among the 146 members of the WTO, the Free Trade Agreement of the Americas (FTAA) involving 34 nations of the Western Hemisphere, the US-Dominican Republic Central America Free Trade Agreement (CAFTA) involving the US, Costa Rica, Dominican

Republic, El Salvador, Guatemala, Honduras and Nicaragua. By reducing barriers to non-NAFTA countries' goods to levels similar to those enjoyed by NAFTA participants, CAFTA largely benefited the US textile manufacturers and exporters of yarns and fabrics. For example, in the FTAA, the US agreed to eliminate textile and apparel tariffs within 5 years after the implementation of the agreement. Like FTAA, CAFTA provides duty free entry of US textile and apparel inputs entering the DR-CAFTA market. In return, apparel assembled in the CAFTA region enters the US duty-free. This provision protects US textile manufacturers by allowing the free importation of US made yarns and fabrics in the apparel into the US market (GAO, 2003:42; OTEXA, 2010).

Concerns remain that while benefiting consumers, textile manufacturers and exporters of intermediate goods in the US, an expansion of trade benefits to a numbers of competitors erodes the benefits of prior trade agreements, such as those provided to Mexican suppliers in the US market under NAFTA. In their analyses of "cluster-oriented policies" in Latin America, Altenburg and Meyer-Stamer (1999) demonstrate how "micro-enterprises" and "mass producers", so essential for creating jobs, lack the dynamism and expertise necessary to compete with global suppliers in the transition to open trade. Although agreements like FTAA and CAFTA have the potential to improve regional competitiveness relative to China by integrating domestic firms to the supply-chain of global economy, their benefits are subject to ever changing dynamics in US trade performance.

Figure2: 10 Larger Exports to The U.S.



This figure shows the 10 largest textile exporters in Latin America and Asia to the United States. Simple statistics demonstrate that the average exports from Asian countries are \$1,087.5 million (Standard Deviation = 299.6) and from Latin American nations are \$323.0 million (Standard Deviation = 78.9). The maximum value of exports is represented by China (\$1,910.0) and the minimum value is for El Salvador (\$31.1). An analysis of variance (ANOVA) reveals that our sample is highly significant with an F-test very close to zero at one degree of freedom. In a simple regression the R-Square is 0.97 and the P-Value is equal to zero.

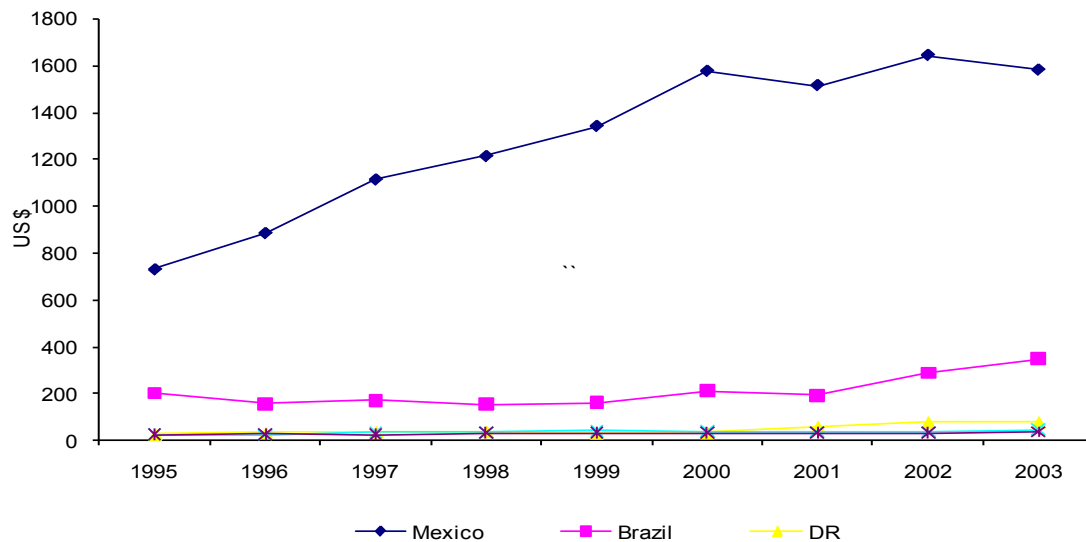
Figure 2 shows 10 large exporters to the US, indicating Chinese resurgence in world textile and clothing trade after joining the WTO in 2001. Greater competition from China is evident in the widening of US trade deficit with Asia and a noticeable increase in Chinese exports compared to exports from traditional suppliers of assembled goods that typically use US textile inputs such as Mexico, or even high-value added producers such as Taiwan and South Korea. From 2001 to 2002, the US trade deficit in textile and apparel increased by \$2.5 billion (4%) to \$64.3 billion whereas the overall trade deficit with China

increased by \$20.1 billion (24%) to \$104.2 billion and with Mexico by \$8.1 billion (20%) to \$48 billion. Apparel accounted for 78% of total textile and apparel imports in 2002, with Mexico is share declining by 2.9%, Dominican Republic is decreasing by 4%, Taiwan is decreasing by 8.1% and China is increasing by 13.3% (USITC, 2003:8-9).

What then accounts for shifts in US world trade in textiles and apparel? Historical trends indicate a number of variables other than China’s resurgence in WTO in 2001. As the USITC (2003) has recently reported, the performance of the manufacturing sector in the US is closely linked to changes in US assembly trade with Mexico and exchange rate policies. This reflects the dynamics of maquiladoras that are essentially labor-intensive factories assembling imported materials for re-export to the US market. While textiles did not account for a large share of US imports from China in 2001-2002 (unlike electronic products, games and furniture, for example), the decline in US textile imports from Mexico was only indirectly related to China’s entry to WTO.

The other factor was the relative strength of the dollar in 2002, which reduced foreign demand for US inputs used in the production of apparel exports to the US. Against the background of artificially low value of China’s currency, the continued relative strength of the dollar reduced US exports of fabrics (intermediate goods) into assembly plants in Mexico. Although the majority of Mexican goods imported into the US appear to come from Mexico, they are made in assembly plants (maquiladoras) that either are subsidiaries of US manufacturers or have contracts with them. These assembly plants, directly established by US companies in Mexico to reduce labor costs, also supply the Mexican market with US inputs of textiles. Whenever foreign or domestic demand for US manufactured goods weakens, this automatically decreases US imports from Mexican assembly plants as well as US exports of inputs to those plants. In this regard, the decrease in US-Mexico trade in 2002 was partly attributable to a 1.5% in US shipments of textile materials to Mexico (USITC, 2003:13-14).

Figure 3: U.S. Imports from Latin America



This figure illustrates the relative importance of Mexican exports in the US Market within the Latin American region. Simple statistics demonstrate that the average exports are \$323.0 million (Standard Deviation = 78.9). The maximum value of exports as an average of the period under consideration is represented by Mexico (\$1,289.7) and the minimum value is for El Salvador (\$31.1). An analysis of variance reveals that our sample is highly significant with an F-test very close to zero at one degree of freedom. In a simple regression the R-Square is 0.94 with a p-value is equal to zero.

As Figure 2 indicates, one of the key reasons for Mexico’s declining share of imports in the US market is not only China’s resurgence. It is also the emergence of competing zones of outsourcing in the region and decline in foreign investment. Paradoxically, the gradual phase of global quotas that started in 1995 did not boost Mexico’s exports even under its status as part of NAFTA. The phase out of quotas under the Multi-Fiber Arrangement on January 2005 led to a decrease in US imports of Mexican textiles and apparel of \$189 million (2%) to \$8.8 billion in 2004 (USTIC, 2005:37). This can also be witnessed in increased competition from CBERA members and other lower-cost producers in Latin America and Asia, mainly Honduras, China, India and Indonesia. Yet, according to Figure 3, Mexico has remained as one of the largest suppliers of textile and clothing goods to the US market. While textile exports have traditionally maintained Mexico’s competitiveness in the region, declines in employments, foreign investment and higher energy costs have constrained Mexico’s ability to compete globally. In addition, China’s labor costs are about one-fourth of Mexico’s, reflecting comparative advantages in low cost production (USITC, 2007:145).

The import increase from Asian countries other than South Korea and Hong Kong can be explained by the impact of the Asian financial crisis of 1997 (see Figure 4). Facing major currency devaluations and slower economic growth that reduced the dollar price of their goods to the US market, late developers in Asia had to boost exports in an effort to earn foreign exchange. On the other hand, the slower rates of growth and increased unemployment in South Korea effectively weakened demand for US products and contributed to a “doubling” of the US trade deficit with five Asian countries affected by the Asian financial crisis—Indonesia, South Korea, Malaysia, the Philippines and Thailand. The trade deficit rose by \$19.2 billion (99%) to \$38.7 billion during 1997-98 (USITC, 1999:3-1). After 2001, however, much of the shift in US trade balance largely reflects China’s entry to WTO and the third phase of quota elimination under the Agreement on Textiles and Clothing (ATC), which established the WTO on January 1, 1995. Since then, garment imports have made up a significant part of the US trade deficit centered on textiles, apparel and footwear. The widening of trade deficit stemmed from a relatively weak US dollar and the growth of imports from Asia, particularly China. As US imports rose faster than US exports between 2005 and 2006, the trade deficit in textiles widened by \$3.9 billion (5%) to \$86.5 billion.

Figure 4: U.S. Imports from Asia

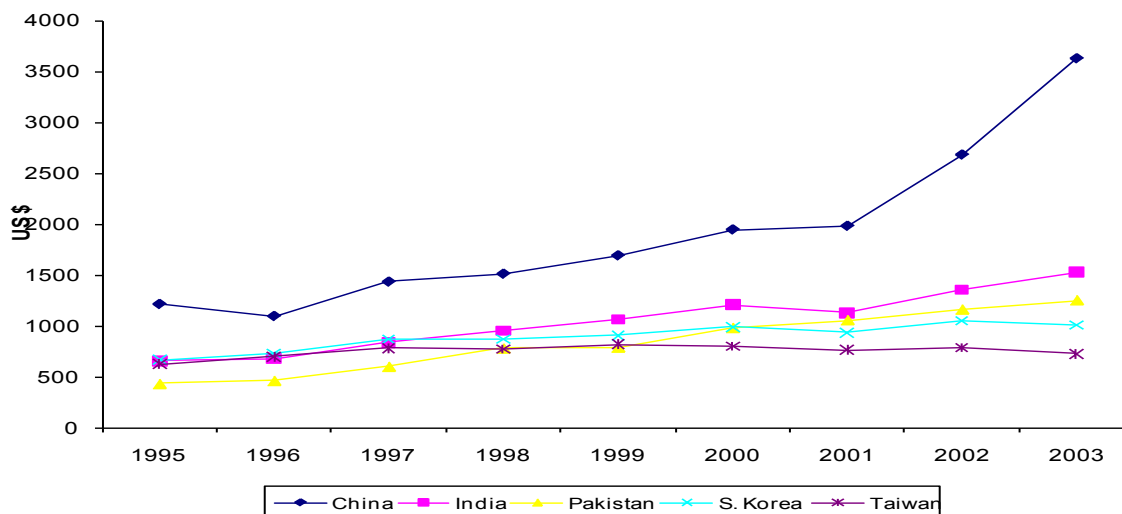


Figure 4 explains the behavior of Asian exports to the United States textile market. Simple statistics express that the average exports from this subsample is \$1,087.5 million (Standard Deviation = 299.6). The maximum value of exports is represented by China (\$1,910.0) and the minimum value is for Taiwan(\$753.0). In the aggregate and individually, An analysis of variance reveals that our sample is highly significant with an F-test very close to zero at one degree of freedom. In a simple regression the R-Square is 0.82 with a p-value is equal to zero.

While a relatively weak dollar played a role in limiting foreign imports and stimulating American exports during the period of quota liberalization, the overall trade deficit with Asia did not level off. In textiles and apparel, the trade deficit rose by \$6.2 billion (10%) to \$67.2 billion in 2006. US imports from China rose by 16% in 2006 to \$31.3 billion, making China the largest supplier of US imports (30%), up from 27% in 2005. Most of the increase in China's exports was concentrated in cotton apparel such as knit shirts and blouses, trousers and slacks, sweaters, robes, dressing gowns and nightwear, sweaters, etc. Despite the moderate pace of growth in Chinese exports due to *U.S-China Memorandum of Understanding* that imposed safeguards on certain textile and apparel imports from China during 2006-2008, US retailer and apparel companies continue to outsource services from China. This has been mainly due to "country's abundant labor force, low production costs, ability to make almost any type of textile product or garment at any quality level and in large volumes and strong customer service" (USITC, 2007:141).

IMPACT OF THE POST-ATC QUOTA LIBERALIZATION: LESSONS FOR LATIN AMERICA

Despite East Asia's comparative advantage in garment production, two factors highlight the shifting patterns of garment production from Asia toward Latin America and Caribbean since the phase out of quotas: Lower wages, preferential trade agreements and the need for market proximity to older-established producing countries of Europe and North America. This regional dynamic is evident in the fact that each of the core regions of the world economy—North America, the European Union and the Southeast Asia—is looking for lower cost and specialized production within their respective regions. Regionalization is part of a "production migration" trend where each new country entering the market reduces wages in order to increase its share of world exports at the expense of its rivals.

In this context, China's resurgence was a function of the decline in Asian NICs' share of exports during the 1990's that involved "third production migration" from the Asian "Big Three"—Hong Kong, South Korea, Taiwan—to other Asian economies, including Indonesia, Thailand, Malaysia, Philippines, Sri Lanka. In the 1990's, the new suppliers included Latin American garment and apparel manufacturers, as increasingly evident in the growth of non-Asian exports to the US market from Central America, Caribbean (from 8% in 1990 to 15% in 2001) and Mexico (from 3% in 1990 to 15% in 2001) (Gereffi and Memodovic, 2003:9). Between 1993 and 1997, while East Asia's share of US apparel imports fell from 70.4% to 57.9%, Mexico's share grew from 16% to 26.8% and almost to 30% in 1998 (Heron, 2002:756). In addition, global trade flows during 2004 and 2005 reveal a shift of textile production to countries other than China, even though this was not as pronounced as experts have proclaimed. Figure 3 indicates a relocation of production to India as the main competitor to China and Taiwan in South Asia. As evident in recent trends as well, India rose among the top 5 suppliers after 2001, overtaking Hong Kong as the third largest source of U.S. clothing imports with a market share of 5.1% and 5.3% in 2005 and 2006. During this period, the US trade deficit with India increased from \$5.1 billion to \$5.5 billion. India's comparative advantage as supplier of raw materials and cheap labor, as well as its production capacity for spinning, weaving and appeal, has a major appeal to US outsourcing firms (USITC, 2007:145).

According to one CRS report, the most recent change in US import data is the rise of Vietnam and India and gradual disappearance of Hong Kong from the top 5 list of clothing suppliers in post-ATC trade. While China's total clothing exports increased by almost \$12.3 billion (19.9%) in 2004-2005, India's exports rose considerably, up \$1.7 billion (25%) over the year before. Together, India and China accounted 85% of the increase in world clothing trade between 2004 and 2005. The major clothing exporters that lost ground to China and India included Hong Kong, Mexico, Romania and the US. As Hong Kong's clothing exports declined by over \$900 million (11%) between 2004 and 2005, Mexico's clothing exports fell by 2.9% and the US's declined by about \$61 million (Martin 2007:6-7).

In the period examined, while China, and Asian countries overall, were able to increase their share of the US clothing and textile markets after 2005, Latin American nations, especially Mexico, were still able to maintain access at a moderate pace. For the initial years of the quota phase-out agreement (WTO) that came into force on January 1995, the data indicates that there has been a comparatively persistent increase in US textile and clothing imports from China, with the major increases starting after China's WTO accession in 2001. While gains made by Mexico in the US market were lost to China, Mexico largely retained the value of its exports, especially in clothing. Before China's accession, however, Mexico was the largest supplier of clothing to the US, with an average of 14.3% of the US clothing imports in 1998-2002 (Martin, 2007:11-12). Furthermore, Mexico's share of the US market is evident in Figure 4 where China did not supersede Mexico until 2003.

The report also indicates that Mexico's loss of market share is more pronounced for textiles than for clothing, especially after 2002. This has been due to the entry of low cost producers other than China, such as Vietnam, Indonesia and Bangladesh into the top 5 list. As reflected principally in Mexico's trade balance with Asia, the loss of market share has unfavorably affected growth rates in Latin America. According to a report published by the Economic Commission for Latin America and the Caribbean (ECLAC), Latin America has maintained a large trade deficit, mainly because of increasingly negative trade balance of Mexico and Central America with China. Starting in 2009, China has become the seventh largest supplier of textile materials to Mexico. Mexico's trade balance also reflects the financial crisis that started in the US in 2008 whereas China was marginally impacted. In 2009, Mexico's GDP fell by 7% whereas China's rose by 7.9%. This difference also confirms the major of insights of endogenous growth theory, namely that policy measures can have an impact on the long-run growth rate of an economy. The lack of an "active trade policy" to offset imports of "many inessential articles" and "boost national exports" is one of the factors behind Mexico's unfavorable trade balance with Asia (Godoy, 2010).

What lessons can be drawn from the end of ATC quotas for Latin American producers meant to ensure continued access to the US market and compete successfully with Asian suppliers? Since China can almost produce any textile good at any cost and quality, major retailers in the US are working with Asian "mega firms" which can supply basic products, such as t-shirts, sweaters, cotton trousers, in large quantities and on short notice (Knappe, 2005). Certainly, many mechanisms need to be in place to offset the negative impacts of post-ATC trade liberalization, including safeguard mechanisms to ensure fair competition and equity of access to the U.S market. While our analysis was limited by the absence of time-series data for growth indicators other than merchandise exports, a first-hand examination of the US trade data showed that the textile industry constitutes a steady source of income for Latin American countries. Textiles and clothing trade, as measured by US imports of merchandise for consumption, is still an important source of export-led growth for the top 5 garment suppliers. In 2005, for example, Latin America accounted for \$20,274 billion of US merchandise trade balance in textile and apparel as the second largest producer after Asia (USITC, 2007:142).

In order to tackle increasing competition successfully, Latin American policy makers can learn from the US government's trade remedies, which safeguard their industries from foreign competition and promote restructuring of textile production at the country level. For example, legislation to ensure that a certain percentage of new textile products developed by host economies are directed towards the local economy may be one possible way forward. Because of the lack of financial incentives, Latin American producers have not directed a significant amount of attention to local development, jobs and industrial upgrading. Without resorting to direct protectionist measures like restrictive quotas or exchange rate manipulations, governments can grant financial rewards like export subsidies to increase exports. As the literature shows, export subsidies are the opposite of export tariffs: exporters are paid a percentage of the value of their exports, which works more like an incentive rather than a regulation.

However, other policies will need to be considered to address the safeguarding of domestic industries while keeping barriers to trade at a minimum, as NAFTA is unlikely to address these issues. For example, after China's WTO accession in 2001, the US demanded that a "special safeguard provision" be included in the agreement that was subject to consultations with China on an individual basis (Jones, 2006). Latin American countries like Mexico can demand the inclusion of a similar safeguard in their trade agreements with Asia. Such a provision is fully consistent with a "special transitional safeguard mechanism" in Article 6 of ATC intended to protect WTO members against surging imports of a trading partner if those imports cause a "serious damage" to domestic industry. The safeguard mechanism can be applied either by selectively, on a country-by-country-basis, by mutual agreement following consultations or unilaterally if agreement is not reached. The Textiles Monitoring Body is in charge of supervising the implementation of WTO rules (WTO, 2010).

Following Hanson (1994), we also recommend stronger industrial policy intervention to promote "innovative entrepreneurial capability" in the transition from mere assembly lines to higher-value added production. If the textile industry can be a stepping-stone to export-led industrialization capable of competing with Asia, this should offer more than the low-wage jobs typical of the maquiladora sector. This would require using public-private partnerships by decentralizing production and capturing design and distribution activities from the monopoly of larger markets. Another option is the development of new fashion centers that would involve the regional coordination of complex production, trade and financial networks. The Fashion and Design Center in Mexico City is a very good example of this policy intervention (Hanson, 1994:244). Mexican producers, however, need to make special efforts to increase competitiveness. One remedy is to develop a more coherent strategy for the industry that includes regionally integrated supply chains with production and management networks around the world.

CONCLUSIONS

This paper examined the impact of the phase out of quotas on clothing imports/exports during the three stages of the quota elimination process (1995-2003). In particular, it examined U.S.-China relations and provided recommendations for Latin America. Additionally, the paper discussed the recent lifting of quotas under the Agreement on Textiles and Clothing (ATC) over a ten-year period that would possibly lead to a massive influx of exports from China to the detriment of exports from other nations. This has especially made it difficult for Latin American producers, with their low-value products and fragmented industries, to compete with Asian suppliers in the US market.

This paper tested the proposition above by examining trends that have shaped US textile and clothing trade since 1995—the period during which the quota liberalization process and a "surge" in Chinese exports started. The data included figures on exports from the top 10 garment suppliers to the US market between 1995 and 2003. Using Analysis of Variance (ANOVA) as a statistical test for heterogeneity of means by analysis of group variance, we were able to establish meaningful trends in the US textile market. To apply the test, we assumed random sampling of a variate Y (US imports) with equal variances, independent errors, and a normal distribution.

This paper concluded that Latin American countries, particularly Mexico, have maintained their exports at a moderate pace. While China's exports are growing faster than Mexico's, especially in post-ATC trade, the US share of China's textile exports is not as pronounced as often predicted. This confirms expert prediction for China's gains in world trade although it does not necessarily explain the rate of growth in US imports. This study further demonstrated that Latin America will retain a sufficient critical edge in textile and clothing business with the US and that the impact of a "surge" in Chinese exports has been exaggerated. The US is still a major recipient of Latin American exports; particularly textile materials assembled in Mexico for re-export. In 1997-2002, for example, Mexico superseded China as the second and third largest textile supplier for the U.S. market (Martin 2007:13).

While it is clearly the case that the US has been importing more of its clothing and textiles from China, U.S. trade data for three phases of the ATC revealed a more *complicated* picture of the impact of quota liberalization on textile exports/imports. When sorted by the second or third phases of quota eliminations, for example, US import data did not show radical surges in Chinese exports as often predicted. In 2000, for example, China accounted for 13% of the US clothing market while EU (12%), Japan (32%), and other economies (40%) stood out as larger recipients of China's clothing exports (WTO, 2009:39). While gains made by Mexico in the US market were increasingly lost to China, especially after 2001, Mexico has by and large retained its status among the top 5 clothing suppliers between 1995 and 2001. Mexico's losses are more pronounced for textiles than for clothing, especially with the most recent rise of Vietnam and India to the top 5. Our findings support Martin's (2007) and WTO's (2008) conclusions that "preferential trade agreements" such as Caribbean Basin Initiative and US "safeguard measures" against certain categories of imports from China, helped developing countries like Mexico, Costa Rica and Honduras to maintain their exports.

One of the limitations of the study is the use of time-series data for growth indicators other than export by sector. While employment figures exist for the US, information about textile employment in developing countries is scattered and inconsistent. This has made it difficult to weigh the costs and benefits of export-led industrialization by country. Finally, the trade data should be interpreted with caution following the WTO Agreement on Textiles and Clothing, since it is more useful for analyzing countries on an individual basis than for comparison among countries, as the specialists have suggested (Nordas, 2004:11). Future research can benefit from the inclusion of endogenous factors in regression analysis, such as policy measures, that can affect the long-run growth of the textile industry at the country level. Endogenous growth theory highlights the contribution of public policy to economic growth. In order to give our findings a stronger basis for prediction, further research is needed on the relationship between textile labor market and endogenous variables since the full elimination of quotas in 2005.

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