

## Global Implications of Unraveling Textiles and Apparel Quotas

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### **Abstract**

With the end of the Agreement on Textiles and Clothing on 1 January 2005, the system of bilateral quota restraints on textiles and clothing negotiated by the US and European Union was dismantled. In this paper I examine the high-risk strategy that some countries adopted to exploit this protective system, and I analyze the impacts on the trade patterns of these countries from the removal of the quotas.

There is evidence of a re-establishment of comparative advantage as the determinant of trade patterns and volumes. There have been more successes in maintaining and expanding market share among those countries pursuing the high-risk strategy of concentrated textiles/apparel exports to the US and EU than had been forecast. Unfortunately, there have also been many failures, with attendant steep reductions in manufactured exports and economic growth.

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Thanks to Marco Fugazza and the economists of the Trade Analysis Branch at UNCTAD for stimulating my interest in this question. All conclusions are of course mine alone, as are any mistakes.

Exports of textiles and clothing have historically been an engine of growth for developing countries. This history begins with England after the Industrial Revolution and continues through to the present: Brenton and Hoppe (2007) illustrates the strong correlation between these exports and rapid growth for the period 1975-2004. Exports in this recent period have been regulated by a series of bilateral export restraints (or quotas) negotiated by the US, EU members, Canada and Norway with (predominantly) developing countries. From its inception in the early 1960s with the Long-Term Arrangement in Cotton Textiles (LTA), through its codification in the Multi-Fiber Arrangement (MFA) from 1974 to 1995, and to its 1995-2005 form in the Agreement on Textiles and Clothing (ATC), the system provided protection to domestic producers of textiles and apparel. By limiting the export growth of the largest exporters to the market, it also created space for smaller exporters to capture and retain market share in these large markets.

In the negotiations that led to the adoption of the ATC in 1995, the US, EU, Canada and Norway agreed to dismantle the system of quantitative restraints sequentially. A large number of restraints was removed at the beginning of 1995, 1998 and 2002, but those remaining governed trade in the categories of textiles and apparel most produced in these countries. These remaining restraints were removed on 1 January 2005. The ATC by its end had evolved into a complicated interlocking set of bilateral agreements on quantities exported. They acted as voluntary export restraints, but they were binding in any given year on only a small subset of the countries under restraint. Specific limits and group limits interacted in non-transparent ways to limit a given country's exports. Among the beneficiaries of the quota system were the small exporters that found niches in the US and EU markets.<sup>1</sup> Many of these countries had in effect created high-risk growth strategies around continued exports to the US and EU; liberalization of trade left them highly vulnerable to competition in these markets.

Removal of the ATC restraints led to a drastic re-sourcing of US and EU textiles and apparel imports. In this paper I illustrate the resourcing of imports. The increased concentration of sourcing in China and India, predicted prior to the removal of restraints, is certainly evident. Also evident is the success of firms in a small number of other countries in expanding their exports. The tragedy of this trade liberalization has been felt in a larger number of smaller developing countries whose exports have been cut back drastically. Preliminary evidence indicates substantial negative economic growth impact for those countries that gambled and lost in the liberalization of the textiles and apparel sectors.

## **I. Characteristics of the restraints on textiles imports to the US and EU.**

The basic unit of the quota system was the restraint category, or quota category. These categories were defined as aggregated subgroups of textile and apparel products with some shared characteristic or raw material. The system of import restraints defined by the US identified 11 aggregated categories of yarns, 34 aggregated categories of textiles,

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<sup>1</sup> While Norway and Canada also liberalized their quotas, for the remainder of this paper I will focus exclusively on the much larger US and EU markets.

86 categories of apparel and 16 categories of miscellaneous textiles (e.g., towels). Together these categories spanned the entire set of US textile and apparel imports. The EU identified 41 categories of yarns, 28 categories of textiles, 42 categories of apparel and 32 categories of miscellaneous textiles for a total of 143 categories – although some of these categories were further subdivided by raw material.<sup>2</sup>

Each category included multiple products. For example, US category 225 (blue denim) was aggregated from 16 distinct HS product lines. Products included in each category were similar, but could have significant differences: for example, the “blue denim” category included denim made from both cotton and man-made fibers. There is no corresponding category for the EU: its blue-denim imports would have been classified EU category 2 (woven cotton fabric, with 105 CN product lines) or EU category 3 (synthetic woven fabric, with 80 CN product lines).

Limits under the system of restraints were divided into specific limits and group limits. Specific limits governed the import of goods within the specific quota category. Group limits placed aggregate limits on a subset of the quota categories. If a country’s exports were subject to group limits but not specific limits, then the suppliers of that country (or more likely, a government agency supervising these exports) could choose any mix of goods shipped to the US so long as in aggregate the totals did not exceed the group limit. Some group limits covered only two quota categories: e.g., US group 300/301, covering US quota categories 300 (carded cotton yarn) and 301 (combed cotton yarn). Others spanned a large number of categories: for example, Subgroup 1 in Hong Kong included US quota categories 200, 226, 313, 314, 315, 369 and 604. In many cases, a country had its exports bound by both specific limits and group limits.

Under the MFA and ATC, exporting countries were given flexibility in meeting these restraints. In each category, the agreement specified a percentage by which the country could either exceed or fall short of its restraint. In those cases, a maximum percent of possible “carryforward” or “carryover” is specified in the agreement. With carryforward, the country transfers part of this year’s quota to the following year. With carryover, the country exceeds its quota in this period by counting the excess against quota in the following year.<sup>3</sup>

Not all textiles exporters were subject to quantitative limits. Under the MFA and ATC, restraints were negotiated whenever a country’s exports caused (or threatened to cause) market disruption in the US or EU. Of the 152 countries exporting cotton knit shirts to the US (US categories 338 and 339), only 32 were subject to quantitative limits in 2004 and of these only 11 exported as much as 90 percent of the quota limit to the US. Similarly, of the 156 countries exporting knit shirts (cotton and other fabrics) to the EU only 25 were subject to quantitative limits in 2004, and of those only four exported more

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<sup>2</sup> The categories for the US, and the correspondence between those categories and the HS classification of imports, are published by the Office of Textiles and Apparel (OTEXA), Department of Commerce, at <http://otexa.ita.doc.gov/corr.htm>. The categories for the EU, and concordance with CN category, are published in EEC Council Regulation 3030/93 of 12 October 1993.

<sup>3</sup> Information on flexibility is drawn from “Summary of Agreements”, OTEXA, January 2003 and from Annex 8, EEC Council Regulation 3030/93, as updated in EC Commission Regulation 930/2005.

than 90 percent of the quota limit to the EU. Tables 1a and 1b report the existence and (if relevant) binding nature of the quota limit for the US and the EU respectively during the period 1993-2004.

Table 1a summarizes the history in the US for seven quota categories between 1993 and 2004, and Table 1b summarizes the history in the EU for three corresponding quota categories.<sup>4</sup> The countries listed are those facing a quota constraint in at least one of the categories during at least part of the period. The quota categories are listed in the column headings. If there is an entry in a cell under a column heading, then there was a quota in place for that country during this period. I will define a year with binding quota as one in which the exports of the country in that category were at least 90 percent of the total allowable quota for the year. If the entry in a cell is an asterisk, then the country was subject to the quota but never faced a binding constraint during the period. If the entry is a year (or a series of years) then the country faced a binding quota restraint in that year.

Binding quotas were relatively rare in the US textiles categories (blue denim, Q 225, and broadwoven cotton cloth, Q 314). In 2002, for example, there were no binding quotas in Q 225 – although China, India and South Korea faced binding group quotas subsuming that category. In Q 314 only China and Pakistan faced binding quotas, although South Korea and Taiwan had binding group quotas that subsumed these categories. None of the restraints were binding in 2004, but examination of previous years suggests that China, Pakistan, South Korea and Taiwan are all potential winners from a relaxation of quotas – when the group limits are relaxed, these countries can potentially move into exports of these.

Binding quotas are more common in the apparel categories. There were binding quotas in the US for cotton knit shirts (Q 338 and Q 339) in 2004 for Cambodia, China, India, Indonesia, South Korea, Macao, Pakistan, Philippines, Singapore, Sri Lanka and Vietnam. There were binding quotas in cotton trousers and slacks (Q 347 and Q 348) in 2004 for Cambodia, India, Indonesia, Pakistan and Sri Lanka. Binding quotas in cotton underwear (Q 352) were observed in 2004 for Bangladesh, China, Pakistan and Philippines. In the EU, binding quotas in 2004 for knit shirts (Q 4) were China, India, Indonesia and Macao. In trousers (Q 6 and 28), the binding quotas were observed in Belarus, Pakistan, Indonesia, India, China, Hong Kong and Macao. For underwear (Q 13) those facing binding quota were Belarus, Macao and China. All these should be considered candidates to expand sales after the quotas are removed.

## **II. Previous research on these restraints.**

The ATC and its predecessor MFA have prompted academic research in the past that can be reported in two broad categories. The larger category has included calculations of the quantitative impact of these restraints on welfare in the US. Cline (1987), de Melo and Tarr (1990), and more recently US ITC (2002), illustrate these efforts and document the large costs to consumers associated with the restraints. The smaller category includes

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<sup>4</sup> These quota categories together represent nearly 30 percent of total imports under the quota system in both regions.

papers that examine the quantitative effects of these restraints on the exporting nations. Dean (1990) examines aggregate imports of textiles and clothing products from eight Asian countries during the period 1975-1984, and concludes that the MFA restraints were successful in restraining exports from the targeted countries: in her words, “a controlled country’s import share grew, on average, 56 percent more slowly than the share of an uncontrolled country.” (Dean, 1990, p. 69) Harrigan and Barrows (2007) update this research to the period after liberalization in the US in 2005 using disaggregated trade data. They provide estimates of the fall in unit value with the removal of quotas, and find that liberalization in that year led to welfare gains of \$63 per US household. Brambilla et al. (2007) undertake a similar exercise focused upon Chinese exports to the US, and demonstrate the significant impact of the binding quotas on quantities and prices.

A number of authors have used computable general-equilibrium models to estimate the impact of the MFA system (and its removal) on developing countries. Trela and Whalley (1990) found that the aggregated system imposed welfare losses upon the developing-country exporters, and calculated a new general-equilibrium outcome for the post-system world economy. Yang et al. (1997) examined the relative growth of textiles exports to the US across developing-country exporters as the system of restraints is discontinued. All regions were forecast to increase textile exports, although Hong Kong, Taiwan and Korea were expected to face reduced demand for apparel as other developing countries expanded market share.

Dean (1995) examined the incidence of restraint agreements under the MFA in order to determine the determinants of negotiated restraints. The MFA, and after that the ATC, called for restraints to be negotiated on categories of textiles and apparel imported into the US if a country’s exports caused or threatened to cause market disruption in the US. Dean concluded that in the early years of the MFA (1974-1977) this was in fact the case – exporters individually responsible for large shares of US imports were targeted with these restrictions. In the later years of the MFA (1978-1985), the restraints were introduced upon countries representing much smaller shares of total US imports. These, according to Dean, may have been designed to target the threat of disruption rather than an actual disruption.<sup>5</sup>

Evans and Harrigan (2003) investigated the sourcing of apparel imports into the US under the constraints of the MFA. They used a simple model of import sourcing with three determinants: a country-specific effect, a “trade frictions” variable dependent upon tariffs and transport costs, and an interactive term of distance and a replenishment coefficient. Their central hypothesis relates to the hypothesis of “lean retailing” from Abernathy et al. (1999) – that retailers will source rapid-replenishment goods in closer locations to ensure quick availability – and they estimated this in a model that admits the impact of quota restrictions. They separated apparel imports into categories, and identify each category either as “rapid replenishment” or not. They concluded that import growth in rapid-replenishment goods was significantly larger in local suppliers, thus supporting the lean retailing hypothesis.

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<sup>5</sup> It’s also the case that restraints, once introduced, have not been removed. Thus, the “second wave” of restraints would have to be on smaller exporters, even if the policy goal is to restrain the largest exporters remaining unrestrained.

Panagariya et al. (2001) estimated a demand system for apparel exports from Asia to the US. They used the fact that restraints were binding to simplify the typical demand system: quantities were treated as exogenous, and prices as endogenous. The MFA system was not itself the subject of the analysis, but the maintained hypothesis. The authors conclude that within this system the price elasticities of demand for textiles and apparel in the US are quite high: for example, they estimated a price elasticity of 26 for Bangladesh's textiles and apparel exports to the US.

Two recent papers have examined the evolution of prices in the EU with the removal of quotas. Francois and Woerz (2007) reports estimates of export tax equivalents for the quotas observed under the ATC. They use a data panel on bilateral trade from the UN's COMTRADE and TRAINs databases in a gravity-like framework to derive a non-linear estimate of export tax equivalents for quotas on Chinese and Indian textiles and apparel exports (for example). The results are unsurprising – the export tax equivalent for Chinese and for Indian exports to the US and EU rose substantially from 2000 to 2004. The obvious implication: liberalization leads to the elimination of the quota and to lower export prices for these countries. Francois et al. (2007) examines the evolution of disaggregated consumer and producer prices in the EU in response to quota removal. While the passthrough from import prices to consumer and producer prices is not immediate, there is a significant link. On average, 60 percent of the fall in import prices is passed through in lower consumer prices. National competition policies and market concentration lead to systematic differences in this passthrough.

Brenton and Hoppe (2007) raises the question motivating this paper as well: can developing countries rely as they have in the past on apparel exports as an engine of growth? They conclude with the affirmative, after a two-stage panel estimation that examined both the propensity and the value of exports to the US and to the EU in the aggregated HS categories 60-63 for 124 exporting countries in 2004. They did not incorporate the quota system or the observation of binding quotas into their model. This paper can be seen as an extension of that approach to incorporate the dynamics specific to quotas.

### **III. Aggregate impact of quota removal on imports into the EU and US.**

An examination of aggregate imports into the US and EU provides little evidence of the impact of the removal of quotas. Table 2 reports the value of aggregate imports into the US and EU for the period 2003-2008 in HTS (CN) two-digit classifications 50 through 63 including both textiles and apparel. Both regions exhibit positive growth in the value of imports in their own currency until 2008, when recession led to declines in both regions. The year 2005 is anticipated to be one of more-rapid growth as quota limits are removed: instead, the most rapid growth is observed in 2004 for the US and 2006 for the EU. Aggregate imports (combining the US and EU) denominated in US dollars grow more rapidly than either of the regions in 2004, 2007 and 2008: this is due to the depreciation of the US dollar against the Euro that is most evident in those years.

It is the case that only a portion, albeit a large portion, of US and EU imports were regulated by the quota limits removed in 2005. Once attention is focused on that specific group, there is more evidence of the quota's effect. The top panel of Table 3 reports the results of aggregate imports into the US by liberalization group for the years 2004, 2005 and 2008. Group 1 includes those goods with quota limits removed at the beginning of 1995, group 2 includes those goods liberalized in 1998, group 3 includes the goods liberalized in 2002 and group 4 is the set of goods with quota limits removed at the beginning of 2005. Group 4 has the largest percent growth rate from 2004 to 2005, as expected, although it is not markedly different from those in group 2 or those excluded from groups.

While the growth of group-4 imports is not strikingly different in aggregate, it was pronounced for individual exporters. In the bottom panel of Table 3 I report the comparable breakdown for US imports from China. Growth in all categories of goods is more substantial than for exporters as a whole, but the growth in group-4 goods from 2004 to 2005 at 126 percent is phenomenal. This growth in Chinese group-4 exports continued into the following period, as indicated by the growth rates in the final column. Figure 2 provides the same information for China for a longer time period. The logarithm of US imports from China is charted for each group (and for those products not covered by quota), so that the slope of the curves will indicate the annual growth rate in imports. Note that all products from China evidence positive growth. Even given the positive growth, group-3 goods grow more rapidly in 2002 and group-4 goods grow more rapidly in 2005, providing more evidence that China for one benefited from the removal of quota limits.

Phenomenal growth for China while aggregate growth into the importing regions is more moderate – these two facts imply that there will be losers as well as winners from this trade-liberalization episode. In the next sections I provide a framework for analyzing these winners and losers.

#### **IV. Payoffs from investment in the textiles and apparel sectors – a simple model.**

Consider a small open economy over two periods (indexed by  $t$ ). The economy produces two goods, with units chosen so that both has price equal to one. There is a composite good  $y_t$  and a textiles good with quantity demanded on the world market of  $T_t$ .

Investment in the textiles sector is required for production. This investment  $I$  is in units of the composite good and can be paid either in the first period or the second period. If paid in the first period, the economy can produce textiles both periods; if paid in the second period, the economy can only produce textiles in the second period. Marginal cost in textiles production is zero.

For simplicity, only  $T_2$  is uncertain; it is equal to  $T_1v$ , where  $v$  is a random variable taking the value  $v_L$  with probability  $q$  and  $v_H$  with probability  $(1-q)$ . The expected value operator  $E_1$  indicates that expectations are taken with information available in period one.

$$E_1v = qv_L + (1-q)v_H \tag{1}$$

Investment becomes profitable in period one when:

$$T_1 - I + T_1 E_1 v > 0 \quad (2)$$

$$T_1/I > (1/(1+\delta E_1 v)) \quad (3)$$

I assume that inequality (3) holds in what follows. From society's perspective, it will be welfare-improving to postpone the investment decision if the present value of period-two payoffs exceeds the present expected value of both-period production. This yields a second inequality in  $T_1/I$ , with  $\delta$  the discount rate:

$$T_1/I < (1-\delta(1-q))/(1+\delta q v_L) \quad (4)$$

These two inequalities are consistent under the following parametric condition:

$$(v_H-1) > \delta E_1 v \quad (5)$$

If the quantity demanded from the period-two positive outcome is large ( $v_H-1$ ) relative to the expected value, it will be in society's best interest to postpone investment until the second period – and then only if the positive outcome is observed. A simple example: suppose that  $E_1 v$  is equal to 1.0 – the shared expectation is that the second period will be on average one of the same world demand. Suppose as well that the discount factor  $\delta = 0.9$ , and that the two future states are equally likely:  $q=0.5$ . This condition will hold, then, for  $v_H > 1.9$  and  $v_L < 0.1$ .

In the spirit of Dixit and Pindyck (1994), the economy will find it socially optimal to postpone investment until the uncertainty is resolved if the set of payoffs is approaching “winner take all”. The private sector, however, can find it profitable in expected value to invest in the first period. Once uncertainty is resolved, the economy will lose in present value from the investment if the low outcome is observed.

$$T_1/I < (1/(1+\delta v_L)) \quad (6)$$

This is an apt characterization of the world market for textiles and apparel. The period-one outcome corresponds to the period of the ATC quotas in which smaller economies had a relatively protected export market due to the restrictions on exports by the most competitive countries. This was profitable in expected net present value if the size of the post-quota market was at least as large as that under quotas. Once the uncertainty is resolved, moreover, there will be both winners and losers from the post-quota competition. Social welfare would increase if the economy “won” the post-quota competition, and would decrease if the economy “lost” the post-quota competition. For countries anticipating the “winner take all” nature of removal of quotas, it will be socially preferred to delay investment in the textiles and apparel sector until the uncertainty is resolved.

## **V. Country-level impact of removing the quota limits.**

The simplest indicator of countries gaining from the removal of quota limits can be found in examining the net US-dollar gain in export receipts to both regions from 2004 to 2005. Table 4 reports those net gains, with countries sorted from greatest gain to largest loss. As is evident there (in the second column from the right) the largest absolute gains accrued to China and India, while Turkey leads nine other countries with net gains of at least \$ 100 million US. These countries also gained on net when 2008 was compared to 2005, with only New Zealand and Jordan facing losses over the latter period.

At the bottom of Table 4, 27 countries report net losses of at least \$ 100 million US. Among the largest losers: South Korea, Hong Kong, Mexico and Taiwan. Roughly half of these 27 countries observed additional losses in the period 2005-2008, while a number of countries with losses in 2005 and sales predominantly in the EU (Tunisia, Morocco, Poland, Switzerland, Czech Republic) experienced substantial net gains by 2008.

Figure 3 reorganizes this information in slightly different form. The market share of each of the top 30 exporters to the combined market in 2004 is calculated and plotted on the horizontal axis. The percent revenue gain in 2005 relative to 2004 is plotted on the vertical axis. As is evident there, there is a tendency for the largest exporters to expand market share and for the relatively smaller exporters to lose market share. China, India and Turkey experience positive growth in the combined market, while Switzerland, Cambodia, the Czech Republic and Dominican Republic experienced net losses. This rule was not complete, however, as is evidenced by the net losses of Mexico, Hong Kong and Korea.

Those countries with net gains in 2005 also experienced net gains in the 2005-2008 period on average, while those with net losses in 2005 also experienced net losses in 2005-2008. Figure 4 illustrates this general tendency. China, India, Vietnam, Bangladesh, Indonesia, Sri Lanka and Turkey are countries that began with a net gain in 2005 and continued with positive growth through to 2008. Hong Kong, Korea, Taiwan, Macao, Dominican Republic, Mexico, Canada, Guatemala and Romania all experienced net losses in 2005 and further net losses in the subsequent period. The exceptions to the rule are limited to those countries with net losses in 2005 but net gains in the subsequent years: Poland, Czech Republic, Switzerland, Japan, Bulgaria, Pakistan and Thailand are examples. Many of these benefited in the calculation from the appreciation of the Euro since their dominant market is the EU, so the gains through 2008 may be more financial than comparative advantage.

The removal of quota limits has led to an increased concentration of exports among the leading exporters, but this is predominantly a “China” effect. Table 5 reports the percent of imports into the US and EU regions from the top exporters. In 2004 the top exporter (China) supplied 18.4 percent of the exports to the two regions. In 2005 this percentage rose to 25.6 percent, while in 2008 it rose still further to 33.9 percent. The “Top 5” percentages rose similarly – the other four maintained their aggregate market share against China. The “Top 10” market share rose as well, but less than that of China: China had won some market share away from these others by 2008. The “Top 20” and

“Top 30” similarly rose in market share, but lost share to China during the period. The “Bottom 100” exporters, much smaller in absolute value, account for a negligible share of the US and EU market – although the exports may be quite important to their own economy.

## **VI. Warning signs for countries of removal of quotas.**

Removing the quota system created winners and losers. In a well-diversified economy, these gains and losses will be moderated. However, there will be some economies in which the potential for gain and loss will be magnified by the country’s reliance upon one product, and one export market, for a disproportionate part of its sales. In this section I identify those countries susceptible to large swings, either up or down, in response to the removal of quotas.

If textile and apparel products are a disproportionately large share of total exports, if the US and EU are a disproportionately large share of the export market, and if the export/GDP ratio is large, then the country is disproportionately at risk from the US and EU decision to remove the quota. In the terminology of the model of section IV, countries disproportionately at risk from quota removal are those for whom the payoffs are relatively extreme. In the example given in section IV, for given  $E_{1V} = 1$ , those disproportionately at risk from quota removal will be those with relatively high  $v_H$  (and consequently relatively small  $v_L$ ). They have increased the risk through concentrating so much of their export capability in the textiles and apparel sector.

The critical ratio for most countries will be the existing (i.e., observed in 2004) ratio of textile and apparel exports to the US and EU over the GDP of the exporting country.<sup>6</sup> Denote the value of textile and apparel exports to the US and EU as  $X_{TU}$ , and GDP as  $Y$ . Then this ratio can be expanded as follows:

$$X_{TU}/Y = (X_{TU}/X_U)*(X_U/X)*(X/Y)$$

The ratio breaks into three components.

- The first component ( $X_{TU}/X_U$ ) is the ratio of textiles and clothing exports to the US and EU to total exports to the two regions. It indicates the importance of textiles and apparel exports for the export performance of the regions by the country.
- The second component ( $X_U/X$ ) is the ratio of exports to these two regions to total exports by the country. Larger values of this ratio represent more concentrated and geographically specialized export profiles for the country.
- The third component ( $X/Y$ ) measures the ratio of total exports to total GDP for the country. It indicates the degree to which exports are relied upon as a source of demand for domestic production.

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<sup>6</sup> The EU is defined in this paper as the EU-15. It does not include the accession countries.

An elevated value of any of these can be interpreted as a source of risk to the country when quotas are eliminated.

Risk is not necessarily a bad thing in this instance: heightened risk indicates simply that there is a greater potential for large swings in exports, and thus economic growth, in the exporting country. That swing could be positive, leading to more rapid growth, or negative. The best analogy may be to diversification of a portfolio. When a country has low values of each of these components of risk, it is well-diversified with regard to the shock from removal of quotas. Larger values for each component indicate concentration: either in goods produced, in trading partner, or in reliance on exports for growth. Such concentration will magnify gains and/or losses incurred with the removal of the quota system.

**Concentration in exports of textiles and apparel.** The first source of risk comes from heavy reliance upon textiles and apparel sales among total exports to the quota-imposing countries. As an indicator of this reliance, I examine the ratio of the value of textiles and apparel exports to total exports to the US and EU in 2004. Those countries for whom textiles and apparel exports represent at least 30 percent of total exports to these two regions are listed in Table 6 with their values of  $(X_{TU}/X_U)$ . These 34 countries are typically small economies, and their residents had identified export niches within textiles and apparel that were apparently not available in other sectors.<sup>7</sup>

The countries are ranked by the weighted average of concentration ratios. Some (like Cambodia or Bangladesh) are strongly specialized in their trade with both the US and the EU, while others specialize with regard to one but not the other. Laos, for example, specializes in textiles and apparel for the EU market, but less so for the US; the Maldives Islands specializes in the US market, but not for the EU.

**Concentration in exports to the US and EU.** The second source of risk arises with reliance upon the US and EU markets as a destination for exports. In Table 7 I report the ratio  $(X_U/X)$  for countries with values greater than 40 percent. The table includes countries from all geographical regions, and underscores the importance of the US and the EU as markets for the world's goods. Those with highest values include disproportionately the countries of North and Central America that trade predominantly with the US, although the EU has its own specialized trading partners in Libya and Mauritania.

**Concentration on exports as a stimulus to GDP.** The export-led growth strategy is acknowledged as quite successful in attaining rapid economic growth. It also, however, increases the dependence of domestic producers upon stable demand in the importing countries. If this demand is disturbed, the reliance on exports will translate into volatility in GDP growth rates. Table 8 lists those exporters with export/GDP ratios greater than 50 percent. For the EU members on the list the exports measured include exports to other EU members.

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<sup>7</sup> I have calculated the ratio for all 228 countries exporting to the US and EU, and will use all these values in later analysis. I present only the top 34 to illustrate the nature of the countries with high concentrations in textiles and apparel.

Notice the difference in perspective in this section. While the preceding sections focused upon the largest exporters relative to the size of the US and EU markets, this section addresses the size of the exporter's share of that market relative to its other economic opportunities. The "at risk" countries can be summarized as in Table 9. The countries are ranked by multiplying the three risk components to obtain a risk score. Those most "at risk" are not the large exporters, as is evident by China's position near the bottom of the first row. Rather, those most at risk are small countries with a disproportionately large share of the economy tied up in textiles and apparel exports to the US and EU. The Central American countries are prominent among the high scores. So also are other countries that have specialized in textiles and apparel exports within the structure of the quota system: Cambodia, Lesotho, Mauritius, Mongolia, Madagascar, the Maldives Islands and Jordan.

There is another point of importance: the "at risk" countries are for the most part not those facing quota limits on their exports. They are, rather, the countries that have made up the shortfall created by establishing these quota limits on the larger producers. The "at risk" countries survive the removal of quota regime by competing on price with the larger exporters suddenly freed from their quota limits. In Tables 1a and 1b, Cambodia, Sri Lanka, Pakistan, Bangladesh and Philippines are bound by quota limits in these categories; they also rank among the high scorers on the risk index of Table 9. These are candidates to benefit greatly from removal of the quota system. The others among the high scorers in Table 9 are taking a larger gamble – in the terminology of section IV, they may have positive ex ante expected gains from textiles and apparel trade, but are likely to have ex post realized losses if they don't "win" market share post-quota.

## **VII. So, what happened?**

Data are currently available for imports into both the US and the EU-15 for the period 2005-2008. Table 6 reports the outcomes in terms of value of exports to the two markets for those countries with gains or losses in absolute value greater than USD 20 million.<sup>8</sup> There were 20 countries with gains of that amount or more, while there were 70 countries with losses in excess of that amount, for the period 2004-2005. Despite the preponderance of countries with reductions, the total value of exports of textiles and apparel to the two markets rose by 5.4 percent in value terms. China alone represented 160 percent of the total increase in sales in the two markets and India another 22 percent of the total increase. The Asian countries identified with binding quotas in previous years were among these gainers: China, India, Vietnam, Indonesia, Bangladesh. Peru, Jordan, Nicaragua, and Haiti were also among the gainers. In all cases except Indonesia and Bangladesh, the percent gain in 2005 exceeded the average gain of the market as a whole.

Among the countries with large contractions in exports in these products are two that are probably spurious: Hong Kong and Macao registered large reductions in the value of exports to these two markets, but they most likely suffered this fall because they earlier

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<sup>8</sup> Euros were converted into USD at the average monthly rate for June of the year in question. These rates are illustrated in Figure 1, and exhibit a strong appreciation of the Euro versus the US dollar.

served as export points for Chinese goods evading the quota. Once it was no longer necessary to evade the quota, those goods could be shipped directly to the US. The Chinese gain should thus probably be offset by the totals of these three, leaving a still sizeable 13.9 USD billion gain in 2005 and a 34 percent growth rate. Other countries with large contractions in this sector include Cambodia, Korea, Taiwan, Mexico, Russia, Czech Republic, Poland and Canada.

The export outcomes to the US and EU for the 40 “highest risk” countries are summarized in Table 10 for the short term of 2004 to 2005, and the medium term of 2005-2008. Table 11 summarizes these results by creating an outcomes matrix. Those countries benefiting from export gains in both the short term and the medium term were the Asian countries Bangladesh, Vietnam and Sri Lanka, the European exporters Turkey, Moldova and Macedonia, and the Caribbean nations Haiti and Nicaragua. These are the winners in this high-risk gamble. The countries with reduced export in both the short and medium term are those whose gamble did not pay off, and include Lesotho, Maldives, Nepal, Romania and the United Arab Emirates. Alone among the high risk countries, Jordan had a positive outcome in the short term but a negative outcome for the medium term. The remaining nine countries from the top-right quadrant were those that suffered reduced export revenue in the short term but had increased export revenue in the medium term. For Bulgaria, Cambodia, Madagascar, Morocco, Pakistan and Tunisia, the medium-term gains exceeded the short-term losses – in other words, these countries by 2008 had higher total export value than they had experienced in 2004.

The high-risk countries with the largest contractions in percentage terms were the Maldives, Mongolia, Mali, Tajikistan, Nepal, Lithuania and Malta among the top 33 countries, and every one of the bottom seven (Niue, Free State Micronesia, Afghanistan, Brunei, Fiji, United Arab Emirates and Macao). The largest absolute losses in export value were experienced by Romania, Guatemala, Costa Rica, Dominican Republic and Philippines.

The theory of section IV suggests that if the textiles and apparel export sectors are substantial parts of the aggregate economy, that we should see the difference ex post in economic activity between the “winners” and “losers” among the high-risk countries. An initial pass at testing this implication is provided in Table 12. The 172 non-EU and non-US countries for which I have data are the total sample. Group A includes those countries that gained from quota removal – they are the countries identified in Tables 10 and 11. Group B includes those countries that lost from quota removal, identified similarly in Tables 10 and 11. An examination of the record for the year 2004 suggests that both groups were growing on average more slowly than the average for the entire sample, and that Group B was performing relatively better than Group A (perhaps because Group A includes some countries constrained by quotas). The differences between the two groups were minor in 2004 relative to what is observed subsequently. In 2005 the annual growth rate for the winners rose sharply to 6.35, while the average annual growth rate for the “losers” fell to 4.16. As is evident in comparison with the average for the whole sample, there was reduced growth over all but the countries of group B suffered an even sharper reduction. A similar differential in average annual growth rates is evident in 2007 and 2008. Only in 2006 is there an inversion of this

pattern, perhaps because of a partial reversion toward the mean among those in group B. Group A grew more rapidly than the sample as a whole in every year after 2004; group B lagged the sample average except in 2006 and 2008.

The reported standard deviations in growth rates in Table 12 indicate that the differences noted in mean growth are not statistically significant. It is also evident that the winners of Group A have a more homogeneous growth record than those of the sample as a whole. Group B, by contrast, experienced more heterogeneity in growth rates in every year but 2005.

Table 13 reports the results of an OLS investigation of the determinants of growth rates for the entire sample of countries. There is no distinction here of “winners” or “losers”, but countries are characterized by the volatility of their growth rates during the period 2003-2008 and the Risk Index as derived in the preceding section. As additional country-specific regressors I use the (logarithm of the) level of real GDP to identify the potential tendency of convergence of growth rates across countries. I also include the adjusted saving/GDP ratio for each country in 2001 to capture the linkage between saving behavior and growth.<sup>9</sup> The Risk Index and the measure of growth volatility both contribute positively and significantly to the differences in growth rates across countries, even when initial level of development and saving rate are taken into account. The Risk Index effect is the one predicted by the model of section IV: as countries become more and more dependent upon exporting in one sector, this should contribute to more rapid growth. The positive coefficient on growth volatility also has a risk-return interpretation: if world prices of export commodities are volatile, then countries choosing to grow in the short-term through exports must be prepared to accept greater volatility along with more rapid growth.

### **VIII. Did quota removal lead to lower prices for US/EU consumers?**

The quota system served as a barrier to trade with the lowest-cost exporters of textiles and clothing – these were unable to service as much of the US market as they may have desired due to the quota restrictions. Removal of the quotas should then lead to a reduction in the price of these goods in the US and EU markets, either through the elimination of quota license rents or through the increased price competition possible at the margin among these constrained suppliers.

This pro-competitive effect should be evident in the unit value of textiles and apparel sold in 2005 relative to that observed in 2004. It should be most evident among those countries with binding constraints in 2004, although the price competition should drive down unit values even on those products from non-constrained suppliers. Table 14 reports calculations of price reductions in unit value by quota category.<sup>10</sup>

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<sup>9</sup> Other potential explanatory regressors were the share of agriculture in value added as an indicator of level of development and the dependency ratio as a constraint on growth. Neither added significantly to the explanatory power of the regression.

<sup>10</sup> Most quota categories are defined in terms of a single unit, whether square meters, kilos, dozens, pieces, pairs or units. Some US quota categories (usually ending in “9”) include goods measured in different units. For those categories, I consider only that quantity measurement associated with the largest value of total imports in 2004.

The quota categories considered are the 92 categories with quotas removed on 1 January 2005.<sup>11</sup> There were large numbers of exporting countries represented in each category, as indicated in the second column. Of those exporters, a minority had defined quotas in 2004 – the number is given in parentheses in the third column. The first number in the third column indicates the number of exporters subject to binding constraint in 2004.<sup>12</sup> In 40 of the categories there were no exporters under binding quota in 2004, while in the other categories there were typically only a handful.<sup>13</sup>

I expect that the percent reduction in unit values to be negative on average for both categories of countries, but I also expect that the percent reduction for countries facing binding quotas (column 4) will be larger in absolute value than the percent reduction for countries not bound by quotas (column 5). This effect should be more pronounced for categories where more than one country faced binding quota. The “Percent Change” reported in columns 4 and 5 is an average of individual-country unit values weighted by the share of each country in the 2004 value of US imports in that quota category.

There is variation across quota categories, but a strong conclusion is warranted. Countries with binding quotas generally experienced larger reductions in unit value than countries without binding quotas. There were only very minor changes in the average unit values of goods imported from countries without binding quotas, while the percent change associated with goods from countries with binding quotas was generally large and negative. As the final column reports, countries with binding quotas generally served much less than 50 percent of the US import market in 2004.

Consider categories 338 and 339 (knit cotton shirts, for men and women respectively). In 2004 there were 27 countries with quotas defined on these categories, and 10 (or 9) of these countries had binding quotas. In 2005, those with binding quotas experienced a weighted reduction in unit value per dozen of about 1.8 percent, while the remaining exporters exhibited a negligible reduction in value per dozen. The countries with formerly binding quotas made up between 30 and 40 percent of the total exports to the US in 2004.

Similarly, categories 347 and 348 (cotton trousers, for men and women respectively) had 27 countries with defined quotas in 2004, and 8 of those had quotas binding in that year. The weighted reduction in unit values per dozen for those countries with binding quotas were -2.37 and -1.57 percent, while weighted unit values per dozen for the other countries rose negligibly. Those countries with binding quotas served between 24 and 30

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<sup>11</sup> Quota removal was defined by 10-digit HS code in the US, not by quota category, and so eight categories were represented in more than 1 group. In that case I assigned the category to the liberalization group in which the majority of its value was accounted.

<sup>12</sup> A country was defined as having a binding quota constraint in a category if its actual exports in that category were more than 90 percent of the quota limits in that year. The data on quota limits were graciously made available by the OTEXA division of the US Department of Commerce and by SIGL in the EU.

<sup>13</sup> This definition of binding quotas includes quotas defined jointly on between two and four categories, but does not include quotas defined on larger groups of quota categories. If a jointly defined quota is binding for a country, I treat that as binding for each of the included categories.

percent of the market in 2005. Exporters of cotton underwear (category 352) with binding quotas exhibited a reduction in unit value of 21.22 percent in 2005; exporters without binding quotas experienced a negligible reduction. This pattern is evident throughout the table: unit values typically fell for goods from countries with binding quotas in 2004, and these reductions were much larger than adjustments observed in prices of goods from countries not formerly bound by a quota.<sup>14</sup>

With total value of imports rising after removal of quotas, and with unit values declining for countries formerly bound by quotas, I anticipate that the quantities exported to the US will be increasing with quota removal. Table 15 reports the change in quantities imported into the US in the quota categories included in group 4. Short-term refers to the change in quantities imported from 2004 to 2005, while medium-term refers to the change in quantities imported from 2005 to 2008. There is a strong regularity in the data: countries formerly with binding quotas exhibited strong positive growth in the short and medium terms, while those without binding quotas exhibited reductions in exports on average. Consider once again the categories 338 and 339 (knit cotton shirts). Countries with formerly binding quotas increased their exports in the short term by 11.8 or 15.2 percent, and in the medium term by 8.2 and 36.1 percent. Other countries experienced much less rapid growth: in the short term, rates of 0.8 or 3.0 percent, and in the medium term reductions of -0.2 or -14.5 percent. The categories 347 and 348 (cotton trousers) and 352 (cotton underwear) have a similar pattern – positive growth for the countries formerly bound by quotas, and negligible or even negative growth for all others.

## **IX. Conclusions and extensions.**

The removal of quota restrictions at the beginning of 2005 led to major dislocations in the international market for textiles and apparel. This paper provides a description of the magnitude of these changes. It also relates the magnitude of the shifts to the ex ante riskiness of the export strategy followed by some of the exporters to the US and EU markets.

In many countries there was a concentration of exports in the area of textiles and apparel. Whether this was a conscious policy or not, it increased the risk associated with the removal of quota restraints – a removal that had been pre-announced ten years previously. Data from 2005-2008 indicates the expansion of exports by some countries, most notably China and India, and the contraction of others. Those following a high-risk concentration of exports are disproportionately evident both among those who have benefited from large expansions and among those who have lost from large reductions.

The Multi-Fiber Arrangement and its successor Agreement on Textiles and Clothing led to substantial trade diversion over their lifetimes. This trade diversion in the sense of Viner (1950) has led to a global pattern of production that followed comparative advantage only approximately – since quotas limited purchases from the comparative-advantage countries, other countries could establish stable export niches in the unmet

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<sup>14</sup> The reductions in unit value are much smaller for the group average than they are for China considered alone. When China is considered separately, the percent reduction in unit values is between 20 and 40 percent for many quota categories, just as Brambilla et al. (2007) found.

demand remaining. These were stable niches while the system of quotas continued, but were likely to disappear when the restraints were removed.

The data of this paper illustrate that 2005-2008 was a period of consolidation of production in a few larger exporters. Among those countries that established niches in the protection of the quotas – for example, Lesotho or the Maldives – there was a drastic downsizing of exports. While there were positive surprises in 2005, the emerging pattern of production and export have reinforced and strengthened the patterns limited by quotas. In the period since 2005, a number of countries supplying the EU have rebounded from losses in 2005. However, the dominant tendency has been for those who “won” in 2005 to consolidate their gains, and for those who “lost” to continue their losses of market share.

Table 1a: Quota Restraints in Seven Quota Categories in US, 1993-2004.

	225	314	338/339	347/348	352
Bahrain			1993-1996		
Bangladesh			1993-2002	1993-2002	1994-2004
Brazil	1994, 1996	*	*	*	
Burma			1999	2000	
Cambodia			2000-2004	1999-2004	2002
China	*	1993-2003	1993-2004	1993-2003	1993-2004
Colombia		*			*
Costa Rica				1993-1995, 1998, 2000	1996-1997
Dominican Republic			1993-2000	1993-2000	1995
Egypt	*	*	1995-1999		
El Salvador					*
Fiji			1994-2000		
Guatemala				1993-2000	
Haiti				*	
Honduras					*
Hong Kong	*	*	1996-2002	1995-2002	1995-1999
India	*	1995-1999	1994-2004	1993, 1995-2004	
Indonesia	1993, 1995, 1997-1998	1993-1995 1997-1999	1993-2004	1993-1994 1996- 2002, 2004	
Jamaica			1996	*	1993-1997
Korea	*	*	1993-2002 2004	1998-1999 2001-2003	1993-1994, 1998-1999
Lebanon			*		
Lesotho			1993-1994	1993-1994	
Macao	*	*	1993-2002 2004	1993-2002	1993
Malaysia	*	*	1993-2002	1993-1999, 2002	
Mauritius			1993, 1995- 1999	1993-1994 1997-2000	*
Mexico		*	1998-1999	1993, 1997, 2000	*
Nepal				1998-2000, 2002	
Oman			1994-1997	1997-2000, 2002	
Pakistan		1997-1998 2000-2002	1994-2004	1993-1994 1996-2004	1995-1998, 2000-2004
Panama				*	
Philippines	*	*	1994-2004	1993-2003	1993-1994, 2000-2004
Poland			*		
Qatar				1993-1994 1996-2002	
Romania		*	*	*	*
Singapore	*		1993-2002 2004	1993-1994 1999-2000	*
Sri Lanka		1993-1995 1998	1993, 1995- 2002, 2004	1993-2002, 2004	1993-1998, 2000-2002
Taiwan	1993, 1995	*	1993-2002	1993-2002	1993
Thailand		1998-1999	1993-2003	1993, 1996-2003	
Turkey		*	1993-2002	1998, 2000-2002	2000-2002
United Arab Emir.			1993-2003	1993-2003	2001
Vietnam			2003-2004	2003	2003

Source: Department of Customs and Border Protection

Not all countries faced quotas in all categories. A year listed indicates that the quota was binding (i.e., was at least 90 percent filled) in that year. An asterisk indicates that the quota existed but was never binding in this period. For most of the countries with restraints, they were in force for the entire period 1993-2004. For some the quotas were added more recently: for example, Vietnam's quotas were negotiated to begin in 2003.

Table 1b: Quota Restraints in Three Quota Categories for EU-15, 1993-2004.

	Category 4	Categories 6 and 28	Category 13
Albania	*	*	*
Armenia	*	*	
Azerbaijan	*	*	*
Bangladesh	1993-2002	*	
Belarus	1995, 1998-2000	1995, 1999, 2001-2004	1994-2004
Bosnia/Hercegovina	*	2000	
Brazil	*	*	
Bulgaria	1994-1995	1994	*
Cambodia	*	*	
China	1993-2004	1993-2004	1995-2004
Croatia		1994-1995, 2000	
Czech Republic	1993-1996	1994, 1996	*
Egypt	*		
Estonia	*		*
Georgia	*	*	
Hong Kong	1993-1994, 1999-2000, 2003	1993-2003	1993, 2000, 2002-2003
Hungary	1993-1996	*	*
India	1993-2004	1993-2004	
Indonesia	1993, 2004	1994, 1999-2004	
Kazakhstan	*	*	
Korea (North)	*	1998-1999, 2001	*
Korea (South)	1999-2000	1993, 1997, 2000, 2002-2004	2003
Kosovo	*	*	
Kyrgyz Republic	*	*	
Laos	1993-1994	*	
Latvia	*	*	*
Lithuania	*	*	*
Macao	1993, 1996-2004	1993-2004	1993, 1996-1998, 2000-2001, 2003-2004
Macedonia	*	*	
Malaysia	1994, 1998-2000	2000, 2002	
Malta	*	*	
Moldova	*	*	
Morocco		1995	
Nepal	*	*	
Pakistan	1993, 1995-2000, 2003	1996-2004	
Philippines	*	2002-2003	*
Poland	1994-1996	1994, 1996	*
Romania	1994-1997	1994-1996	*
Russia	1995	1998	1994-1995
Serbia/Montenegro		1996-1998, 2000-2002	
Singapore	*	*	
Slovak Republic	1994-1997	1996	*
Sri Lanka	*	1994-1996, 1999-2000	
Taiwan	1997-1998, 2000	1997, 1999, 2000, 2002	1997
Tajikistan	*	*	
Thailand	1993, 2003	1993-1994, 2000-2003	
Tunisia		1995	
Turkey	1993-1995	1994-1995	1993-1995
Turkmenistan	*	*	
Ukraine	1995, 1999	1994, 1996-1999	1993, 1995-2000
United Arab Emirates	*	*	
Uzbekistan	*	*	
Vietnam	1994, 1996-2003	1995-2003	*

Source: Eurostat/SIGL. Not all countries faced quotas in all categories. A year listed indicates that the quota was binding (i.e., was at least 90 percent filled) in that year. An asterisk indicates that the quota existed at some time during this period but was never binding.

**Table 2: Total Imports, Textiles and Apparel, in US and EU Markets**

	US Imports (USD)	EU imports (EURO)	EU imports (USD)	Total imports (USD)	US growth (in USD)	EU growth (in Euro)	Total growth (in USD)
2003	80.54	70.25	82.01	162.55			
2004	86.80	73.15	88.85	175.64	7.77	4.13	8.06
2005	92.68	76.01	92.39	185.06	6.77	3.91	5.36
2006	96.28	83.71	105.97	202.25	3.89	10.13	9.28
2007	99.23	86.60	116.22	215.45	3.07	3.46	6.53
2008	95.91	85.39	132.86	228.77	-3.35	-1.40	6.18

Sources: ITC and Eurostat databases  
 Including HTS categories 50 through 63.  
 Customs values are reported.  
 Imports are measured in billions; growth rates in percent.

Table 3: **Decomposition of Exports to the US by Product Group**

	<b>Total Value (USD billion)</b>			Percent growth, 2004-2005	Percent growth. 2005- 2008
	2004	2005	2008		
<b>Group 1</b>	1.09	1.15	1.29	5.22	12.30
<b>Group 2</b>	5.55	5.94	5.96	6.90	0.40
<b>Group 3</b>	9.37	9.64	9.49	2.83	-1.57
<b>Group 4</b>	62.40	67.04	69.77	7.43	4.07
<b>Not in groups</b>	8.38	8.92	9.40	6.43	5.44
<b>Total</b>	86.80	92.68	95.91		

	<b>Value from China (USD billion)</b>			Percent growth, 2004-2005	Percent growth. 2005- 2008
	2004	2005	2008		
<b>Group 1</b>	0.42	0.52	0.64	22.33	22.71
<b>Group 2</b>	2.07	2.26	2.44	9.04	8.20
<b>Group 3</b>	3.42	3.71	4.33	8.38	16.90
<b>Group 4</b>	5.28	11.91	19.94	125.58	67.40
<b>Not in groups</b>	3.76	4.06	4.14	7.95	1.99
<b>Total</b>	14.95	22.45	31.49		

Group-1 products had quota limits removed at the beginning of 1995. Group-2, group-3 and group-4 products had quota limits removed in beginning 1998, 2002 and 2005, respectively.

Sources: ITC database and OTEXA product concordance. Calculations by the author.

**Table 4: Exports to the US and EU Markets**

(Millions of US dollars)

	2004	2005	2008	Net Gain 2005/2004	Net Gain 2008/2005
China	32295646683	47289240495	77429163799	14993.59	30139.92
India	9168137253	11194214834	14603028459	2026.08	3408.81
Turkey	14004235303	14365795060	17084662088	361.56	2718.87
Indonesia	4679760624	4965278947	6607315780	285.52	1642.04
Vietnam	3428100202	3636526897	7346485037	208.43	3709.96
Bangladesh	6676204097	6856285545	11131689506	180.08	4275.40
New Zealand	63729443.75	243208486.3	166513292.4	179.48	-76.70
Peru	798049150.9	956983643.8	1031062263	158.93	74.08
Jordan	968435744.3	1093510129	991012910.3	125.07	-102.50
United States	1371707506	1494427442	1939761858	122.72	445.33
Nicaragua	597917333	716722176	935013329	118.80	218.29
Sri Lanka	2609886764	2701780622	3312010137	91.89	610.23
Haiti	332903166.9	410009675	412813725	77.11	2.80
Uruguay	24132134.68	80754950.12	89937378.81	56.62	9.18
Norway	90128204.74	136138387.3	158753549	46.01	22.62
Egypt	1354057506	1394944512	2111823450	40.89	716.88
South Africa	365504604.1	393157366.7	303871330.9	27.65	-89.29
Netherlands	234070891	260577615	317448184	26.51	56.87
Cyprus	51372814.16	77030788.58	65242608.59	25.66	-11.79
Germany	555644581	576896971	527372019	21.25	-49.52
Luxembourg	19427239	35393894	29868658	15.97	-5.53
Greece	29664569	44896641	44454039	15.23	-0.44
Macedonia	374580810.3	388373087.9	747804579.7	13.79	359.43
Ireland	33938981	42873581	35966680	8.93	-6.91

Austria	55419539	63596380	105188741	8.18	41.59
Moldova	183350829.1	189224052.7	262727014.7	5.87	73.50
Denmark	25567118	29624551	28269634	4.06	-1.35
Laos	144892990.3	147646102	203726068.6	2.75	56.08
Belgium	248045404	250629961	215273090	2.58	-35.36
Ethiopia	11805582.71	13396976.72	22054436.98	1.59	8.66
Tokelau Is	2206515.18	3379514.76	2376849.93	1.17	-1.00
Andorra	6674713.45	7481863.33	10341793.73	0.81	2.86
Ceuta	6156.81	652530.24	923271.27	0.65	0.27
Benin	8252099.86	8746618.97	6171463.75	0.49	-2.58
Senegal	5663401.95	6099964.42	2639342.69	0.44	-3.46
Panama	4918528.4	5337523.48	5038032.3	0.42	-0.30
North Korea	12049750.23	12449255.53	10066538.89	0.40	-2.38
Trin & Tobago	1135026.71	1492487.75	385873.19	0.36	-1.11
Guadeloupe	42946	296495	47574	0.25	-0.25
Gaza Strip	454546.96	696234	2180205	0.24	1.48
Monaco	48334	266591	153463	0.22	-0.11
Cayman Is	13696.11	224515	44412	0.21	-0.18
Kosovo	0	108637.74	131468	0.11	0.02
Br Indian O Ter	6421.59	109174	5714	0.10	-0.10
Vatican City	6484.75	93567	1632	0.09	-0.09
Netherlands Ant	145220.62	227981	33652	0.08	-0.19
Reunion	36031	112313	305	0.08	-0.11
Cook Is	27176.16	85123	191820	0.06	0.11
Br Virgin Is	177759.48	229331.51	1047001.66	0.05	0.82
Vanuatu	0	48880	0	0.05	-0.05
Antigua Barbuda	1416830.39	1447219.54	178049.11	0.03	-1.27
Nauru	1179.38	20625	1583	0.02	-0.02

*Removal of Quotas on Textiles and Apparel - 24*

Bhutan	13197.88	31821	20447	0.02	-0.01
Pitcairn Is	45650	63168	855	0.02	-0.06
Marshall Is	866.01	17890	316	0.02	-0.02
Fr Polynesia	121009.12	131554.45	79199.73	0.01	-0.05
Iceland	7271866.12	7281596.65	5969882.35	0.01	-1.31
St Kitts-Nevis	4885.07	12614	79175	0.01	0.07
Svalbard,May Is	0	6228	0	0.01	-0.01
Liberia	529890.22	533521.78	33816.16	0.00	-0.50
Aruba	7473.01	9839	6970	0.00	0.00
West Bank	0	1955	47491	0.00	0.05
Eq Guinea	0	0	258	0.00	0.00
Montenegro	0	0	784	0.00	0.00
Norfolk Is	757.91	583	0	0.00	0.00
Am Samoa	416.61	0	0	0.00	0.00
US Minor Is	440.9	0	0	0.00	0.00
Martinique	764	0	8332	0.00	0.01
Wallis & Futuna	820	0	0	0.00	0.00
Mayotte	2103.69	0	1659	0.00	0.00
Anguilla	2259.16	0	23634	0.00	0.02
Solomon Is	3654	0	0	0.00	0.00
French Guiana	6082	0	0	-0.01	0.00
Rwanda	10636.74	1400	24360	-0.01	0.02
Sao Tome & Prin	14245.69	4268	0	-0.01	0.00
Virgin Is	10020.45	0	0	-0.01	0.00
Congo (ROC)	15327.5	0	52857	-0.02	0.05
St Pierre & Miq	16676.46	0	0	-0.02	0.00
Eritrea	22352.28	4034	0	-0.02	0.00
Christmas Is	19138	0	9937	-0.02	0.01

Libya	20719.86	0	931	-0.02	0.00
Cocos Is	29896.94	7651	76358	-0.02	0.07
Kiribati	24192.69	0	0	-0.02	0.00
Fr S & Ant land	30450.02	0	0	-0.03	0.00
Congo (DROC)	49345.62	12420	40258	-0.04	0.03
St Vinc & Gren	38124.73	825	75719	-0.04	0.07
Tuvalu	48473.47	1436	0	-0.05	0.00
Niue	141826.26	94260	0	-0.05	-0.09
Grenada Is	52485.19	1560	6195	-0.05	0.00
Greenland	68016.39	0	0	-0.07	0.00
Suriname	121219.79	40624	27771	-0.08	-0.01
Heard & McDn Is	90011.19	1251	0	-0.09	0.00
Somalia	166797.19	77209	12246	-0.09	-0.06
St Helena	98122.34	7596	0	-0.09	-0.01
Montserrat Is	103083.93	2039	9150	-0.10	0.01
Seychelles	131305.8	18529	33697	-0.11	0.02
Papua New Guin	132990.1	12283	1771	-0.12	-0.01
Bermuda	141745.39	20083	7350	-0.12	-0.01
Tonga	136026.04	8033	3684	-0.13	0.00
Gambia	412421.36	268555.51	311861.82	-0.14	0.04
Dominica Is	178191.7	33333	721543	-0.14	0.69
Gibraltar	238680.79	0	3228	-0.24	0.00
Guinea-Bissau	260877.86	0	2058	-0.26	0.00
Faroe Islands	273229.13	0	0	-0.27	0.00
Barbados	1090029.99	787179	769276	-0.30	-0.02
Comoros	343559.8	30541.16	2754.12	-0.31	-0.03
Djibouti	320604.6	0	0	-0.32	0.00
Guinea	971786.5	645897.52	647127.98	-0.33	0.00

Spain	166008547	165670084	136588482	-0.34	-29.08
Burundi	344527.36	0	0	-0.34	0.00
Turks & Caic Is	2049270.73	1605065.05	429823.22	-0.44	-1.18
New Caledonia	620968.85	172514	63086	-0.45	-0.11
Iraq	615454.27	115072	73414	-0.50	-0.04
Niger	659562.7	14860	39006	-0.64	0.02
Bahamas	901395.32	238247	349523	-0.66	0.11
Mauritania	806102.06	126428	12317	-0.68	-0.11
Cape Verde	8126659.75	7440692.61	7150399.66	-0.69	-0.29
Liechtenstein	10259581.58	9545043.04	8121409.63	-0.71	-1.42
Finland	40376386	39627798	69261044	-0.75	29.63
Cuba	765976.56	0	0	-0.77	0.00
Gabon	849571.82	626	72987	-0.85	0.07
Belize	18328497.76	17432172	176163	-0.90	-17.26
Algeria	2274356.19	1262569.02	1942046.28	-1.01	0.68
Guam	1027296.53	0	0	-1.03	0.00
Ecuador	33358598.64	32320336.82	25225608.72	-1.04	-7.09
San Marino	2166918.33	1112690.26	1823164.8	-1.05	0.71
Bolivia	46722233.64	45570737.1	24665780.38	-1.15	-20.90
Albania	134427224	133262503.5	301976463.3	-1.16	168.71
Yemen	1337655.08	15174	5108	-1.32	-0.01
Bosnia-Hercegov	139330230	137920635.2	215545895.7	-1.41	77.63
Lebanon	20231485.8	18723349.42	22857571.51	-1.51	4.13
Samoa	1725335.76	28473	4817	-1.70	-0.02
Guyana	7328719.22	5617162	4334083	-1.71	-1.28
Togo	2276481.97	100678	9929	-2.18	-0.09
Chile	45452293.11	43221980.69	30606280.26	-2.23	-12.62
Sierra Leone	2385399.98	135134	354951	-2.25	0.22

Venezuela	3885459.37	1556369	343461	-2.33	-1.21
Cen African Rep	2352381.25	13970	0	-2.34	-0.01
Botswana	32534226.31	30046649	15964030	-2.49	-14.08
Georgia	6937958.41	4313252.52	3819342.75	-2.62	-0.49
Kazakhstan	31078606.88	28429398.17	54759568.98	-2.65	26.33
Angola	2657639.54	0	0	-2.66	0.00
St Lucia Is	3582830.88	305629	48265	-3.28	-0.26
Azerbaijan	6594735.18	3219328.43	470565.52	-3.38	-2.75
Tanzania	21657569	18178856.17	20041880.78	-3.48	1.86
Malawi	26944479.29	22781165	12676502	-4.16	-10.10
Mozambique	14675293.82	10078384.94	4687266.92	-4.60	-5.39
Sweden	36386663	31641750	25602392	-4.74	-6.04
Uganda	9872669.27	4843622	412262	-5.03	-4.43
Falkland Is	5164114.82	1000	0	-5.16	0.00
N Marianas	5394994.49	0	0	-5.39	0.00
Ghana	10634255.25	5189344	983944	-5.44	-4.21
Nigeria	40080738.58	34281439.38	14208591.46	-5.80	-20.07
Armenia	24177552.87	17275358.6	17855724.76	-6.90	0.58
Kenya	290058050	282603865.8	257124385.8	-7.45	-25.48
Paraguay	9541283.29	1096795	369282	-8.44	-0.73
F St Micronesia	10545982.32	964912	0	-9.58	-0.96
Argentina	135316699.8	125095186.5	135631143.5	-10.22	10.54
Cameroon	30835462.55	20585171.16	7180203.44	-10.25	-13.40
Kyrgyz Republic	22442379.64	11506640.33	1345834.1	-10.94	-10.16
Iran	371818481.2	360780048.8	219010759	-11.04	-141.77
France	485529406	473578870	462782739	-11.95	-10.80
Afghanistan	15332358	2300038	4000495	-13.03	1.70
Zimbabwe	45214934.66	31293372.02	19551600.12	-13.92	-11.74

Burkina Faso	15660037.39	15090	25584	-15.64	0.01
Sudan	16777250.37	0	0	-16.78	0.00
Portugal	357433124	340147288	306284153	-17.29	-33.86
Pakistan	5318420477	5300707403	6589373313	-17.71	1288.67
Zambia	18100527.2	30617	27401	-18.07	0.00
Saudi Arabia	71645310.13	53233766.89	65938673.76	-18.41	12.70
Mali	47333814.81	28569737.11	9030637.56	-18.76	-19.54
Cote d'Ivoire	20589194.35	142364	31496	-20.45	-0.11
Belarus	240708905.8	219145303.6	146361319.7	-21.56	-72.78
Colombia	696235947.3	674457788.8	449548926.7	-21.78	-224.91
Kuwait	34624560.09	12554332.6	1278659.96	-22.07	-11.28
Madagascar	530080174.4	507941196.9	634905044.6	-22.14	126.96
Latvia	254174012.1	232026075.2	195022329.7	-22.15	-37.00
Swaziland	184349154.1	160975953	124882680	-23.37	-36.09
Malta	163249369	139848277.3	68429439.04	-23.40	-71.42
Namibia	79857587.92	54075457.58	1267374.98	-25.78	-52.81
Chad	28790617.49	1368	0	-28.79	0.00
Bulgaria	1656252509	1626942306	1990306850	-29.31	363.36
Malaysia	1240930747	1209109438	1119936651	-31.82	-89.17
Ukraine	646372534.2	614344281.1	560605077.4	-32.03	-53.74
Costa Rica	529812669.6	494846037.7	318013512.2	-34.97	-176.83
Qatar	66128097.63	30914092.98	3790864.14	-35.21	-27.12
Nepal	226354949.8	186374191.5	166161290	-39.98	-20.21
Brunei	216875414	167115456	72494510	-49.76	-94.62
Estonia	364938928.5	311687619.3	300919442.9	-53.25	-10.77
Bahrain	256311439.3	201773436.7	171620114.8	-54.54	-30.15
Turkmenistan	108825022.6	53835645	30465193	-54.99	-23.37
Brazil	824716651.9	766722711.3	534755442.2	-57.99	-231.97

Honduras	2787559689	2729414382	2764521823	-58.15	35.11
Uzbekistan	193178513.1	132805459	102041083.5	-60.37	-30.76
United Kingdom	615154125	554253052	388920515	-60.90	-165.33
Lesotho	456858585.6	390818053	339778991	-66.04	-51.04
Tajikistan	67689057.46	714953	0	-66.97	-0.71
Fiji	86392241.79	19163055	810770	-67.23	-18.35
Slovak Republic	769492373.2	700882287.9	887632191.3	-68.61	186.75
Croatia	619248377.1	545273680.6	642339055.6	-73.97	97.07
Israel	1084372906	1009988710	980879253.4	-74.38	-29.11
Slovenia	484492708.6	409343462.7	541199065.5	-75.15	131.86
Maldive Is	81334496.72	4719927	4288	-76.61	-4.72
Syria	283446459.4	203380640	157395945.7	-80.07	-45.98
Oman	144113211	61538091.18	4295134.28	-82.58	-57.24
Hungary	1323958583	1237117689	1357490742	-86.84	120.37
Lithuania	772954673.9	682936918.7	588637681.1	-90.02	-94.30
Singapore	299799773.1	205853155.2	144633863.5	-93.95	-61.22
Jamaica	160663567	56601143	16793763	-104.06	-39.81
Italy	2398195102	2291633217	2206940595	-106.56	-84.69
Mongolia	243575857.6	135084732	41843794	-108.49	-93.24
El Salvador	1767469168	1658599734	1612793449	-108.87	-45.81
Serbia/Monteneg	189055802.9	201762959.8	452224086.2	12.71	250.46
Philippines	2303821284	2177623465	1692439806	-126.20	-485.18
Guatemala	1969602926	1840478480	1419252789	-129.12	-421.23
Thailand	3577247138	3438324839	3607800994	-138.92	169.48
United Arab Em	584960327	441828177	365423094.6	-143.13	-76.41
Mauritius	857029766	711613702.4	774602979.2	-145.42	62.99
Tunisia	3470349284	3301460671	4492811835	-168.89	1191.35
Dominican Rep	2129691583	1935061631	946076230.2	-194.63	-988.99

Burma (Myanmar)	448547736.6	232067189.7	224066973.5	-216.48	-8.00
Morocco	3161100232	2943993312	4012546978	-217.11	1068.55
Poland	2335547313	2107194930	3339527090	-228.35	1232.33
Canada	3687576144	3455330681	2366020865	-232.25	-1089.31
Australia	846668588.5	606181875.6	495321324.5	-240.49	-110.86
Romania	4990964930	4749494405	4172053550	-241.47	-577.44
Japan	1599745897	1306654603	1618546579	-293.09	311.89
Switzerland	2149302420	1841727290	2464212327	-307.58	622.49
Russia	605021273.7	294715765.4	101134292.8	-310.31	-193.58
Cambodia	2059277692	1716164278	2381527335	-343.11	665.36
Macao	1942607589	1581816981	1055345683	-360.79	-526.47
Czech Republic	2035083689	1648791717	2306368680	-386.29	657.58
Taiwan	3019903718	2512509833	2067229199	-507.39	-445.28
Mexico	8644981160	8084921579	5681522446	-560.06	-2403.40
Hong Kong	6371364798	5690405398	2885289934	-680.96	-2805.12
Korea	4561974639	3513404331	2576053347	-1048.57	-937.35
	175642.36	185043.35	228579.77	9400.98	43536.43

Table 5: **Indicators of concentration in the combined EU/US markets**

	<b>Percent of US imports from these countries</b>		
	<b>2001</b>	<b>2005</b>	<b>2008</b>
<b>Top 1</b>	18.4	25.6	33.9
<b>Top 5</b>	40.3	45.0	55.8
<b>Top 10</b>	55.1	59.3	67.9
<b>Top 20</b>	72.4	75.6	80.9
<b>Top 30</b>	83.6	84.6	89.2
<b>Bottom 100</b>	0.2	0.02	0.003

Source: author's calculation

**Top 10, as ranked by total customs value of imports:**

<b>2004</b>	<b>2005</b>	<b>2008</b>
<b>China</b>	<b>China</b>	<b>China</b>
<b>Turkey</b>	<b>Turkey</b>	<b>Turkey</b>
<b>India</b>	<b>India</b>	<b>India</b>
<b>Mexico</b>	<b>Mexico</b>	<b>Bangladesh</b>
<b>Bangladesh</b>	<b>Bangladesh</b>	<b>Vietnam</b>
<b>Hong Kong</b>	<b>Hong Kong</b>	<b>Indonesia</b>
<b>Pakistan</b>	<b>Pakistan</b>	<b>Pakistan</b>
<b>Romania</b>	<b>Indonesia</b>	<b>Mexico</b>
<b>Indonesia</b>	<b>Romania</b>	<b>Tunisia</b>
<b>South Korea</b>	<b>South Korea</b>	<b>Romania</b>

**Table 6: Countries with Textile and Apparel exports in excess of 30 percent of total exports to the US and EU-15 in 2004**

<b>Country</b>	<b>Share in EU Exports</b>	<b>Share in US Exports</b>	<b>Combined Share</b>
Cambodia	86.75	95.64	92.69
Free St Micronesia	1.40	92.38	92.13
Lesotho	3.52	97.60	91.94
Laos	88.73	62.18	88.20
Bangladesh	87.56	89.09	88.02
Nepal	77.87	91.47	85.23
Mongolia	27.15	95.75	84.31
Haiti	14.19	85.18	82.10
Macao	56.37	96.29	80.87
El Salvador	4.34	83.24	76.61
Jordan	4.05	87.27	69.25
Mali	72.68	1.67	68.95
Maldives Islands	0.79	98.03	68.22
Sri Lanka	54.33	80.69	67.74
Kyrgyz Republic	68.03	61.23	65.91
Honduras	7.78	72.23	65.79
Pakistan	42.76	85.92	60.55
Guatemala	1.97	62.05	56.48
Nicaragua	1.96	60.06	54.35
Tajikistan	52.30	83.89	54.10
Mauritius	45.64	83.76	51.81
Brunei	1.98	64.82	51.56
Swaziland	3.40	89.88	49.85
Madagascar	29.97	68.61	45.70
Niue	3.75	70.04	42.16
Dominican Republic	1.98	45.35	40.63
Cape Verde Islands	31.12	81.53	40.22
Tunisia	39.95	21.70	39.51
Macedonia	35.94	55.80	37.45
Morocco	37.79	13.80	36.28
Bahrain	12.43	50.45	31.00
Burkina Faso	31.15	8.63	30.90
Vietnam	12.22	52.42	30.22
Turkey	29.46	35.48	30.18

Source: US International Trade Commission and Eurostat. The "Combined" column provides the average share of textiles and apparel in total trade with these two regions weighted for relative values of total trade.

Table 7: **Countries with more than 40 percent of exports to the US or EU-15.**

	Share of exports to EU	Share of exports to US	Exports to combined
Honduras	8.43	118.62	127.05
Liberia	45.53	49.18	94.73
Trinidad & Tobago	5.39	82.05	87.44
Lesotho	3.28	79.97	83.25
Guatemala	5.03	76.79	81.82
St Vincent & Grenadines	79.62	1.97	81.59
Mexico	2.62	76.44	79.06
Madagascar	37.59	40.32	77.91
Nicaragua	5.00	71.71	76.70
Haiti	2.10	72.48	74.58
Libya	72.09	2.02	74.11
Canada	3.34	67.45	70.79
Cambodia	16.78	52.88	69.66
Congo (ROC)	13.50	54.82	68.33
Costa Rica	28.41	39.76	68.18
Gabon	10.08	54.83	64.91
Venezuela	4.11	60.39	64.50
Mauritania	60.80	1.63	62.43
Bangladesh	36.70	24.94	61.64
Aruba	6.00	53.30	59.29
Ecuador	10.39	47.69	58.08
Algeria	35.57	20.23	55.80
Namibia	41.70	13.68	55.38
Nigeria	11.09	43.25	54.34
Dominican Republic	3.82	48.86	52.67
Colombia	12.12	38.45	50.57
El Salvador	2.80	47.73	50.54
Suriname	23.92	25.62	49.54
Guinea	38.70	8.53	47.23
Central African Republic	40.43	5.84	46.28
Sierra Leone	41.06	4.91	45.97
China	14.81	30.71	45.52
Norway	39.47	5.91	45.38
Romania	41.64	3.45	45.10
Tunisia	43.20	1.69	44.89
Cameroon	35.55	8.92	44.47
Iceland	36.30	7.29	43.59
Sri Lanka	16.61	26.87	43.49
Mozambique	42.04	0.63	42.67
Bahamas	16.04	26.31	42.35
Burundi	33.82	8.27	42.09
Israel	12.92	28.81	41.74
Botswana	39.77	1.91	41.68
St Kitts-Nevis	6.35	34.48	40.83
Chad	8.38	32.07	40.45

Source: US International Trade Commission (Exports to US), Eurostat (Exports to EU-15) and World Development Indicators (Total exports from the Balance of Payments). The data should be interpreted carefully, especially that for Honduras and Liberia. (Exports from Liberia to EU-15 divided by 10).

Table 8: **The ratio of exports to GDP: countries above 50 percent**

<b>Trading partner</b>	<b>X/GDP</b>
Singapore	157.8
Malaysia	121.3
Mali	114.3
Maldives Islands	98.0
Malta	85.2
Slovak Republic	83.8
Thailand	83.5
Swaziland	83.1
Congo (ROC)	82.5
Belgium	82.2
Bahrain	79.8
Hong Kong	78.5
Spain	78.0
Belarus	77.4
Estonia	76.2
Seychelles	73.0
Angola	71.3
Saudi Arabia	70.0
Gabon	69.0
Cambodia	67.7
Turkmenistan	65.7
Mongolia	65.1
Hungary	64.9
Tajikistan	64.9
Panama	64.0
Czech Republic	62.8
Djibouti	62.8
Kuwait	60.9
Trinidad & Tobago	60.2
Taiwan	60.0
Bulgaria	57.7
Oman	55.9
St Lucia Is	55.7
Sweden	55.7
Lithuania	55.0
Mauritius	54.4
Belize	53.5
Chad	53.2
Ukraine	53.2
Vanuatu	53.0
Philippines	52.0
Dominican Republic	51.9
Austria	51.8

Source: World Development Indicators. When 2004 data were unavailable, 2003 data were used.

Table 9: Risk from Removal of the Quota System

Country	Risk Index	Country	Risk Index	Country	Risk Index
Cambodia	496299	Hong Kong	15901	Ethiopia	1136
Honduras	307363	Egypt	15136	Togo	1129
Lesotho	305254	Uzbekistan	14220	Ecuador	1071
Mauritius	138855	Malawi	13935	Liberia	1010
Haiti	136902	India	13182	Paraguay	992
Mongolia	135192	Hungary	12545	Australia	991
Madagascar	128407	Bosnia	12155	Gambia	881
Sri Lanka	126577	Belarus	11645	Guinea-Bissau	827
Tunisia	119756	Mexico	11623	Azerbaijan	820
Maldives Is	118619	Peru	10812	Argentina	804
Dominican Rep	111375	Malaysia	10251	Burundi	769
El Salvador	102245	Slovenia	9932	Russia	746
Bangladesh	101472	Kyrgyz Republic	9459	Mauritania	716
Nicaragua	96851	Armenia	8797	Kazakhstan	689
Jordan	89263	Ukraine	8654	Dominica Is	687
Guatemala	81412	Cape Verde	8495	Iceland	655
Swaziland	79911	Serbia	7455	Comoros	649
Laos	73190	Chad	7245	Senegal	643
Romania	71398	Colombia	6698	Kuwait	618
Macedonia	68268	Oman	6473	New Zealand	557
Bulgaria	66916	Bolivia	5691	Lebanon	544
Morocco	64531	St Lucia Is	5370	Nigeria	528
Moldova	63816	Switzerland	5033	Japan	466
Pakistan	50572	Israel	4807	Chile	444
Mali	43982	Poland	4685	Guinea	305
Tajikistan	39505	Cen African Re	3942	Saudi Arabia	283
Vietnam	37365	Samoa	3760	Sao Tome & Pri	243
Turkey	36974	Botswana	3511	Norway	239
Malta	34593	Korea	3385	Niger	207
Lithuania	32991	Burkina Faso	3343	Panama	180
Nepal	30781	Cyprus	3317	Angola	140
Costa Rica	28858	Mozambique	3036	Barbados	139
Philippines	28317	Canada	2691	Grenada Is	114
Bahrain	27212	Singapore	2474	Yemen	95
Estonia	25236	Sierra Leone	2438	Trinidad & Tobago	88
Thailand	25176	Zambia	2164	Suriname	61
Kenya	20456	Cameroon	2151	Seychelles	51
Albania	19631	Iran	2012	St Vinc & Gren	49
Slovak Rep	19117	Tanzania	1898	Gabon	43
Jamaica	18872	Uruguay	1828	Venezuela	33
Belize	18539	Guyana	1729	Eritrea	31
China	18232	South Africa	1626	Papua New Guin	20
Latvia	17951	Benin	1442	St Kitts-Nevis	20
Namibia	17896	Cote d'Ivoire	1338	Rwanda	16
Indonesia	17532	Georgia	1331	Algeria	13
Turkmenistan	17223	Brazil	1321	Congo (ROC)	8
Croatia	16394	Sudan	1262	West Bank/Gaza	0
Syria	16179	Uganda	1259	Vanuatu	0
Czech Republic	15908	Ghana	1153		

Source: Author's calculations.

Maximum possible value: 1 million.

Table 10: **Gains and Losses in USD millions for the High Risk Countries**

COUNTRY	Net gain, 2005/2004	Percentage change	Net gain, 2008/2005	Percentage change
Cambodia	-343.1	-16.7	665.4	38.8
Honduras	-58.2	-2.1	35.1	1.3
Lesotho	-66.0	-14.5	-51.0	-13.6
Mauritius	-145.4	-17.0	63.0	8.8
Haiti	77.1	23.2	2.8	0.7
Mongolia	-108.5	-44.5	-93.2	-69.0
Madagascar	-22.1	-4.2	127.0	25.0
Sri Lanka	91.91	3.5	610.2	22.6
Tunisia	-168.9	-4.9	1191.4	36.1
Maldives Is	-76.1	-94.2	-4.7	-99.1
Dominican Republic	-194.6	-9.1	-989.0	-51.1
El Salvador	-108.9	-6.2	-45.8	-2.8
Bangladesh	180.1	2.7	4275.4	62.4
Nicaragua	118.8	19.9	218.3	30.5
Jordan	125.1	12.9	-102.5	-9.4
Guatemala	-129.1	-6.6	-421.2	-22.9
Swaziland	-23.3	-12.7	-36.1	-22.4
Laos	2.8	1.9	56.1	38.0
Romania	-241.5	-4.8	-577.4	-12.6
Macedonia	13.8	3.7	359.4	92.6
Bulgaria	-29.3	-1.8	363.4	22.3
Morocco	-217.1	-6.9	1068.6	36.3
Moldova	5.9	3.2	73.5	38.8
Pakistan	-17.7	-0.3	1288.7	24.3
Mali	-18.8	-39.6	-19.5	-68.4
Tajikistan	-67.0	-98.9	-0.7	-100.0
Vietnam	208.4	6.1	3710.0	102.0
Turkey	361.6	2.6	2718.9	18.9
Malta	-23.4	-14.3	-71.4	-51.1
Lithuania	-90.02	-11.6	-94.3	-13.8
Nepal	-40.0	-17.7	-20.2	-10.8
Costa Rica	-35.0	-6.6	-176.8	-35.7
Philippines	-126.2	-5.5	-485.2	-22.3
Niue	-0.05	-33.6	-0.09	-100.0
F St. Micronesia	-9.6	-90.8	-1.0	-100.0
Afghanistan	-13.0	-85.0	1.7	73.9
Brunei	-49.8	-22.9	-94.6	-56.6
Fiji	-67.2	-77.8	-18.4	-95.8
United Arab Emirates	-143.1	-24.5	-76.4	-15.3
Macao	-360.8	-18.6	-526.5	-33.3

These are the 33 countries with highest Risk Indices in Table 4, and the seven highest textile shares among those without risk index. The bottom seven are sorted by declining net increase in exports to the US in 2005.

Table 11: Outcomes for the High Risk Countries over the Short and Medium Term

	<b>Increased exports to US/EU in 2005 over 2004</b>	<b>Reduced exports to US/EU in 2005 over 2004</b>	
<b>Increased exports to US/EU in 2008 over 2005</b>	Bangladesh Haiti Macedonia Moldova Nicaragua Sri Lanka Vietnam Turkey	Afghanistan Bulgaria * Cambodia * Honduras Madagascar * Mauritius Morocco * Pakistan * Tunisia *	
<b>Reduced exports to US/EU in 2008 over 2005</b>	Jordan	Brunei Costa Rica Dominican Republic El Salvador Fiji Free State Micronesia Guatemala Lesotho Lithuania Macao Maldives	Mali Malta Mongolia Nepal Niue Philippines Romania Swaziland Tajikistan United Arab Emirates

Source: Table 10.

\* indicates that the net gains over the period 2005 to 2008 exceeded the losses in 2004 to 2005.

Table 12: Average growth in GDP during the years from 2004 to 2008

		2004	2005	2006	2007	2008
Mean growth						
	Group A	5.88	6.35	6.22	6.17	5.55
	Group B	5.98	4.16	6.82	5.76	4.90
	Total	6.43	5.34	6.16	6.08	4.70
Standard deviation						
	Group A	3.19	2.40	2.30	2.61	1.84
	Group B	6.20	3.47	4.42	6.17	3.36
	Total	6.00	3.73	4.18	4.31	3.34

Source: GDP growth, as reported in World Development Indicators

Group A: Bangladesh, Haiti, Macedonia, Moldova, Nicaragua, Sri Lanka, Vietnam, Turkey (top left quadrant of Table 11)

Group B: Brunei, Costa Rica, Dominican Republic, El Salvador, Fiji, Free State Micronesia, Guatemala, Lesotho, Lithuania, Macao, Maldives, Mali, Malta, Mongolia, Nepal, Niue, Philippines, Romania, Swaziland, Tajikistan, United Arab Emirates. (Bottom right quadrant of Table 11)

Bulgaria, Cambodia, Madagascar, Morocco, Pakistan and Tunisia were placed in Group B for 2004 and 2005, and in Group A otherwise. (Top right quadrant of Table 11)

Table 13: **The Importance of the Risk Index: Regression analysis of growth rates for 132-country sample**

**Dependent variable:** Annual growth rates for each country for 2003 through 2008.

	<b>Coefficient</b>	<b>Standard Error</b>	<b>T value</b>
<b>Independent variables</b>			
Intercept	1.10	1.77	0.62
Volatility <sub>2003</sub>	0.40	0.07	5.84
ln(GDP <sub>2001</sub> )	0.13	0.07	1.68
(S <sub>2001</sub> /GDP <sub>2001</sub> )	0.05	0.01	3.49
Riskindex	4.70	2.27	2.07

R<sup>2</sup>                      0.05  
 F(4,784) statistic    10.79  
 N                         788

Table 14: Evolution of Unit Values with Removal of Quotas in the US – Group 4.

quota category	# of exporters	# binding (# with quota)	Percent Change in Unit Values in countries with		Share of US imports from non-binding sources
			binding quotas	quotas not binding	
200	98	3 (14)	-10.73	0.18	98.62
201	81	1 (4)	88.82	0.19	99.99
218	117	1 (12)	-16.35	0.01	86.40
219	78	0 (11)	.	0.24	.
220	155	0 (2)	.	0.08	.
224	98	1 (3)	-34.97	0.42	72.78
225	66	0 (6)	.	0.29	.
226	87	0 (5)	.	0.55	.
227	49	0 (1)	.	0.00	.
237	131	1 (14)	6.62	-0.10	88.71
300	74	0 (9)	.	0.01	.
301	76	1 (10)	-2.66	-0.06	.
313	106	0 (13)	.	-0.01	.
314	103	0 (13)	.	0.06	.
315	79	0 (13)	.	-0.15	.
317	87	0 (12)	.	0.02	.
326	74	1 (12)	67.00	0.06	90.02
332	109	0 (1)	.	-0.03	.
333	126	1 (10)	19.54	0.39	.
334	142	4 (21)	-6.02	-0.07	47.82
335	161	5 (23)	-5.12	0.02	45.70
336	175	1 (18)	-52.18	0.00	76.72
338	186	10 (27)	-1.78	-0.02	60.56
339	189	9 (27)	-1.85	-0.05	69.23
340	183	7 (31)	-0.08	0.04	60.86
341	178	2 (23)	-8.09	0.04	89.09
342	171	4 (22)	-4.42	-0.02	65.81
345	139	3 (14)	-10.80	-0.04	36.26
347	169	8 (27)	-2.37	0.01	76.01
348	183	8 (27)	-1.57	0.03	70.24
351	145	3 (19)	-7.76	-0.05	86.81
352	155	2 (13)	-21.22	-0.02	93.41
360	103	1 (5)	-15.12	0.22	72.34
361	110	2 (8)	-12.03	0.18	72.49
362	132	0 (1)	.	0.14	.
363	120	3 (12)	-3.34	0.07	49.90
369	176	3(10)	1.78	0.16	.
400	81	0 (1)	.	0.23	.
410	113	0 (10)	.	0.34	.
414	106	0 (0)	.	0.34	.
433	117	2 (17)	-0.71	0.10	97.49
434	113	1 (12)	26.72	0.20	95.80
435	140	6 (22)	0.35	0.11	66.32
436	111	0 (4)	.	-0.26	.
438	122	0 (7)	.	0.12	.
440	110	0 (5)	.	0.33	.
442	122	0 (11)	.	0.23	.

*Removal of Quotas on Textiles and Apparel - 41*

443	124	3 (17)	0.59	0.19	94.51
444	100	0 (9)	.	0.19	.
445	121	1 (10)	33.64	0.15	99.77
446	136	1 (11)	18.12	0.10	99.42
447	126	0 (9)	.	0.06	.
448	127	1 (16)	6.14	0.10	90.82
469	98	0 (1)	.	-0.02	.
603	46			0.18	
604	67			0.04	
611	79	0 (9)	.	0.52	.
613	62	0 (6)	.	1.23	.
614	57	0 (7)	.	0.06	.
615	48	0 (3)	.	0.02	.
617	58	0 (7)	.	0.07	.
618	72	0 (1)	.	0.36	.
619	88	0 (5)	.	0.05	.
620	99	0 (6)	.	-0.17	.
624	62	0 (5)	.	0.10	.
625	61	0 (6)	.	1.17	.
626	45	1 (6)	213.44	2.40	99.94
627	48	0 (2)	.	1.14	.
628	51	0 (2)	.	-0.55	.
629	102	0 (2)	.	0.15	.
633	116	1 (8)	-3.37	-0.02	63.73
634	153	2 (17)	-14.09	-0.12	96.02
635	170	2 (16)	-13.59	-0.04	95.41
636	166	1 (16)	-52.02	0.06	52.76
638	151	6 (18)	0.57	0.02	81.69
639	168	6 (18)	-0.45	0.04	45.80
640	148	4 (29)	-2.74	0.05	66.84
641	152	1 (21)	-32.60	-0.03	69.63
642	160	4 (21)	-5.40	0.07	58.95
643	103	2 (5)	-10.15	0.31	43.48
644	119	2 (6)	-8.15	0.04	47.02
645	106	1 (15)	-26.47	0.29	55.42
646	125	1 (15)	-38.18	0.06	53.04
647	150	7 (22)	-1.58	0.03	62.74
648	170	6 (22)	0.26	0.02	77.69
651	113	4 (18)	-7.81	-0.05	95.80
652	132	1 (10)	5.04	0.06	99.84
666	144	1 (3)	-8.80	0.06	96.51
845	89	1 (5)	-9.39	0.61	6.04
846	61	0 (3)	.	-0.06	.
852	86	0 (0)	.	0.84	.
863	63	0 (1)	.	2.94	.

“Non-binding sources” refers to all countries not facing a binding quota in 2004, whether or not they were subject to quotas in 2004.

Sources: International Trade Commission; OTEXA, US Department of Commerce; and author’s calculations

Table 13: **Share of quantity adjustment in US imports** (in percent)

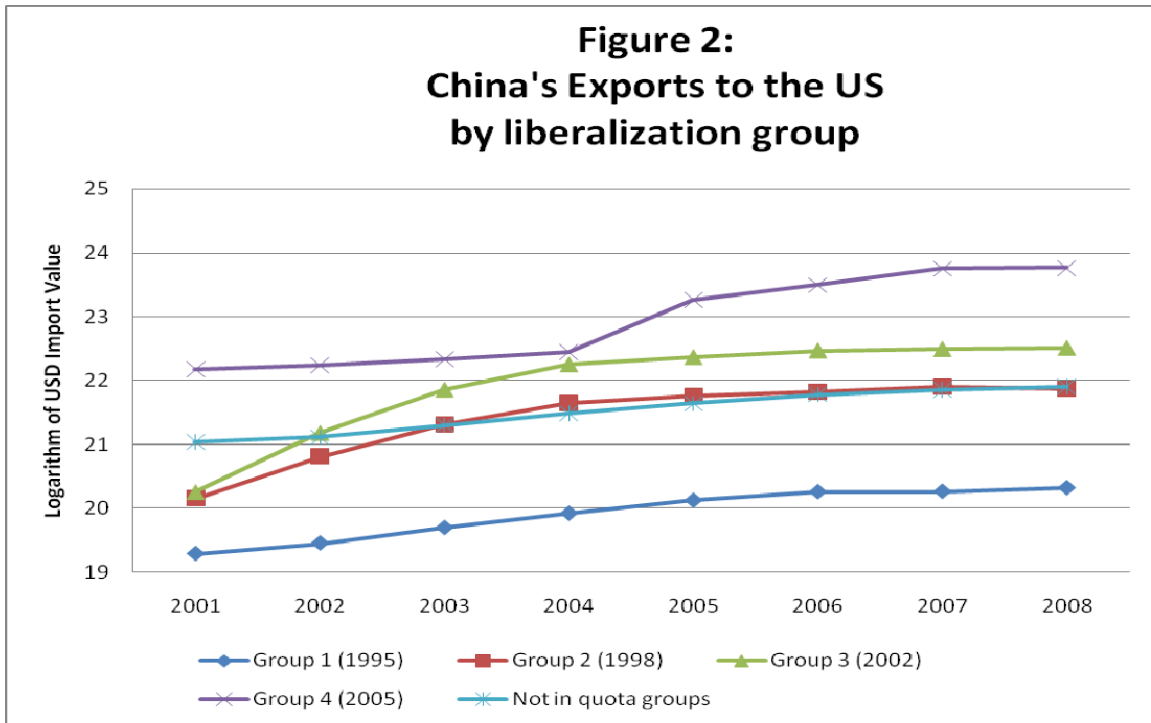
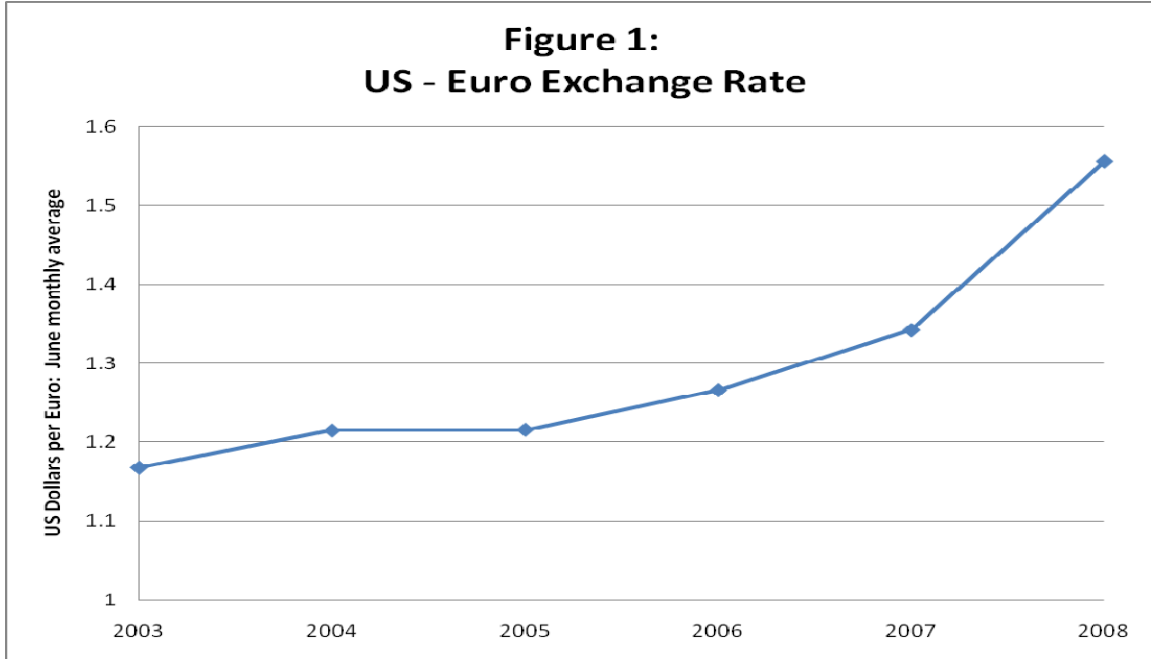
Quota category	Short-term binding share	Short-term other share	Medium-term binding share	Medium-term other share
200	24.6	16.1	-12.9	-13.4
201	0.0	-10.8	0.0	-13.4
218	8.8	623.1	14.8	-660.9
219	0.0	-17.5	0.0	-29.1
220	0.0	10.7	0.0	-58.0
224	29.4	-2.0	28.1	-44.6
225	0.0	-34.1	0.0	-19.7
226	0.0	14.1	0.0	-37.6
227	0.0	92.6	0.0	122.8
237	0.1	-43.3	-1.8	-19.7
300	0.0	-16.7	0.0	-57.3
301	4.0	-4.1	1.3	-46.3
313	0.0	-11.2	0.0	10.9
314	0.0	30.5	0.0	-25.0
315	0.0	-28.6	0.0	-44.4
317	0.0	-22.4	0.0	-7.1
326	0.0	-23.0	0.2	-40.1
332	0.0	8.2	0.0	30.7
333	1.5	204.9	-1.6	-28.9
334	46.8	-18.7	99.9	-5.2
335	90.7	4.9	54.6	-40.7
336	17.3	-10.4	106.6	42.5
338	11.8	0.8	8.2	-0.2
339	15.2	3.0	36.1	-14.5
340	13.6	4.4	-5.4	-13.6
341	19.9	-9.4	32.8	-31.5
342	39.9	13.9	-0.7	-71.4
345	65.2	-30.1	46.4	-20.0
347	15.0	-2.4	10.8	-8.6
348	21.5	-9.2	26.9	-14.1
351	4.9	22.5	-2.2	1.4
352	3.9	0.2	1.3	-0.9
360	52.2	24.7	19.6	78.0
361	56.2	28.1	21.7	81.1
362	0.0	11.7	0.0	5.9
363	29.7	6.3	20.3	-4.8
369	1.6	-2.4	0.5	1.3

400	0.0	-1.6	0.0	-6.8
410	0.0	-5.8	0.0	-26.7
414	0.0	-9.4	0.0	-9.7
433	1.9	24.8	-2.1	-15.8
434	-0.2	19.0	-3.9	25.5
435	22.5	-15.2	40.0	-17.0
436	0.0	16.0	0.0	427.2
438	0.0	13.9	0.0	-9.3
440	0.0	2.2	0.0	-40.2
442	0.0	-32.6	0.0	-19.3
443	2.4	15.7	-5.1	-33.2
444	0.0	-29.4	0.0	-13.0
445	-0.7	-1.5	-0.3	-26.2
446	-0.1	-3.4	-0.7	-20.4
447	0.0	14.4	0.0	-26.5
448	3.7	7.3	-8.5	-29.0
469	0.0	-19.7	0.0	-3.3
603	0.0	-15.2	0.0	9.7
604	0.0	-11.4	0.0	-3.8
611	0.0	-42.4	0.0	27.3
613	0.0	-17.1	0.0	-64.9
614	0.0	-8.2	0.0	-22.3
615	0.0	-26.6	0.0	-64.6
617	0.0	8.3	0.0	-38.0
618	0.0	-30.1	0.0	54.9
619	0.0	2.6	0.0	-37.2
620	0.0	84.5	0.0	59.2
624	0.0	13.3	0.0	-52.3
625	0.0	-4.4	0.0	-58.1
626	-5.1	11.0	0.0	63.6
627	0.0	79.4	0.0	-125.2
628	0.0	33.3	0.0	-33.0
629	0.0	-0.7	0.0	-22.8
633	30.5	-5.8	41.6	-10.7
634	1.6	19.3	-0.2	-15.5
635	1.7	18.2	0.1	-11.1
636	17.6	-31.8	103.2	32.3
638	0.5	10.0	-0.2	1.2
639	1.6	-5.2	0.0	5.0
640	9.6	-17.9	-9.7	-26.4
641	23.2	-12.9	21.1	-30.7
642	24.9	-22.8	1.6	-38.8
643	42.1	-19.4	5.0	-22.3

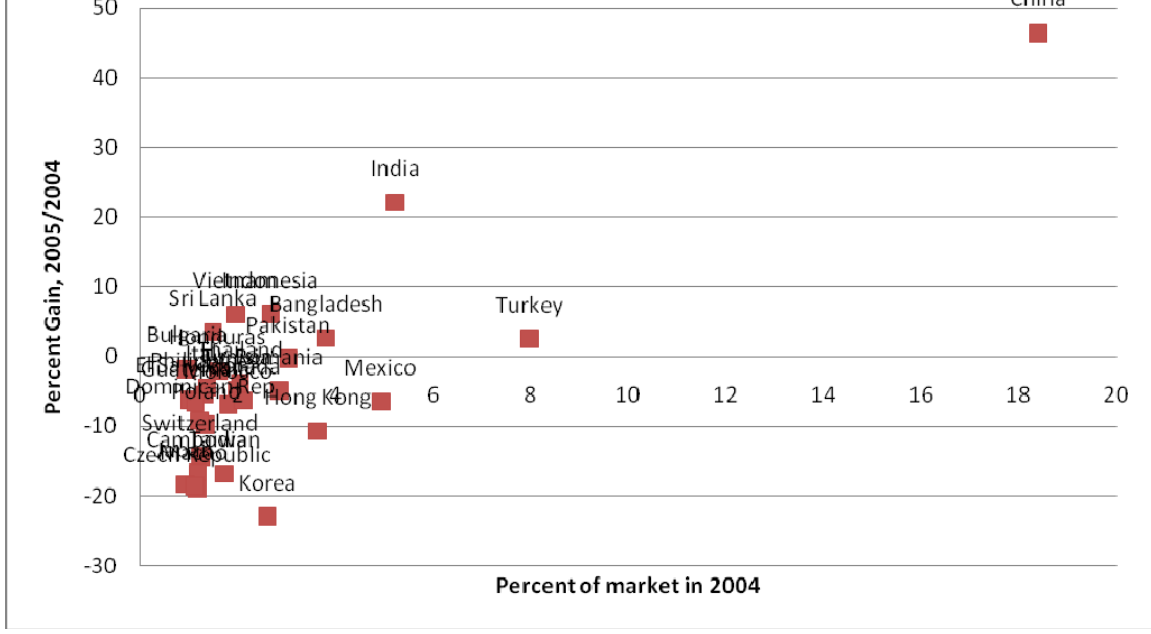
644	15.9	-16.9	-11.1	-16.7
645	27.6	-54.9	-27.5	-20.3
646	52.8	-33.4	-36.2	-25.5
647	9.8	-4.8	2.5	-12.8
648	-0.5	-6.3	11.3	-18.7
651	29.8	-17.1	41.8	-19.6
652	0.0	-1.6	0.1	-10.0
666	-3.0	2.0	-1.3	6.5
845	4.6	-12.3	-62.0	-2.9
846	0.0	32.1	0.0	-87.5
852	0.0	-32.2	0.0	-28.3
863	0.0	-45.2	0.0	88.1

The percentages reported are those measuring the change in US imports from 2004 to 2005 (short-term) and 2005 to 2008 (medium term) as a percent of total imports by quota category in 2004.

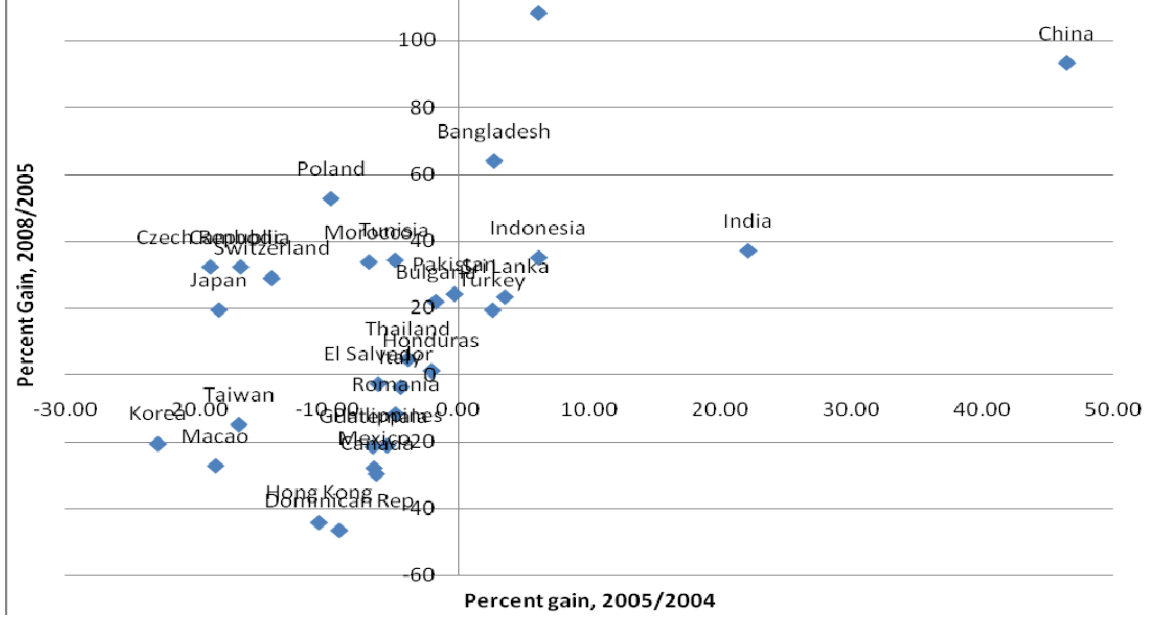
If 0.0 is reported, it indicates that there were no binding quotas in that category.

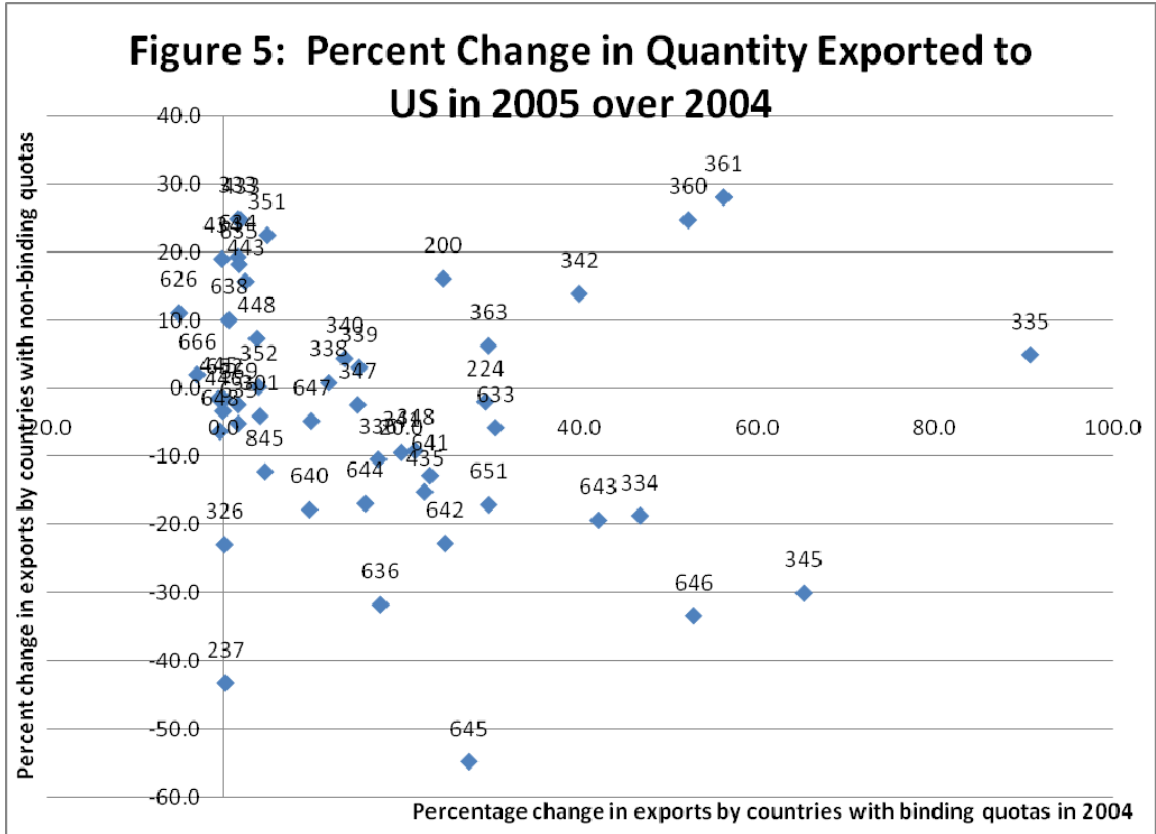


**Figure 3:  
Evolution of Exports to the Combined EU/US  
Market for the top 30 Exporters**



**Figure 4:  
Evolution of Exports: Short and Medium Term**





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