ACES – EU CENTER
EU CENTER OF EXCELLENCE

RESEARCH GRANTS
&
WORKING PAPER SERIES

#1

AY 2006-07

COMMENTS ARE WELCOME

COMPARISON OF PRC AND VIETNAM'S RESPONSES TO THE ELIMINATION OF US TEXTILE AND APPAREL QUOTAS: ECONOMIC AND CULTURAL PERSPECTIVES

Joseph Pelzman
Department of Economics
George Washington University
Washington, DC 20052
and
Ben-Gurion University of the Negev
Beer Sheva, ISRAEL
jpelz@gwu.edu
and
jpelzman@bgu.ac.il

COMPARISON OF PRC AND VIETNAM'S RESPONSES TO THE ELIMINATION OF US TEXTILE AND APPAREL QUOTAS: ECONOMIC AND CULTURAL PERSPECTIVES

I. INTRODUCTION

International trade in textiles and apparel has, as of January 1, 2005, been set free from the very intricate Multi-Fiber textile and apparel quota Arrangement (MFA). This event has raised many uncertainties about the new international trade climate and has placed enormous pressure on China as the expected clear cut beneficiary of this liberalization.[1] Other countries considered to be major contenders include Vietnam which also has a large population employed in the textile and apparel (T&A) sector. Since the old quota system had provided a certain degree of market certainty to competing T&A producers, will the new free trade environment lead to a shake out where mass producers with large economies of scale dominate the new reality?

The removal of T&A quotas will create opportunities for Vietnam and China along with other developing countries, but it will also expose them to additional competition from each other. The outcome of this competition will depend on the demand in the US, the ability of the exporting countries to differentiate their exports and on their ability to transfer additional resources to expand domestic output in the direction of the new 'free market signals' and away from rent seeking objectives. Obviously, exporting countries that adjust to this new environment quickly will improve

[1] China is currently the major exporter of apparel products. In 2000, it accounted for roughly 18% of total world trade in apparel, double its 1990 performance. garments in 2000, up from 9% in 1990. China is the largest supplier of apparel products to the EU and Japan, and the second largest to the US market. Expectations are that with the demise of the MFA, China's market share of the EU and US markets will rise substantially above its current rate of 14 and 11 percent, respectively. China's export potential is seen by other developing countries as a source of crowding out. This concern may be overstated because China's apparel products have increased in quality far more than its competitors, its export prices are much higher than its competitors, and China's labor costs are rising far more than its competitors.

their competitiveness, and will be the new beneficiaries of a quota free international trade in textiles and apparel.

This paper attempts to shed some light on the differences and similarities in the responses of Chinese and Vietnamese T&A sectors to this new environment. It first focuses on the demand side attempting to determine whether or not Chinese and Vietnamese T&A items, formally under quota control, are substitutes or compliments. On the supply side, the paper focuses on institutional differences between each country's T&A sectors, the different domestic government policies that have contributed to their growth and the unique cultural differences which will determine the future progress in each country's T&A sectors.

The specific textile and apparel items to be compared are based on the pre-2005 quota limits where China were constrained. The full list of Chinese products under quota control includes 77 three digit T&A categories divided by fiber between fabric, textiles and apparel. The full set of Vietnamese products is far smaller. Since Vietnam was a relatively new start-up in the T&A sector there are only 20 three-digit categories which intersect with those of the PRC. The full list is presented in Table 1. For this paper the review of Vietnamese and Chinese product competition is restricted to the smaller list based on actual Vietnamese trade.

The paper is divided into the following sections. The details of the post 1995 agreement on textiles and clothing are presented in Section II. Section III presents the economic model for estimating the demand side competition between China and Vietnam. The results presented in that section include own- and cross- price elasticities across the subgroup of products where there is competition on the demand side. Section IV presents a comparison in the supply side responses between the Chinese and Vietnamese T&A sectors. It is in this section that we try to isolate the cultural elements ingrained in the economic data. Concluding remarks are presented in Section V. The appendix describes the data sources.

II. THE AGREEMENT ON TEXTILES AND CLOTHING AND THEREAFTER

The Agreement on Textiles and Clothing (ATC), like the original MFA, attempted to meet both the objectives of the developing country exporters and the developed country importers. As such, it inherited the same conflicting goals and implementation difficulties as were found in the first MFA. For the exporters, the ATC was designed to eliminate quotas, thereby providing increased market access for textile and apparel exporters during the phase-out period, and integration of textile and apparel trade into the WTO regime, by the year 2005.[2] From the importers perspective, the ATC was designed to provide stronger means of enforcement of quotas during the ten-year phase-out period, and establish transitional safeguard measures for the temporary protection of domestic industries from increased imports. The implementing group established by the ATC to oversee the implementation of the agreement was the Textiles Monitoring Body (TMB).

The heart of the ATC is contained in Article 2 which establishes the time frame for the ten-year integration cycle by which quotas will be removed on 51% of textile and apparel products listed in the ATC Annex, maintaining for the tenth year, the balance – 49% of the items for integrations.[3] Products that are not integrated into the WTO during this ten-year phase-out period, and that are subject to quotas, are to have annual quota growth rates accelerated.[4] As the ten year phase-out period is completed, no planned extensions of the ATC were made.[5]

---

[2] While there is a commitment to eliminate quotas, the ATC does not make any commitment to reduce the extremely high tariffs currently in existence for both textile and apparel.

[3] ATC supra note 2, Art. 2, ¶¶ 6, 8.

[4] Id. Art,2 , ¶¶ 13-14 and 18. In the first 36 months from date of entry of the WTO, the increase in quota growth rate is set at 0.16 percent. Thereafter, it would be 0.25 percent from the 37th month until the end of 84 months, and 0.27 percent for the balance of the period.

In order to take into account the concerns of the developed country importers, Article 6 of the ATC provided a "transitional safeguard" mechanism which allowed a country to take action to protect its textile and apparel industries if there was "serious damage" or the "actual threat thereof" due to increased imports. This provision of the ATC was intended to be used "as sparingly as possible," and is not to be applied if the particular product to be restrained was already under restraint or if it fell in the current integration procedure prescribed by the ATC.[6]

Based on the US experience with requests for safeguards, there was no bright line standard for the complaints of either "serious damage" or "actual threat thereof." The evidence presented in the cases in front of the TMB, to date, specified a whole list of factors such as changes in domestic output of the competing good, productivity, utilization of capacity, inventories, market share, exports, wages, employment, domestic prices, profits, and investment. According to Article 6, in order to invoke a transitional safeguard, the importing country must show that the damage to the industry was caused by "increased quantities in total imports of that product." The latter had to be targeted to a specific exporter. Damage due to changes in technology or consumer preference was not actionable under the provision.[7]

---

[5] Id. Art. 9.

[6] Id Art. 6, ¶ 1. The ATC calls for transitional quotas to be applied on a country-by-country basis, Id. Art. 7.

[4] Furthermore, the ATC allows a safeguard to be placed on unfairly traded goods without requiring compensation to the restricted party, which was the practice under the earlier GATT rules. Unfairly traded goods are those tainted by dumping, government subsidies, or sellers' evasion of legitimate regulations regarding the environment, fair competition, intellectual property protection, etc. Additionally, the TMB has primary responsibility of supervising transitional safeguard measures, Id. Art. 8, ¶ 1.

[7] Article 6, ¶¶ 1-4. The ATC specifies that a safeguard may be applied when it is demonstrated that serious damage exists and is demonstrably caused by imports. Furthermore, the evidence to be provided must be such as to show that there exists a "sharp and substantial increase in imports, actual or imminent from a given exported and the level of imports as compared with imports from other sources, market share, and import and domestic prices at a comparable

In the spirit of enlarging the market for both new entrants and the least developed countries, Article 6, encouraged the differential treatment for this latter group when an importing country applied the transitional safeguards. Similarly, exporters whose total exports were small relative to the total volume of exports of others and who accounted for only a small percentage of total imports of that product into a particular importing market were afforded deferential and more favorable treatment in the application of safeguards. In addition, developing country exporters of wool products were provided additional deference and special consideration when establishing quota levels, growth rates, and flexibility, if they could demonstrate that their economy was (1) dependent on the wool sector; (2) textile and clothing exports consisted almost exclusively of wool products; and (3) exports to the importing market were small relative to total imports in that market. Safeguards were not to be used at all on exports of handloom fabrics of the "cottage industry...or traditional folklore handicraft" products traded in commercially significant quantities prior to 1982, and all products made of pure silk.[8]

Apart from the special provisions listed, importing countries had significant control over the use of safeguards in that they could choose when to issue a "call" and could apply a unilateral restraint if consultations did not produce and agreement. The process usually began when an importing country requested a safeguard determination presented its case to both the exporting country and the TMB. If the consultations produced an agreement on a restraint level, then a quota could be fixed at not less than the level of imports over the 12 months ending two months before the notification was issued. If there was no agreement within 60 days of the request for

---

stage of commercial transaction. An imminent increase must be measurable and based on more than mere allegations, conjecture, or possibility.

[8] Art. 6, ¶ 6(a)-6(d). The ATC does not specify what constitutes "significantly more favorable" treatment, nor does it define developing or least developed nations. Likewise, the ATC does not specify what it means by commercially significant.

consultations, the initiating country could apply a unilateral restraint. Safeguard measures could be maintained for up to three years without extension or until the product was integrated into the WTO. If the restraint was in place for more than one year, the quota limit had to be increased at an annual rate of at least 6%, unless otherwise justified to the TMB.[9]

The unilateral power of developed country importers to set safeguard quotas was designed to be checked by the TMB. It was the TMB which was empowered to review all safeguard actions. Even in cases where both sides had concluded a bilateral agreement, the TMB was empowered to determine whether the agreement was justified by the ATC. In cases where a safeguard was unilaterally imposed, the TMB was empowered to promptly conduct an examination of the matter and make appropriate recommendations within 30 days. If one or both of the parties did not accept the recommendations, the parties involved were to provide the TMB with its reasons within one month of receiving the recommendations. Following consideration of the reasons given, the TMB was to issue further recommendations. If the matter remained unresolved, either party could refer the matter to the Dispute Settlement Body (DSB) of the WTO and invoke Article XXIII of GATT and the Dispute Settlement Understanding.[10]

The US has been the primary country to invoke the ATC safeguard clause. The United States issued 25 calls on WTO members during the first 20 months of the ATC. As noted in Pelzman and Rees (1998), the TMB did not disturb any bilateral settlements.[11] In the six cases decided by the TMB, it decided in favor of the exporting country in two cases, in favor of the

---

[9] Art. 6, ¶¶ 7-8, 10-13.

[10] Art. 6, ¶¶ 9-11 and Art. 8, ¶¶ 5-7 and 9-10.

[11] World Trade Organization, *Hearing Before the House Ways and Means Comm*, 104th Cong., 2nd Sess. (1996). Between 9 and 10 cases were referred to the TMB.

United States in one case, and reached no decision in three other cases. In all of these cases, the TMB did not find a case of "serious damage."

In the case of China, the shift to a WTO norm in T&A does not make it free and clear of US protective measures. When the Chinese acceded to the WTO they had to sign a separate bilateral Memorandum of Understanding which assured the U.S. of a unique bilateral consultation mechanism to remain in affect for four additional years beyond the end of quotas for the rest of the WTO countries (through December 31, 2008).[12] These more extensive "safeguard" measures between the US and China provides the US with rights to re-impose quotas under specified circumstances. This safeguard mechanism allows the U.S. to seek to extend quotas with China for specific goods where the elimination of such restrictions would result in "...market disruption, threatening to impede the orderly development of trade between the two countries..."[13]

This measure has been used, since 2003, four times by the United States. In 2003, three categories[14] had one-year restraints placed on them. In 2004, one category underwent the same procedure and twelve categories were petitioned.[15] In the first 6 months of 2005, ten categories have

---

[12] The Memorandum of Understanding regarding China's accession to the WTO was signed on February 1, 1997. Listed under paragraph 242 of the Report of the Working Party on the Accession of China to the World Trade Organization (Accession Agreement), the United States (and any other WTO member country) is offered the right to institute a safeguard measure on textiles and apparel of Chinese origin that, due to a market disruptions, are threatening to impede the orderly development of trade. *Procedures for Considering Requests from the Public for Textile and Apparel Safeguard Actions on Imports from China*, The Committee for the Implementation of Textile Agreements, Federal Register Vol. 68, No. 98, pg 27787. Upon receipt if the request, China has agreed to hold its shipments to a level no greater than 7.5 percent (6 percent for wool categories) above the amount entered during the first 12 months of the most recent 14 months preceding the request for consultations.

[13] See United States International Trade Commission. 1999. *Assessment of the Economic Effects of China's Accession to the WTO.* Investigation No. 332-403, Publication 3229. Washington, DC: USITC.

[14] Textiles and apparel are grouped into categories based on what product they are (i.e. wool socks, knit fabric, etc). These are given a three digit identification number that relates directly to the 10 digit harmonized tariff schedule of the United States.

[15] The 12 cases had an injunction placed on them in the Court of International Trade that was lifted May 5, 2005.

been petitioned and now are open to public comment. The first category in 2003 to have restraints returned to it was Category 222: Knit Fabric. The United States established at 12 month limit on Chinese origin knit fabric not to exceed 9,664,477 kilograms. The reasons cited in this case became the benchmark for all subsequent cases that came to the Court of International Trade. In this case, it was shown that U.S. imports from China were increasing in absolute terms, U.S. imports from China were increasing rapidly relative to other imports, the Chinese average unit values were well below values from other countries, U.S. imports from china were likely to increase greatly, and that the U.S. knit fabric industry was vulnerable to any increase in imports. Like knit fabric, the other categories in front of the Court of International Trade have been petitioned for harm to domestic industries or threat thereof. In 2004, Category 222 was petitioned again, but was grouped into the twelve cases under injunction. Like knit fabric, the other categories in front of the Court of International Trade have been petitioned for harm to domestic industries or threat thereof. Cross Category 350/650, man-made fiber dressing gowns and robes, announced bilateral negotiations with China in 2003 for similar reasons to Category 222. U.S. imports from China were increasing rapidly in absolute terms, U.S. imports from China were increasing rapidly relative to other imports, Chinese average unit values were well below average of other countries, U.S. imports from China were likely to increase in the near future, and the industry was very vulnerable to any increase in imports.

In 2005, the ten cases open for public comment, plus the twelve that were under injunction, were being petitioned for the same reasons. The Court of International Trade is now confronted with the option of potentially granting 22 safeguards on Chinese imports, or none at all. The court will review data presented to it in the same manner as before, along with the public comments that

are submitted, and make a decision based off of that information. However, the Office of Textiles and Apparel (OTEXA), CITA, and the Department of Commerce as a whole, now must decide how they will guide the future of Chinese textile and apparel imports. The cases have taken on a broader role as indicators of trade measures and protectionist policy for the United States in regard to textile and apparel imports. It is important to note that the Court of International Trade has and will act, for as long as deemed necessary, as a mechanism to prevent rapid surges in textile and apparel imports from China. It is also likely that these cases and negotiations with China will eventually result in a broader agreement, such as a voluntary export restraint, export taxes[16], and more, that will be satisfactory for both the United States and the PRC.

The US-Vietnam textile relationship is not as complicated as that between the United States and the PRC, but it too was governed by a bilateral textile agreement. The Vietnamese agreement, however, was far shorter in duration. In fact, the US – Vietnam Bilateral Textile Agreement of July 17, 2003, as amended on July 22, 2004, established quantitative limits on a very small number of items.[17] Furthermore, the agreement had a built in 'dead-date' effective when Vietnam would enter into the World Trade Organization (WTO). Vietnam entered the WTO on January 11, 2007. Consequently, the quota period was changed to January 1 through January 10, 2007. All quota and visa requirements for goods exported from Vietnam on and after January 11, 2007, were eliminated.

---

[16] Export taxes are already utilized by the Chinese government. They were implemented on January 1, 2005 in order to set a price floor on textiles and apparel. Duties range from 0.2 to 0.5 yuan per piece and have been applied 148 tariff lines, including the most sensitive categories such as coats, shirts, pajamas, etc.

[17] The bilateral agreement imposed limits on certain cotton, wool and man-made fiber textiles and textile products, produced or manufactured in the Socialist Republic of Vietnam and exported during the period January 1, 2007 through December 31, 2007. See the Federal Register on December 22, 2006 (71 FR 76998), and amended in the document published on December 29, 2006 (71 FR 78409).

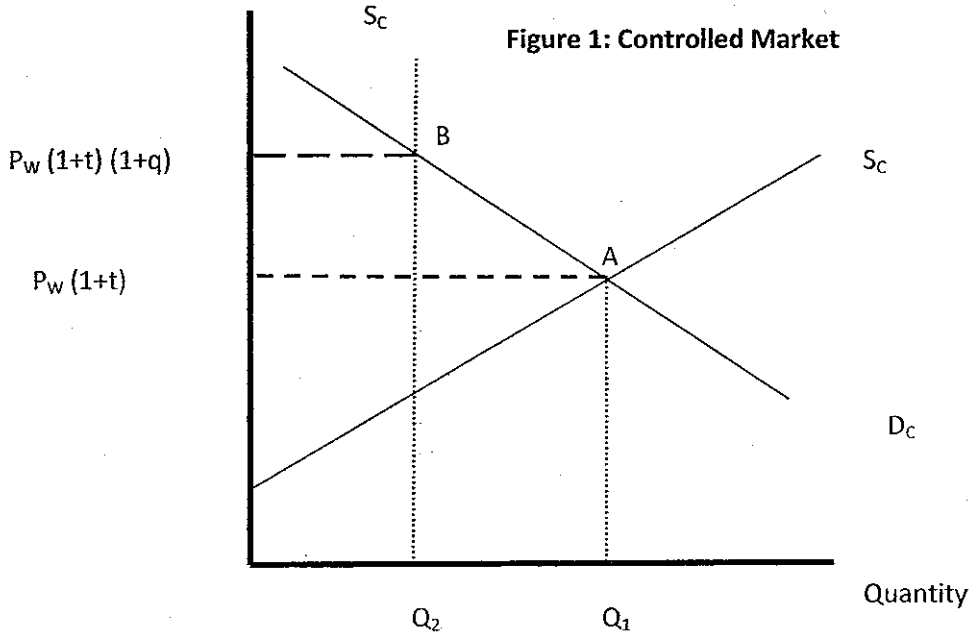
III. ESTIMATING THE IMPACT OF QUOTA REMOVAL: METHODOLOGICAL CONSIDERATIONS

A basic economic policy question involved in analysis of the impact of quota removal for imports from China and Vietnam is: How will the volume and composition of Chinese and Vietnamese exports to the United States change as a result of increased market access? To date what we have are projections all referring to expected Chinese domination and US litigation under the guise of market disruption. A recent WTO study (August 2004) predicted that China would increase its share of the U.S. textile market from 11 percent to 18 percent after quotas were eliminated, and would boost its apparel market share from 16 percent to 50 percent. While Vietnam is expected to expand its exports it was viewed as a minor player. The major difference is accounted for by the 'newness' of Vietnam as a T&A exporter, rather than institutional differences between the two countries.

Methodological Issues:

The most important characteristic of textile and apparel quota system was that it was an ex-post set of trade restrictions imposed on a subset of developing countries on a subset of three-digit T & A categories which were fiber based with room to borrow across categories and time. These restrictions, while binding in most cases, created a rent seeking cycle for exporting producers who take advantage of the restrictions and the accompanying quota licenses. It also encouraged upgrading and a shift of domestic resources to a set of products whose sales are pre-determined. In many cases both the domestic competition in importing countries and the exporters in developing countries shared the benefits of higher prices.

The controlled markets for a specific T & A category can be seen in Figure 1. The introduction of a quota limit turns the supply curve to a perfectly inelastic portion.



The quota free equilibrium occurs at point A, where the import price is tariff inclusive. Equilibrium at point B is after the imposition of the quota. The price gap is the effective quota rent that will be removed with the demise of the MFA. Tariffs are unaffected by the new trading regime.

With all other things held constant, an elimination of the quotas on T & A imported from China and Vietnam would cause US imports to increase as US buyers substitute the now lower-priced uncontrolled foreign goods for US substitutes (trade creation) or US imports from other countries (trade diversion). The total expansion of US imports from either China or Vietnam would be the sum of the trade creation and trade diversion effects. Since our concern, on the demand side, lies in determining changes in Vietnamese or Chinese dollar earnings resulting from expanded exports to the United States, total trade expansion (or gross trade creation) will be measured.

The partial equilibrium approach mentioned above can be described by a system of demand and supply equations for the two beneficiary countries and the United States. Let the United States

be denoted as country i and are two beneficiary countries as j, where j = 1,2. Then a series of equations for trade in k three-digit categories (k = 1,…,K) can be described as follows:

$$M_{ik} = f(P_{ik}^{D}); \quad (1)$$

$$P_{ik}^{D} = t_{ik}\delta_{ik}P_{jk}^{W}; \quad (2)$$

$$X_{jk} = g(P_{jk}^{W}); \quad (3)$$

$$M_{ik} = X_{jk}; \quad (4)$$

$$R_{jk} = P_{jk}^{W}X_{jk}, \quad (5)$$

where M is the quantity of US imports, X is the quantity of beneficiary country exports, P_{ik}^{D} is the domestic US price for commodity k, P_{jk}^{W} is the world market price assumed to be the price at which Vietnam and China export to the United States, t is one plus the ad-valorem MFN duty rate (T) applied by the United States, δ is one plus the ad-valorem tariff equivalent of the quota estimated by the price gap in figure 1, and R is the beneficiary country's export revenue on products exported into the United States.

Totally differentiating equations (1) through (5) and solving for the proportional changes in imports, export prices, and revenues yields:

$$\hat{M}_{ik} = \left[\frac{\eta_{ik}}{(1-\eta_{ik}/e_{ik})}\right]\hat{\delta}_{ik}; \quad (6)$$

$$\hat{P}_{jk}^{W} = -\left[\frac{\eta_{ik}}{(\eta_{ik}-e_{jk})}\right]\hat{\delta}_{ik}; \quad (7)$$

$$\hat{R}_{jk} = \eta_{ik}\left[\frac{(1+e_{jk})}{(e_{jk}-\eta_{ik})}\right]\hat{\delta}_{ik}, \qquad (8)$$

where η is the relative price elasticity of import demand, e is the export supply elasticity, and $\hat{}$ denotes percent change.

Within this partial equilibrium framework, export flows, import flows, and export revenues are each a function of the percentage change in relative prices due to the elimination of quotas and the elasticities of import demand and export supply. From the perspective of Vietnam and China, as long as the US import demand is elastic, each country will gain if their products are sufficiently differentiated and their export supply elasticity is infinite. In the event that their supply elasticity was zero, each exporting country suppliers would simply receive the amount of the quota rent as added profit.

In order to derive empirical estimates of the effects of MFA elimination on these two beneficiary country exporters using the model described above, several things would be needed. To determine the responsiveness of U.S. buyers and Vietnamese and Chinese sellers to removal of the quota premiums on goods imported from these countries, reliable estimates of U.S. import demand and Vietnamese and Chinese export supply elasticities would be required. In addition, it would be necessary to make assumptions about the potential price response by Vietnamese and Chinese exporters to a change in U.S. import quota equivalent duties. If the individual country suppliers perceive the market as being less than competitive, then they may pass through all, some, or none of the duty equivalent reduction to U.S. buyers by maintaining export prices unchanged, raising them by a fraction of the tariff equivalent of the quota elimination, or raising them by the full amount of the quota rent. In sum, an estimate of the total trade expansion will depend on the U.S. import demand elasticity, the export supply elasticity and pricing strategy of the two beneficiaries, the

magnitude of the change in U.S. tariffs equivalents of the quota, and the current volume of U.S. imports from the region.

Using the detailed three-digit textile category data covering the 1995-2004 period for 20 categories where China and Vietnam compete we first proceed to estimate the import demand equations for China and Vietnam. In this way we estimate the own price elasticities of demand, the cross price elasticities for Vietnam's competition with China, and that of the aggregate uncontrolled market. Estimates of Chinese and Vietnamese supply elasticities are not estimated but are relegated to a discussion of each country's T&A sectors and the applicable institutional and cultural factors.

The relative sensitivity of equation (8) to the elasticities used can be seen from the following scenarios of changes in exporters' revenues that might occur for different magnitudes of the demand and supply elasticities:

Demand Elasticity (η)	Supply Elasticities (e)				
	0	0.5	1	2	∞
-.5	$-\delta$	$-\frac{3}{4}\delta$	$-\frac{2}{3}\delta$	$-\frac{3}{5}\delta$	$-\frac{1}{2}\delta$
-1	$-\delta$	$-\delta$	$-\delta$	$-\delta$	$-\delta$
-2	$-\delta$	$-\frac{6}{5}\delta$	$-\frac{4}{3}\delta$	$-\frac{3}{2}\delta$	-2δ

It should be clear, therefore, that a slight modification in the elasticities will bring about a major change in the estimated results.

Empirical estimation:

In order to address the question of competition between China and Vietnam we first have to establish that on the demand side their T & A products are either compliments or substitutes. In order to accomplish this we estimate an import demand equation for each of the three-digit T & A categories for China and for Vietnam. Each of the demand equations is specified as a function of its specific market price, the price of an identical three digital category from the alternative market, the world uncontrolled market price, the domestic price of a competing good, and a real activity variable, or

$$M_{ij}^{D} = \alpha_0 + \alpha_1 P_{Cj} + \alpha_2 P_{Vj} + \alpha_3 P_{Wj} + \alpha_4 P_{Dj} + \alpha_5 E + \mu \qquad (9)$$

where M = quantity of import demand for commodity j from i (China or Vietnam); P_{Cj} = import price from China; P_{Vj} = import price from Vietnam; P_{Wj} = average uncontrolled world market price of imports; P_{Dj} = domestic price of the competing product; E = real activity variable; and μ = random error term. Since there are two differentiated regions, there are two import demand equations that depend on all three prices over time.

This Armington (1969) specification of the import demand equations requires the following set of assumptions. First, it is necessary for these import demand equations to be weakly separable between textile and apparel products and other products which enter the consumer's utility function. In effect, each of our products is treated as a distinct good with imperfect substitutes differentiated by country of origin. Second, Armington's two step process assumes that the marginal rate of substitution for any two products (differentiated by source) is independent of the quantities demanded of third goods entering the consumer's utility function. This assumption of a zero income compensated cross

price effect between textile and apparel goods and third goods. It means that a change in the price of this third good will have an impact on the demand for textile and apparel imports, but only when it has an impact on real expenditures. The restrictive nature of this assumption, if violated, may result in a misspecification bias in our estimated import demand equations.[18]

While Armington's assumptions may be reasonable for textile and apparel end products, they may present a problem for some of the intermediate textile products. In the case of intermediate imports, such as yarn and fabric, the import demand equations noted by equation (5) are, in fact, derived demand functions. The assumption of independence between the marginal rates of substitution of different classes of intermediate inputs, such as man-made fibers for cotton or vegetable fibers for both may represent a problem. In these latter cases the import demand equations will include the prices of all possible substitutes. Omission of these prices clearly will cause the import demand equations for the intermediate textile imports to be misspecified.

Table 2 presents the GLS estimates for US import demand of T&A products from Vietnam. The overall conclusion that one can draw from these results is that out of a total of 20 three digit categories where competition is possible, there are only five categories where the cross price elasticity of a change in PRC's prices on US imports from Vietnam is significantly different from zero. In category 335, women and girl cotton coats, for every 1 percent increase in China's price US imports from Vietnam would rise by 23.2 percent, a substitute product; in category 347, men and boys cotton trousers and shorts, for every 1 percent increase in China's price US imports from Vietnam would rise by 6.12 percent, a substitute product; in category 635,women and girls man-made fiber coats, for every 1 percent increase in China's price US imports from Vietnam would rise by 8.29 percent, suggesting a substitute product; in category 636, man-made fiber dresses, for every 1 percent increase in China's

[18] For a discussion of the theoretical implications of the weak separability assumption, see Winters (1984).

price US imports from Vietnam would rise by 6.66 percent, suggesting a substitute product; and in category 651, MMF night ware and pajamas, for every 1 percent increase in China's price US imports from Vietnam would rise by 15.7 percent, suggesting a substitute product.

Overall, these results confirm the hypothesis found in the industry that China and Vietnam currently have a very limited area for direct competition. When one digs deeper into the trade and price data, one observes that US imports from China tend to be more expensive than comparable three-digit T&A categories from Vietnam. The key question is the long term impact of continued liberalization in Vietnam as it affects the T&A sector.

IV. THE SUPPLY SIDE RESPONSE IN TEXTILES AND APPAREL: ECONOMICS & CULTURE

During the long history of the MFA, the search for low wage producers was a key explanatory variable for the world's distribution of quotas. In the past decade, this has changed drastically. The primary ingredient for a successful T & A sector is quick turnaround time for apparel and economies of scale for textiles. In the apparel segment of the industry, which is considered by many to be fashion-oriented, time sensitivity is even more crucial. While the low-wage sewing provides some competitive advantages to developing countries, it is only applicable to the assembly process of low end garments and does not necessarily lead to the development of a sophisticated T&A sector. China, which represents the higher end T&A industry, has managed to combine its export-led strategy in T&A with the development of higher value-added segments of the supply chain. This was achieved by integrating scale economies with diversification of its labor pool, upgrading domestic skills in local design, material sourcing, quality control, logistics and retail distribution.

The industries in each country are affected by the culture of that country because culture impacts how people think and react. There is also evidence that culture influences foreign trade (Guo, 2004). The T&A industries in China and Vietnam are no different. We will present the main culture factors that can explain the differences in the supply chain between China and Vietnam in the T&A industry. The first major research study on national cultural differences was published by Hofstede (1980; 1983). It is based on research conducted on IBM personnel from 50 countries, using 116,000 questionnaires. The questions regarding employee values demonstrated the differences among countries in four cultural dimensions: Power Distance Index (PDI), Individualism (IDV), Masculinity (MAS) and Uncertainty Avoidance (UAI). Hofstede and Bond (1984; 1988) discovered a fifth dimension, named Long-Term Orientation (LTO). Hofstede's culture dimension are still a key layer in culture evaluations and empirical tests (Crotts and Erdmann 2000; Downey et al. 2005; Dwyer et al. 2005).Hofstede measures continue to enjoy strong support among researchers (Sivakumar and Nakata, 2001) and serve as a *de facto* set of benchmark measures.

TO BE ADDED

In describing the supply side responses of Vietnam and China resulting from the elimination of quotas, one needs to appreciate the fact that what is called the T&A sector is composed of a chain of separable activities. This linear chain of production functions starts with agriculture where we have the initial fiber stage.

Cotton Fiber

Textiles are produced by both natural and man-made fibers. In the natural fiber side, a country's potential comparative advantage is affected by the traditional factor endowment availabilities, e.g. land, climate, and by domestic internal subsidy programs, e.g. cotton. In the synthetic fiber area, the industry is a derivate of chemical producers. Economies of scale in this sector have traditionally benefited the developed countries.

In the case of China, cotton is regarded as a "strategic" commodity.[19] Consequently, every aspect of cotton from production, internal and external sales, and firm consumption are part of a complex set of State interventions. Despite China's openness with respect to international trade, the central government had until 1998, determined cotton's procurement prices and resale prices and established a State monopsony/monopoly (the Supply and Marketing Cooperatives (SMCs)) as the sole agent for purchasing cotton from the rural sector. From 1985 to 1998, cotton farmers where obligated under a production "contract" to supply the SMC with a certain quantity of cotton at the planned procurement price; they could also sell any above-quota quantity of cotton to the SMC. The introduction of market reform, decentralized purchases and direct links between producers and consumers of cotton did not begin in earnest till the late 1990s.

[19] For a detailed discussion of the China's domestic and international policies with respect to Cotton, See OECD (2005).

Beginning in 1996, SMCs were allowed to trade cotton directly with local textile mills. This decentralized linkage system still had a local constraint in that the tradable quantities were still bound by assigned quotas for importing and exporting regions. Furthermore, the definition of a market price actually meant that the two parties to a trade were allowed to decide the terms of trade within a very limited price band of ±4% of the state-set cotton allocation price.

As of September 1999, cotton prices in China are to be determined by market forces, while the government issued a minimum price at the end of the year. These minimum prices serve as purchase prices for the SMCs, who as of 1999 no longer have exclusive rights to purchase cotton from producers, but do purchase stocks of cotton for special reserve holdings by the State. These reserves along with rules for international purchases of cotton are designed to stabilize local cotton prices, the major input into the textile industry.

The role of the State is very much part of China's external arrangement with respect to cotton, as well. Trade in cotton, despite China's accession to the WTO is still dominated by a State Owned Enterprise (SOE) - China National Textiles Import and Export Company (Chinatex.). As part of the WTO accession process China introduced a tariff rate quota system where there was an in-quota tariff of 3% and an over-quota tariff of 90%. This distortion combined with the role of SOEs as purchasing agents guarantees a limited role for international market prices to affect the local cotton industry. This may change as China begins to reduce the role of SOEs to a third of the volume of trade.

There is no counterpart in Vietnam. Fiber production is minimal, with most of the inputs coming from abroad.

In the fiber spinning segment the Vietnamese industry in the late 80s, had 860,000 spindles and 2,000 spinning rotors without spindles belonging to 13 SOEs. The annual output at that time was 60,000 ton with average Nm index of 40. Most of these spindles had been used for over 10

years by that time and they were under the need of renewing. By the year 1996, the industry had 800,124 spindles and 3,520 rotors. Among those spindles, 90,600 were new (about 11.32% of total) of which 55,960 spindles were replaced by West European second hand equipment (7.0% of total), 107,000 spindles were upgraded (13.4% of total). The production capacity increased by 72,000-ton of fibers per year. Average Nm indexes is 61. (VINATEX).

For the shuttle weaving segment the Vietnamese industry had 10,500 weaving machines (by 1996). The newly imported machines accounted for 15%. The share of machines that could be restored is 45%. The rest were in need of selling off. Central SOEs owned 7,973 units, and among those units' modern, the number of weaving machines was 978 or 12.26%. To that date, a half of total weaving machines of textile industry was too old and unable to run. For example, in the North, approximately 5,000 units (made in China) were dated back to 1950s, 1960s, and early 1970s. In the South, a part of the old textile equipment is ones that were imported from Japan, USA, Korea in the period 1960 – 1974 (VINATEX).

For knitted weaving the problem for Vietnam was the vintage of the capital stock. The technologies of knitting industry are relatively more modern than other textile technologies. Most of out-of-date machines that were imported before 1986 from China, Czechoslovakia and East Germany were liquidated or transferred to localities and all machines in use now are ones that were imported after 1996. The new equipment was imported mostly from Japan, Korea, Taiwan, and Germany. Thirty percent of these capital machines are of new generation with some being controlled by computer, and the rest are of older ages and less advanced. Because of low quality of cotton fiber, almost all enterprises have chosen production plan using Pe/Co fiber to produce simple consumer goods such as mosquito net, valise fabrics, not to produce decorated cloth, carpet, cloth for construction and the like.

For the dyeing and printing segment, all the dyeing, printing and finishing equipment was imported from abroad and belong to SOEs. At present, 35% of dyeing and printing equipment in the industry have been imported since 1986 (about 400 units). All of them are equipment of A2, A3 generations and still operating well. 30% of dyeing and printing equipment were imported in the period 1970 – 1985. This equipment is in need of repair for further use. The rest were imported in the period 1959 – 1969. This equipment should be scrapped gradually (VINATEX).

Textiles

The textile mill products sector of the textile industry includes all operations that are involved in converting fiber to finished fabric and the production of many non-apparel consumer products. Technological innovations have greatly increased the speed of operations and resulted in huge productivity gains. Traditionally the developed countries have innovated more in this segment of the industry, China has not lagged far behind. However, non-clothing applications of textiles – the so-called "technical textiles" – are now more important than clothing applications and account for the fastest-growing segment of total textile production in developed countries.

It is generally understood that in markets like the United States, the textiles sector makes fabric in three steps that are often made by different factories. The first step is spinning fibers into thread or yarn, the second is weaving or knitting thread or yarn into fabrics and the third is chemical processing to finish the fabric. In addition, there are non-woven fabrics that are produced by mechanically, thermally or chemically bonding or interlocking fibers, filaments or yarns. These processes in the United States are highly capital-intensive and are subject to economies of scale.[20] Having said that, we still have in many developing countries, textile industries that are utilizing very

[20] See Pelzman and Martin (1981) where estimates of textile and apparel production functions are presented.

simple technology within the household or in micro-enterprises. In the new quota free world, these latter small-scale producers are destined to expire.

After China initially received MFN status in the US in 1979 a whole set of domestic reforms were initiated to induce domestic Chinese producers to enter the global market. These incentives were not only important for the success of China in the textile industry it also introduced new forms of corporate governance which has enabled China to compete in the Textile sector with developed countries like the United States. The primary institutional shift was a set of reforms that allowed the rural companies to form alliances with the State-owned enterprises (SOEs), enabling the new corporate form to take advantage of a merger of cheap rural labor with high investments in new technology in the textile industry SOEs.

According to the OECD, the textile and apparel sector continues to receive a sizeable share of total state subsidies from the central government. It is estimated that the percentage of the total subsidies that the central government granted to textile SOEs rose from 1.61 % in 1990 to 20.57 % in 1998. China's central government intervention in the Textile industry does not depend only on price incentives. It also involves setting performance targets. In order to appreciate the importance of Central Planning to the development of this industry one need only review the goals established for textiles in the Tenth Five-Year Plan (2000-05) seeking to upgrade the value added of textiles.

The following goals were contained in the Tenth Five-Year Plan for 2000-2005:[21]

1. Increasing the value added of the sector from 267.8 billion Yuan in 2000 to 430 billion Yuan in 2005, or an increase of 60.6 %.
2. Increasing the production volume of textile fiber from 12.1 million tons in 2000 to 14.25 million tons in 2005, and increasing the apparent consumption per person from 6.6 kgs. to 7.4 kgs. for the same period.

---

[21] See USITC. 2004..

3. Increasing exports from 52 billion dollars in 2000 to between 70 and 75 billion dollars in 2005.
4. Increasing labor productivity from 25,000 Yuan per worker in 2000 to 35,000 Yuan in 2005.
5. Reducing energy consumption for every 10,000 Yuan of production by 15 %.
6. Using recycled water in production for 30 % of current consumption by 2005; in the prints sector, reducing water consumption for every 100 meters from 3.6 tons to 3.0 tons.

In order to reach the goals that have been set, the Chinese government provided a stable area for growing cotton. It guaranteed the textile industry that it would supply 4.5 million tons of cotton annually. It provided incentives for technological progress by fomenting alliances between companies and research centers and establishing development centers for the large SOEs.

According to the USITC, the Chinese Textile industry in 2000, had 18,900 SOEs with a sales volume higher than 5 million Yuan; with total assets of 977,300 million Yuan, which generated tax revenue of 267,800 million Yuan in value added taxes and which represented 11.9 %, 8.3 % and 11.3 %, respectively, of the entire manufacturing industry. Employment in Textiles was around 13 million.[22]

Since the mid 1990's China accounts for more than 25 % of the global spinning machines (USITC 1999).[23] This share has increased substantially in the past ten years. Furthermore, the industry has created both forward and backward linkages integrating a large number of production segments namely, cotton and other fibers; accessories; thread, yam, and textile manufacturing; and the processing of these products into garments, rugs, and industrial textiles (USITC 2004). China now has the national and global supply and input companies necessary to make almost all products.

---

[22] *Ibid*, The total workers in Textiles and apparel has been estimated by the ILO to be 19 million or approximately 22 percent of all manufacturing sector employment. According to the ILO another 80 million people are directly linked to this combined sector. The number of Apparel companies are estimated to be 40,000 of which only 6 percent are SOEs. We do not have current estimates of apparel sector employment.

[23] *Ibid*, In 2002 China had around 22.8 % of all spinning machines and had acquired more than 50 percent of them during 2000-2002.

During the past two decades China developed a highly competitive maritime transportation system, ensuring that its products arrive on the East Coast of the United States between 12 and 18 days from boarding, while its competitors may take three times as long to arrive. (USITC 2004).

The Vietnamese textile industry is despite its reorganization is predominantly a state sector operator. State owned corporations takes a lion share of total output, at around 53% on average in the late 1990s. Most of textile output of state sector have been produced by central SOEs (80% on average) and this share has been rising in recent years, as local SOEs have been facing difficulties due to the capital shortage. The key cost advantage found in Vietnam's textile industry is the hourly cost of labor. According to an industry source, in 2002, Vietnam's hourly wage in textiles was .27 US dollars as compared to China's wage of .69 US dollars.[24] Despite what appeared as general economy wide reforms, in the T&A industry in Vietnam, the majority of state firms have become members of T&A Corporation named VINATEX. At present, VINATEX has 52 member-enterprises and takes a large share of this industry. It is estimated that VINATEX produces 80% of total fiber, 65% of fabrics and 45% of garment products and shares 40% of total export value of this industry. Although the member enterprises of VINATEX can work independently, VINATEX plays an important role in export quota allocation and allocation of state and bank credits to its member enterprises.

If one were to set up a cultural variable to explain the difference in China's government and that of Vietnam in this area it would be the degree of democratization and constituency politics. Vietnam is still undergoing some basic industrial reorganizations away from SOEs. China on the other hand, has a Centralized government with market orientation. It can transfer long-term views to its public without having to meet short-term demands from competing constituencies. The latter can therefore focus better on export-led growth policies with an expectation that welfare

[24] See Gherzi et. al. (2002).

improvements will eventually confirm this economic direction. In the case of China the end result has justified the 20 year investment in export led growth.

In Vietnam's textile industry, *private sector* grew quite rapidly up until 1996, but slowed down since then. Even in the years of high growth rate, share of formal private sector in the textile industry was modest with peaks of 2.1% in 1996 and 1997. In general, GDP share of the private sector in the textile industry is smaller than its share in the whole industry (2.1% vs. 3.38%), but both indicate that private sector is under-developed.[25]

The late 1990s witnessed a large reduction of output shares of two sectors: *cooperatives* and *household enterprises*. Household and collective (cooperatives) sectors normally produce traditional products targeting low-income consumers. These sectors face fierce competition from large-scale enterprises and foreign made goods. Cooperatives are a legacy of the centralized economy, and although it was important in the past, it is now almost non-existent with share out of total industry output shrinking from 2% in 1995 to about 1% in 1998. The decline of the collective sector is due to the withdrawal of government assistance, which was common in the past, and to poor economic management, which was largely due to low motivation of managers caused by improperly designed incentive system. Share of household enterprises have been in downward trend too, but the decline was smaller as compared to the collective sector. The sector's output share in the industry dropped significantly from 22% in 1995 to 15% in 1999. The decline of the household sector in relative terms is mainly explained by the expansion of the formal sector, and to a lesser extent, reduction of the sector in absolute terms as evidenced by a reduction of total employment of this sector from 552 thousand people in 1993 to 539 thousand people in 1998.[26]

---

[25] See, Vietnam Institute of Economics, *Textile and Garment Industry in Vietnam*, Volume 1, Hanoi, 2001.

[26] *Ibid.*

Apparel

The global apparel industry has evolved substantially from its earliest form where the industry in the developing countries acted like subcontractors, where garment were sewn from imported inputs ready for assembly. In the current market these operations are still found in simple non-competitive producers of homogenous apparel items. Slightly more sophisticated is a subcontracting process most commonly as original equipment manufacturing (OEM). The characteristics of this outsourcing operation include the supplying firm making a product according to a design specified by the buyer; the product is sold under the buyer's brand name; the supplier and buyer are separate firms; and the buyer lacks control over distribution. The most sophisticated upgrading of this outsourcing process is commonly referred to as Original brand name manufacturing (OBM) where the developing country apparel manufacturer begins to design their own end product and then sell it under their own brand name.

The critical element in the apparel chain is therefore the retailer. In the United States at the beginning of the 1990s, the five largest retail chains represented 45 percent of the apparel market. By 1995, these five largest retailers–Wal-Mart, Sears, Kmart, Dayton Hudson Corporation and JC Penney–accounted for 68 per cent of all apparel sales. The next top 24 retailers, represented an additional 30 per cent of these sales. The two top discount giants, Wal-Mart and Kmart, control one quarter of all apparel (in terms of unit sold) sold in the United States. By 2000, only 10 percent of the apparel sold by these chains was of US origin. These retailers' overseas are no longer just facilitating the transfer of apparel to the US market, they are actively engaged in product design, fabric selection and procurement, and monitoring contracted sewing as well as other production functions handled by offshore manufacturers. Another new development is the growth of private-

label goods, which have been estimated to cover up to 25 per cent of the United States apparel market in 2000.

As a result of these linkages and the new practice in the US of reducing inventory costs, time factors play a far more crucial role in determining international competitiveness. With the removal of the quota system, low-wage countries like Vietnam that had depended on being an offshore assembly centers owing to their quota allocations will find itself vulnerable because of the inherent cost disadvantage of their business model based on production fragmentation. Time factors can be an important trade barrier for intermediary inputs involved in an internationally fragmented production process.

The emergence of more competitive and integrated suppliers in China who will now increase their sales in a quota free world, will exert considerable pressure on fragmented suppliers like Vietnam.[27] The comparative advantage of Vietnam in the assembly process, *i.e.* in low-wage sewing, does not necessarily translate into a comparative advantage in the management of the entire supply chain when all services-related dimensions are taken into consideration. Efficiency in managing the entire supply chain is required, including in design, fabric procurement, and logistical skills in transport, quality control, export financing and clearing of trade formalities. The latter has become more of the Chinese model.[28]

---

[27] As wages in China keep rising they are taking advantage of their upscale production and marketing skills and have implemented a number of preferential policies in order to encourage its T & A manufacturers to invest more in other developing countries. These measures include preferential loans, simplified administrative procedures, and enhanced information and intelligence support. China appears to be entering this new market in order to subcontract its apparel production. China's current focus is on Africa where they have started discussions with Morocco and in Asia with Bangladesh.

[28] China has made great strides in the Apparel sector. Output in the sector rose by 37 percent from 1995 to 1999, while industry employment fell by 27 percent. See UN (2002). China's increase in its apparel quality and productivity comes at the same time that it has accepted the necessity to import its better quality textiles from abroad. Eighty percent of Japan's import apparel is currently of Chinese country of origin. Achieving such a high penetration rate is proof that

In Vietnam, the role of non-state sector in the apparel industry is still modest. One of the reasons is the capital shortage experienced by non-state firms. A more important reason is the lack of favorable environment for non-state firms to flourish. Private firms often complain about the complicated registration procedures[29], difficult access to land, credit and quota. Unfavorable business environment has had its negative impact not only on private firms, but also on cooperatives and household enterprises. As a consequence, these sectors have gone down over the past few years. Too small scale of non-state firms is also widely perceived as a cause of their poor performance and their disadvantage vis-à-vis SOEs and foreign invested firms. Also, as the economy develops and people's income increases, apparel consumption bends towards ready-made clothing which is normally better produced in larger enterprises.

Vietnam is unlikely to have comparative advantage in up-stream and some mid-stream sectors, since these sectors are relatively capital-intensive while capital is a scarce factor in Vietnam at this stage of development. In fact, those sectors that produce fibers or fabric of high quality are almost non-existent in Vietnam, and the country therefore still heavily relies on imported fabrics. That translates to a focus on the apparel sub-contractors as Vietnam's comparative advantage.

A distinctive feature of Vietnam's textile industry is that while the vertical linkage between up and down streams is weak, mixed production is relatively common in which textile firms produce both textile and garment items. Some textile firms have recently introduced clothing production in their business. The primary reasons is the existence of excessive labor and the desire to add value to some textile products by shifting downwards to apparel production lines. Firms that succeed in this

---

Chinese Apparel can compete at the highest quality end. China is the benchmark that Vietnam will have to measure itself to.

[29] The year 2000 witnessed a new trend in development of the private sector in Vietnam including both formal and informal firms. The number of new establishments was about 30% of total existing private firms at the end of 1999. This improvement is largely explained by the introduction and implementation of Enterprise Law and the progress of administration reform. See note 25 above.

are normally those that have access to export quotas for their garment products. In other words, an important motive for having garment production lines in textile firms is to take the advantage of their access to export.

V. CONCLUDING REMARKS

With the unprecedented act removing T&A quotas the developing countries of Asia have been thrown into of an uncomfortable position of having to compete for market shares. Even more disturbing is the fact that low wages will not guarantee these countries a market in the United States. The big player that have been identified as major potential winner of this new shift in trade controls is China. This paper attempts to shed some light on this issue by approaching the problem by a partial equilibrium review of each beneficiaries' potential demand side competitiveness with respect to each other, the supply side responses and the differing objective functions of the state and business community which are taken as representative of cultural differences.

On the demand side, we found strong competition between China and Vietnam in a very limited number of items. In the majority of three-digit categories bound for the PRC there was no significant cross-price elasticity of demand. The reality behind the regression results was that the quality of Chinese textile and apparel products drastically improved while Vietnam has only a single cost factor. Vietnam's T&A industry is still in early stage of development, and therefore it mainly exploits comparative advantage based on cheap labor. The share of labor cost in total value added of Vietnam's T&A industry is lower than in other countries. The lower ratio of labor share in total value added could be explained by low relative price of labor over capital in Vietnam, which is much lower than in some other countries. This indicates the scarcity of capital in Vietnam as compared to

other countries. Within one country, share of labor in total value added of textile industry is lower than that of apparel industry, as textile industry is more capital intensive than garment industry.

When we reviewed the supply side, it was apparent that the single most important systemic difference which can be attributed to cultural differences was the reliance in China on the central planning to organize the development path of the entire T&A industry. It was the State that encouraged major technological changes, a search for economies of scale and a shift from merely producing as sub-contractors to developing a unique fashion and downstream linkages mechanism. Vietnam is still in its early stage to follow the PRC model.

DATA APPENDIX

Trade Data: The textile trade data, in terms of value and quantity, are based on the three digit textile category system. This data was for the time period 1995-2004 and was provided by the U.S. Dept. of Commerce. Office of Textiles and Apparel. (OTEXA).

Prices: Domestic producer prices were matched to the textile category level when possible. In cases where a clear concordance was not possible, the more aggregate WPI for the aggregate Textiles and/or Apparel was used. Import prices both for China, Vietnam and the uncontrolled country suppliers were based on unit values.

Tariffs: Ad-valorem tariff equivalents were calculated at the three digit textile category level for the entire 1995-2004 period and was provided by the U.S. Dept. of Commerce. Office of Textiles and Apparel. (OTEXA).

Activity Variables: Based on the nature of the commodity in question a number of activity variables were used. In all cases an effort was made to make a distinction between end products and intermediate goods. The list of activity variables includes:

(1) Retail sales of apparel and accessory stores;
(2) Total personal consumption expenditures;
(3) Personal consumption expenditure for non-durables;
(4) Personal consumption expenditure for clothing and shoes;
(5) Personal consumption expenditure for clothing;

Output: Domestic output measured at the three digit textile category level was provided by the U.S. Dept. of Commerce. Office of Textiles and Apparel. (OTEXA).

Quota Levels: Quota levels by Country/Product were provided by the U.S. Dept. of Commerce. Office of Textiles and Apparel. (OTEXA). These limits have been corrected for the periodic borrowing and lending over categories and time. The restrictions used, therefore, present a true upper limit as exercised by the U.S. Government.

REFERENCES

Andriamananjara, Soamiely, Balistreri, Edward J., and Ross, Martin T. (2004) "State Level Equity and the Demise of the Agreement on Textiles and Clothing," June.

Armington, Paul (1969) "A Theory of Demand for Products Distinguished by Place of Production," *IMF Staff Papers*, 16, 159-178.

Chen, Ming-Jer. (2001) *Inside Chinese Business.* Harvard Business School Press.

Crotts, J.C. and R, Erdmann. (2000) "Does National Culture Influence Consumers' Evaluation of Travel Services? A test of Hofstede's Model of Cross-Cultural Differences" *Managing Service Quality* 10(6): 410-419.

"Dashan, Xu (2005) "China's Economy to Grow 8% Annually from 2006 to 2010," *China Daily*, March 21.

Diao, Xinshen and Agapi Somwaru (2001) "Impact of the MFA Phase-Out on the World Economy: An Intertemporal, Global, General Equilibrium Analysis," Trade and Macroeconomics Division, International Food Policy Research Institute, Discussion paper 79, October.

Downey, S. Wentling, R.M Wentling, T. and Wadsworth. A. (2005) "The Relationship Between National Culture and The Usability of an E-learning System," *Human Resource Development International* 8(1): 47–64.

Dwyer, S. Mesak, H. and Maxwell Hsu. H. (2005) "An Exploratory Examination of the Influence of National Culture on Cross-National Product Diffusion," *Journal of International Marketing* 13(2): 1-27.

Francois, J.F. and D. Spinanger (2000) *Hong Kong's Textile and Clothing Industry: The Impact of Quotas, the UR and China's WTO Accession.* Kiel Institute of World Economics.

Gereffi, Gary and Olga Memedovic (2003) *The Global Apparel Value Chain: What Prospects for Upgrading by Developing Countries, UNIDO.*

Guo, R. (2004) "How Culture Influences Foreign Trade: Evidence From the U.S. and China" *Journal of Socio - Economics*. .33(6):785-812.

Hofstede, G. (1980) *Culture's Consequences: International Differences In Work-Related Values*, Newbury Park, CA: Sage.

_____. (1983) "The Cultural Relativity Of Organizational Practices And Theories," *Journal of International Business Studies* Fall:75–89.

Hofstede, G. and Bond. M.H. (1984) "Hofstede's Cultural Dimensions: An Independent Validation Using Rokeach's Value Survey," *Journal of Cross-Cultural Psychology* 15: 417-433.

Hofstede, G. and Bond. M.H. (1988) "The Confucian Connection: From Cultural Roots to Economic Growth," *Organizational Dynamics* 16(4): 4-21.

House, R. J. and Javidan, M. (2004) "Overview of GLOBE," In House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., and Gupta. V. (Eds). *Leadership, culture, and organizations: The GLOBE study of 62 societies*, pp. 9-28. Thousand Oaks, CA: Sage Publications

ILO, 2005a. *Promoting Fair Globalization In Textiles And Clothing In A Post-MFA Environment.* Geneva.

ILO, 2005b. "Labor Implications Of The Textiles And Clothing Quota Phase-Out," Working Paper. WP224. Geneva.

Minor, Peter (2002) *Changes in Global Trade Rules for Textiles and Apparel: Implication for Developing Countries*, November 20, submitted to USAID

OECD (2005) *Review of Agricultural Policies, China.* Paris.

_____ (2004) *A New World Map in Textiles and Clothing Adjusting To Change*, Paris.

Pelzman, Joseph. 2004. "Implications for the Vietnamese Textile and Apparel Industry in Light of Abolishing the Multifiber Arrangement and the US – Vietnam Bilateral Investment Treaty," in Khosrow Fatemi (ed) *Globalization and Structural Change in the World Economy.* 2004

Pelzman, Joseph and Kathleen Rees. (1998) "The Control of Textile and Apparel Trade under the WTO: What is the Track Record?" in Gulser Meric & Susan E.W. Nichols (eds.) *The Global Economy at the Turn of the Century*, Vol. III. pp. 811-830.

Pelzman, Joseph. (1988) "The Tariff Equivalents of the Existing Quotas Under the Multifiber Arrangement," U.S. Department of Labor, reprinted in "The Textile Industry." in United States International Trade Commission. *The Economic Effects of Significant U.S. Import Restraints, Phase 1*, Pub. No. 2222, October 1989.

_____. (1983) "Economic Costs of Tariffs and Quotas on Textile and Apparel Products Imported into the United States: A survey of the Literature and Implications for Policies," *Weltwirtschaftliches Archiv*, 119: 523-542.

Pelzman, J. and R.C. Martin, (1981) "Direct Employment Effects of Increased Imports: A Case Study of the Textile Industry, *Southern Economic Journal*, 412-426.

Pye, L. W. (1992) *The Spirit of Chinese Politics*, Harvard University Press, Cambridge MA: 87-90.

Sims, Thomas and Schiff, Jonathan (2000) "The Great Western Development Strategy," *China Business Review*, November-December, 2000.

Sivakumar, K. and Nakata. C. (2001) "The Stampede Toward Hofstede's Framework: Avoiding the Sample Design Pit in Cross-Cultural Research," *Journal of International Business Studies* 32(3): 555-574.

Spinanger, Dean (1998) "Textiles Beyond the MFA Phase-Out," GSGR Working Paper 13/98, July.

The Committee for the Implementation of Textile Agreements. 1997. *Procedures for Considering Requests from the Public for Textile and Apparel Safeguard Actions on Imports from China*, , Federal Register Vol. 68, No. 98, pg 27787.

U.S. International Trade Commission (2004) "Textiles and Apparel: Assessment of the Competitiveness of Certain Foreign Suppliers to the U.S. Market," Investigation No. 332-448, January, Volumes I and II.

_____. 1999. *Assessment of the Economic Effects of China's Accession to the WTO*. Investigation No. 332-403, Publication 3229. Washington, DC: USITC.

U.N. (2002) *Trade and Development Report*.

Weldon, E. and Jehn, K.A. (1992) "Work Goals and Work Related Beliefs Among Managers and Professionals in the United States and the People's Republic of China," *Asia Pacific Journal of Human Resources* 31(1):57-70.

Winters L. Alan (1984) "Separability and the Specification of Foreign Trade Functions," *Journal of International Economics*, 17: 239-263.

World Trade Organization, 1996. *Hearing Before the House Ways and Means Comm*, 104th Cong., 2nd Sess. Washington DC.

Yeh, Ryh-Song (1989) "On Hofstede's Treatment of Chinese and Japanese Values," *Asia* Pacific Journal of Management 6(1):149-160.

Table 1
Textile Category Description

CAT	DESCRIPTION	UNIT
218	FABRICS OF YARNS OF DIFF. COLORS	M2
219	DUCK FABRIC	M2
220	FABRIC OF SPECIAL WEAVE	M2
222	KNIT FABRIC	KG
224	PILE / TUFTED FABRICS	M2
225	BLUE DENIM FABRIC	M2
226	CHEESECLOTH, BATISTES, LAWNS/VOILE	M2
227	OXFORD CLOTH	M2
237	PLAYSUITS, SUNSUITS, ETC	Doz
300	CARDED COTTON YARN	KG
301	COMBED COTTON YARN	KG
313	COTTON SHEETING FABRIC	M2
314	COTTON POPLIN / BROADCLOTH FAB.	M2
315	COTTON PRINTCLOTH FABRIC	M2
317	COTTON TWILL FABRIC	M2
326	COTTON SATEEN FABRIC	M2
331	COTTON GLOVES AND MITTENS	DPR
333	M/B SUIT-TYPE COATS, COTTON	Doz
334	OTHER M/B COATS, COTTON	Doz
335	W/G COTTON COATS	Doz
336	COTTON DRESSES	Doz
340	M/B COTTON SHIRTS, NOT KNIT	Doz
341	W/G COT. SHIRTS/BLOUSES,N-KNIT	Doz
342	COTTON SKIRTS	Doz
345	COTTON SWEATERS	Doz
347	M/B COT. TROUSERS/BREECHES/SHORTS	Doz
348	W/G COTTON TROUSERS/SLACKS/SHORTS	Doz
351	COTTON NIGHTWEAR/PAJAMAS	Doz
352	COTTON UNDERWEAR	Doz
360	COTTON PILLOWCASES	Doz
361	COTTON SHEETS	Doz
363	COTTON TERRY / OTHER PILE TOWELS	No
613	MMF SHEETING FABRIC	M2
614	MMF POPLIN / BROADCLOTH FABRIC	M2

615	MMF PRINTCLOTH FABRIC	M2
617	MMF TWILL AND SATEEN FABRIC	M2
619	POLYESTER FILAMENT FABRIC, LIGHT-WEIGHT	M2
620	OTHER SYNTHETIC FILAMENT FABRIC	M2
625	MMF POPLIN/BROADCLTH STAP/FIL	M2
628	MMF TWILLS/SATEENS STAP/FIL	M2
629	OTHER MMF FABRICS OF STAP/FIL	M2
634	OTHER M/B MMF COATS	Doz
635	W/G MMF COATS	Doz
636	MMF DRESSES	Doz
638	M/B MMF KNIT SHIRTS	Doz
639	W/G MMF KNIT SHIRTS / BLOUSES	Doz
640	M/B NOT-KNIT MMF SHIRTS	Doz
641	W/G NOT-KNIT MMF SHIRTS / BLOUSES	Doz
642	MMF SKIRTS	Doz
643	M/B MMF SUITS	Doz
644	W/G MMF SUITS	Doz
645	M/B MMF SWEATERS	Doz
646	W/G MMF SWEATERS	Doz
647	M/B MMF TROUSERS/BREECHES/SHORTS	Doz
648	W/G MMF SLACKS/BREECHES/SHORTS	Doz
651	MMF NIGHTWEAR / PAJAMAS	Doz
652	MMF UNDERWEAR	Doz

Source: US Department of Commerce, Office of Textiles and Apparel.

Table 2

GLS Estimates of US Import's from Vietnam Demand Equations

Dependent Variable / Coefficient	Vietnamese Price Elasticity	Chinese Price Elasticity	Chinese Relative Quota Elasticity	RPCE Elasticity	PPI Elasticity	F-statistic (p-VALUE)	Adjusted R^2
237	-0.15	0.92	5.95*	-1.29	-81.9	4.28 (0.09)	0.64
331	-0.18	2.38	-0.5	2.5	-19	5.8 (0.05)	0.72
335	3.73*	23.2*	5.38*	22.9**	-31*	8.5 (0.029)	0.8
336	-4.24	1.06	1.14	14.5	-20.4	4.1 (0.09)	0.63
340	1.04*	0.21	-2.68	2.88**	-1.11	34 (0.00)	0.94
341	5.57	9	-0.9	6.5	-171	5.5 (0.06)	0.71
347	1.68**	6.12*	-0.58*	12.9*	-23.3	53.4 (0.00)	0.96
348	1.18	3.28	-0.72	14.1	-71.2	8.9 (0.02)	0.81
635	2.73*	8.29*	2.81	25.7**	9.6	23.64 (0.00)	0.92
636	2.77*	6.66*	-2	27.6**	-147*	13.8 (0.01)	0.87
638	1.7	-0.26	0.57	16.5*	-13.3	11.3(0.01)	0.85
639	0.68	-5.76	-0.53	14.4**	-67	19.8(0.00)	0.91
640	0.8	-24.4	1.11	16.9	-22.4	8.5 (0.02)	0.8
641	-1.8	16.6	1.5*	28.1*	-71.1	18.3 (0.00)	0.9
648	1.4	0.5	1.6	13.8	-30.4	13 (0.01)	0.86
651	0.75*	15.7*	-6.4*	13.8*	-97	23.5 (0.00)	0.92

*P-Value<0.05 **P-Value<0.01

All variables are estimated in log form. There were 77 textile and apparel products from the PRC under quotas to the USA market. For Vietnam, given their limited exposure to the US market, there were 20 categories, for the years 1995-2004, where there may have been direct competition. From the 20 products the reported regression results are for 16 categories where the F test was significant.