

# Perspectives for the Textiles and Clothing Industry in Greece: Past Experience, Outlook and Policy Implications

By

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## Abstract

The liberalization of trade in Textiles and Clothing (T&C) had substantial adverse effects on the Greek T&C industry. The elimination of export quotas affected production levels, exports, prices and employment in the sector. Using past research results we explore how the Multi-Fiber Agreement (MFA) and the, subsequent, Agreement on Textiles and Clothing (ATC) regime affected producers' welfare in Greece. Given the recent developments, after the 2005 termination of the ATC, we explore the applicability of a policy model. Innovations adopted in the production process, new cost-efficient technologies and workers' training are the keystone factors in establishing a competitive industry for the future.

**JEL Classifications:** D20, D60, F10, L67.

**Keywords:** T&C, MFA, ATC, Applied Welfare Analysis.

## 1. Introduction

In 1995, a 20-year old quota regime was laid to rest. The Multi-Fiber Agreement (MFA, 1974-1994), that provided the rules for the imposition of quotas for Textile and Clothing (T&C) products, was replaced by the Agreement on Textiles and Clothing (ATC, 1995-2005), a ten-year plan for the gradual transition towards free trade. The new agreement, required member countries to gradually release all existing quotas on T&C products by the year 2005 (Francois *et al.*, 2000). The ensuing increases in the volume of trade and decreases in product prices were felt immediately by the domestic T&C industries in most European countries.

Producers in Greece were amongst those affected by the liberalization of trade. Substantial decreases in revenues, production, exports and market share led many companies, especially small and medium sized enterprises (SME), out of business. By the

time the program for the liberalization of trade was reaching its 2005 completion, with most of the quotas already released, competition further intensified and producers found themselves struggling to survive against imports from low labor-cost countries.

The 2008 final release of the “new” temporary quotas signals another likely round of large-scale downsizing for the Greek T&C industry. Expectations for further price decreases formulate a pessimistic outlook and dictate the need for policy suggestions to assist producers in the liberalized markets. The purpose of this paper is twofold. We initially focus on past experience and research results to understand how trade liberalization affected producers’ welfare in Greece. Using this experience we proceed to suggest a policy model to lead the sector into a prolific future.

The paper is divided into four sections. Following the introductory section we analyze the most important developments surrounding the MFA and the ATC regimes. Section 3 concentrates on the effects of the intervention regimes on production levels, exports and prices of T&C products in Greece. Moreover, we employ past, published and unpublished, research results to discuss how these changes affected producers’ welfare. We focus mainly on the effects of trade liberalization on cotton-yarn products (SITC – 6513) as they represent the largest sector of the T&C industry in Greece and also a very important product in the world markets<sup>1</sup>. We also turn our attention briefly on textiles and other made up articles (SITC - 65) as well as clothing products (SITC – 841). Inferences to other countries encompass a large part of our analysis as they allow us to better comprehend the basis for the changes that took place in the Greek industry. The last section (section 4) presents the most recent developments, the outlook for the Greek industry and, finally, policy recommendations for the T&C sector.

## **2. An Historical Overview: The MFA and the ATC Regimes**

The T&C sectors are widely being viewed as the first industrial base from which countries develop economically (Junyuan, 2005). The intense protection provided to these vital, for a developing economy, sectors prompted the first attempts to liberalize trade in the early 1960’s. Deliberations, initiated by the GATT and the Organization for European Economic Cooperation (GATT, 1984) in 1961, led to the signing of the Short Term Agreement (STA, June 21, 1961, 19 countries) (see Table 1). The STA allowed countries to request export restraints (Voluntary Export Restraints, VERs) when sudden increases of imports threatened irreparable damage to the domestic industries (Francois *et al.*, 2000; McClenahan, 1991). On February 9, 1962, the Long Term Agreement (LTA, 1962-1973, signed by 29 member countries) replaced the STA. The LTA was initially signed only for a period of 5 years, allowing the signing parties of a bilateral agreement to reach their own level of import restraints on T&C trade (McClenahan, 1991).

Shortcomings of the STA and the LTA that did not conform with GATT directives, and especially with the provision that prohibited the imposition of quotas and export quotas on trade (GATT, 1984) led, on December 20th, 1973, to the signing of the MFA. The new regime, implemented on January 1, 1974, provided the rules and regulations for the imposition of bilateral and unilateral quotas. The long term purpose of the MFA was to lead the environment for the liberalization of trade. The agreement allowed developed countries to gradually adjust to imports from low labor-cost developing countries while, at the same time, it assisted the expansion of the domestic industry in developing countries, reducing the restriction for the poorest ones (MFA, 1974). Through the 20 years of the MFA regime the agreement was extended 5 times (Table 1, MFA II- MFA IV extensions). Each extension attempted to bring the T&C industry closer to trade liberalization.

During MFA I (1974-1977) importing member countries had to learn how to reach bilateral agreements with exporting countries. MFA I was an adjustment period and most countries ended up unilaterally imposing restraints (quotas). Progressively, members managed to find solutions with bilateral agreements (GATT, 1984). MFA II (1978-1981), signed by 42 countries on December 14, 1977, renewed the regulations of the initially agreed MFA for another four years (*ibid*). The new feature, included in the agreement after an initiative by the European Union, allowed for “Jointly Agreed Reasonable Departures” from the MFA directives. Departures had to be short in nature and after the end of an agreement the countries had to return to the MFA directives. As compared to MFA I, there was an increase on the restrictions imposed and protection shifted from textile to clothing products. On December 22, 1981, 41 members countries decided to extend the MFA for another 4 years and 7 months (GATT 1981a, 1981b). MFA III (1982-1986) was more restrictive than the past MFAs as the lesser developed countries did not have the advantage of departing from the agreement and any intended increase in quotas due to the disruption of the domestic markets had to be proven. MFA IV (1987-1991), renewed by 43 countries on August 1, 1986, imposed fewer restrictions on the lesser developed countries (GATT, 1986). A one-year unilateral imposition of quotas was allowed when the disruption of the domestic markets could be proven. Although the MFA IV was intended to expire in 1991 it was extended with another three, 1-year agreements (Extension 1: July 31, 1991 – December 31, 1992; Extension 2: December 9, 1992 – December 31, 1993; Extension 3: December 9, 1993 – December 31, 1994) until 1995, awaiting for the completion and the final decisions of the Uruguay Round (GATT, 1993). The short nature of these renewals did not allow for any changes to the MFA regulations.

The deliberations for the liberalization of trade began during the Uruguay Round (1987-1994). By 1991, the discussions produced a ten-year plan for the

gradual phase-out of existing quotas. The 10-year “gratuitous” period intended to allow producers ample time to gradually adjust to the new free trade regime. The plan was eventually signed in 1994 (Agreement on Textiles and Clothing, ATC, 1995-2005) requiring member countries to gradually release 51% of existing quotas by the end of 2004. The remaining 49% were to be released, all at once, as of 1/1/2005. During the ATC each country was free to choose which product quotas were to be released. Moreover, export quotas were to increase by 16% during the first phase (Jan. 1, 1995- Dec. 31, 1997), 25% during the second stage (Jan. 1, 1998- Dec. 31, 2001) and 27% during the third phase (Jan. 1, 2002- Dec. 31, 2004) (Francois *et al.*, 2000).

**TABLE 1**  
The MFA (1974-1994) and the ATC Regime (1995-2005)

	Year	Action Taken / Directives
<b>STA</b>	July 1961	The Short Term Arrangement (STA) is signed.
<b>LTA</b>	Feb. 1962	The Long-Term Arrangement (LTA) is agreed to commence on October 1, 1962, and last for five years.
	1963-1964	The United States tries and fails to secure an international agreement on wool products.
	June 1965	The United States tries and fails to negotiate restraints on Japanese wool products.
	June 1966	The United Kingdom implements a global quota scheme in violation of the LTA – the LTA providing only for product-specific restraints.
	April 1967	Agreement is reached to extend the LTA for three years.
	1969-1971	United States negotiates VERs with Asian suppliers on wool and man-made fibres.
	Oct. 1970	Agreement is reached to extend the LTA for three years. It was later extended three months more, to fill the gap until the MFA came into effect.
	Dec. 1973	The MFA is agreed to commence on January 1, 1974, and to last for four years.
<b>MFA</b>	1974-1977	Member countries gradually moved from the unilateral imposition of quotas to signing bilateral agreements. Countries covered many of the products they expected to have problems in the future. The US imposed quotas on cotton fabrics.
	Jul.-Dec. 1977	The European Economic Community and the United States negotiate bilateral agreements with developing countries prior to agreeing to extend the MFA.
<b>MFA II</b>	1978-1981	Dec. 14, 1977, 42 countries. Allowed for “jointly agreed reasonable departures” from the MFA directives. During this period import restrictions increased and they shifted from yarn to clothing products. Restrictions towards small exporting countries increased as it was believed that an increase in exports from these countries would result in market disruption.
<b>MFA III</b>	1982-1986	Dec. 22, 1981, 41 countries. MFA III was more restrictive than MFA II as less developed countries did not have the advantage for departures from the MFA 6% directed increase in quotas and any interruption in the domestic markets had to be proven.

(to be continued)

	Year	Action Taken / Directives
<b>MFA IV</b>	1987-1991	Aug. 1, 1986, 43 countries, Intra-trade 48.1 billion dollars, 48% of global exports. MFA IV was considered more restrictive than the other MFAs. The representatives from developing countries were disappointed by the increase in protection levels while the US and the EU supported that the restrictions imposed made them import products from developed countries.
<b>MFA IV extensions</b>	1991-1993	Three one-year extensions were signed. Jul. 31, 1991, 41 countries. Dec. 9, 1992, 42 countries (136 billion dollars, 80% of world trade). No substantial changes were made to the MFA IV regime as the period of renewal was very short. The participants agreed to follow the 1986 directives during the conjoint attempts for the liberalization of trade in the Round of Uruguay.
<b>MFA IV extensions</b>	Dec. 1993	The Uruguay Round draft final act provides for a 10-year phase-out plan of all MFA and other quotas on textiles. MFA extended until Uruguay Round comes into force.
<b>ATC</b>	Phase 1	Member countries had to increase quotas by at least 16% of the total volume of trade of importing member countries 1990 levels.
	Phase 2	Began on the 4th year of the ATC and required an additional release of 17% of existing quotas.
	Phase 3	Began on the 8th year of the ATC and required an additional release of 18% of existing quotas.
	Phase 4	Refers to the period after the 1st of Jan. 2005 when the remaining 49% of existing quotas would be eliminated all at once.
<b>EU/US deals with China</b>	2005-2008	Two separate deals were struck between the EU and China and the US and China. The deals allowed for a more gradual release of the remaining quotas by the year 2008 on some product categories.

Sources: GATT 1984, 1986, 1993, Spinanger (1999, Table 1), Francois *et al.* (2000).

The adjustment period was not effectively capitalized though, neither by European governments, that opted during the 10 years of the ATC regime to release the “easiest”<sup>2</sup> quotas (ICAP, 2004), nor by producers, who did not efficiently adjust production practices so as to deal with the increased competition by the year 2005. In the summer following the elimination of the final quotas (summer 2005) Europe was flooded by Chinese imports of T&C products. The impact from the, all at once, release of the remaining 49% of the quotas led to a short round of deliberations, which produced a new set of temporary quotas against Chinese products, for a more gradual transition towards free trade, until the year 2008.

### 3. The Effects of the MFA and the ATC in Greece: A Comparative Analysis

The 1995 implementation of the plan for the gradual release of quotas had an immediate impact on Greece’s T&C industry. Production levels, exports and employment plodded to the lowest levels in the last three decades (Hellenic Statistical Authority, ElStat) with decreasing prices further dampening income levels and the viability of producers in the international markets.

Difficulties faced by producers in the Greek T&C industry were apparent as early as 1985, after the elimination of export subsidies on T&C products (SBBE, 2005). When in 1987, the discussions for the liberalization of trade were initiated, producers received another significant blow that further reduced production levels and welfare. Realizing that the liberalization of trade was, henceforth, a one way road they started searching for new ways to compete in the international arena. A few producers dealt with the changing regime by upgrading their machinery and automating the production process (Akkas, 2006). As a result, some production units, nowadays, are equipped with modern technological equipment. Despite that, most of the T&C in Greece is still produced in small family owned enterprises with few employees and disdained equipment (SBBE, 2005).

While some producers upgraded their machinery others did not find the necessary funds to improve productivity. Not being able to compete with the low prices, many of them had to permanently shut down operations. Others, transferred production to neighboring countries, such as Bulgaria, taking advantage of: a) the low labor costs and b) the favorable tax regime that helped them reduce overhead costs, as well as c) domestic (Greek) laws that subsidized enterprises that expanded operations to foreign countries<sup>3</sup>. The transfer of production resulted in extensive losses of employment. 63,000 workers, domestically employed in 1993, decreased to a mere 31,000 workers by the year 2002 (EIStat). 50% of production units in the clothing sector shut down operations from 1996 to 2004 (European Commission, 2006). By the year 2003, 45 thousand workers were employed in neighboring Bulgaria (in the clothing sector only) in production units serving Greek interests (Greek Fashion News Online, 2003).

### **3.1 Cotton-yarn, Textiles and Clothing Products in Greece**

We focus on the Greek cotton-yarn sector as it covers a substantial part of total exports of textile yarn and total exports of all T&C products. The cotton-yarn sector contributes to a) 83% of textile yarn production (average 1995-2003, EIStat), b) 77% of textile yarn exports and c) approximately, 20% of all textiles exports (average 1995-2006, UN Comtrade). Furthermore, Greek cotton-yarn contributes to 6.2% (2002) of total EU production of cotton-yarn and, approximately, 7% of total EU exports of cotton-yarn (last two percentages refer to quantities) (ICAC, 2003a).

Production of cotton yarn products in Greece peaked in 1986 (Figure 1) when it reached 151,000 tones. The favorable, Common Agricultural Policy (CAP), regime for homegrown cotton, implemented after Greece's 1981 entry to the EU, boosted the supply of cotton, cotton linters and cotton based T&C products. Although the increase in the production of linters was channeled, mainly, to the in-

ternational markets<sup>4</sup>, it temporarily boosted production in the domestic T&C industry as it provided access to inputs produced in close proximity to major production units. A persistent downward trend observed after 1987, brought production levels down to 75,000 tones by the year 2005.

These decreases in domestic production can be attributed to three major factors:

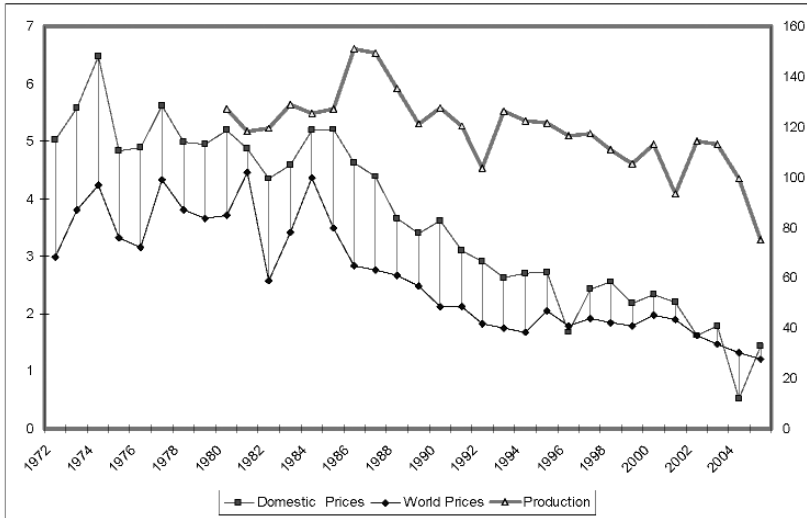
Factor A: *Decreasing prices* for cotton-yarn products (Figure 1). Both domestic and international prices decreased<sup>5</sup>. The price decreases affected producers in most cotton-yarn producing countries reducing profit margins and making cotton-yarn production less attractive to businesses. Price decreases are attributed to the increase in the volume of trade, an immediate effect of the MFA's and the ATC's attempt to reduce existing quotas. (Lower quotas - fewer restrictions - increased the supply of T&C products in the international markets causing the drop in prices). The rightwards shift in the supply was augmented by two more cost-cutting factors: i) new technologies in the production of T&C products and ii) increased production of cotton in Asian countries that reduced the cost of inputs in the production of T&C.

Factor B: *Decreases in the gap between domestic and international prices of cotton-yarn*. In other words, the difference between producers' prices in Greece and producers' prices in the rest of the world (as seen by the shaded region in Figure 1). The difference between domestic and international prices, sustained by the intervention regime, can be perceived as an "annual, per unit of production, welfare transfer" received by domestic producers due to the MFA and the ATC intervention regimes that used to sustain prices in Greece at a higher level. The gap between domestic and international prices started closing down after 1985 and, by 1995, domestic prices equaled those in the international markets. The partial liberalization of trade closed the wedge and producers lost a significant amount of income.

The negative effects from the downward trend in prices affected producers all over the world (factor A). On the other hand, the closing gap between domestic and international prices (factor B) had a negative impact on Greek production by amplifying the losses incurred by the price decreases and by creating competitive losses for the Greek sector.



**FIGURE 1**  
Prices of Cotton-yarn and Production (mil. 1987 \$ US)



Source: Ministry of Agriculture, UN Comtrade, Hellenic Statistical Authority, ElStat, Data available upon request.

Factor C: *Increases in the gap between domestic and international cost of labor*<sup>6</sup>. Greece's cost of labor stand, approximately, three times higher than the average international cost. Due to factors, not related to the liberalization of trade, the cost paid to labor increased more than the respective cost paid to labor by a representative international producer. The wedge opened and production in Greece became more expensive as compared to the foreign competitors.

In summary: While the decreasing cotton-yarn prices, the narrowing price gap and the widening of the gap in the cost of labor had an adverse effect on domestic production, moreover, the Greek T&C sector suffered competitive losses due to the changing gaps (only effects B and C)<sup>7</sup>.

We concentrate awhile on the cotton-yarn price differential. The price drop brought about substantial decreases in the value of exports (Figure 2). A first drop is observed after 1985, when export subsidies were eliminated. Continuing through 1987, after the initiation of the Uruguay Round discussions and the signing of the MFA IV, the persistent downward trend brought the value of exports down to less than half their values in the early 80's.

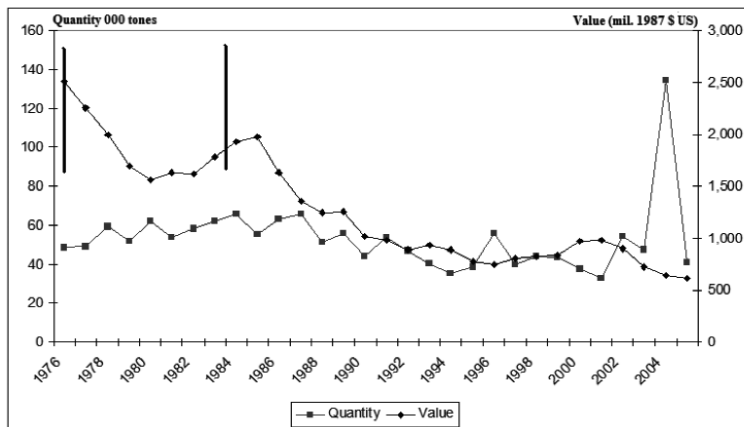
The sudden decrease in export values raises some interesting questions regarding the existence of "regime-induced" structural breaks. While it would be possible to "eyeball" a structural break and use a simple Chow-test to examine whether there are significant differences prior and post the 1985-1987 period, an endogenous test for



structural breaks could reveal more information on the structure of the time series of export values. Dadakas, Katranidis and Varelas (2009) examined the time series of export values of cotton-yarn for 20 different countries using the Lumsdaine and Papell test (1997). Greece's results exhibited a structural break early in the period of study, from 1976 to 1984 (the data used in the analysis span from 1960 to 2005, see vertical lines in Figure 2), immediately after i.e. the initial signing of the MFA and up until MFA III and the, concurrent, elimination of export subsidies. *The initial MFA, the MFA II and the MFA III quota intervention regimes (1974-1986) had a substantial positive impact on the value of exports, whereas, the subsequent MFA IV (1987-1994) and the gradual liberalization of trade (1995-2005) had a negative impact.*

**FIGURE 2**

Cotton-yarn, Exports and Values of Exports (1987 \$ US)<sup>a</sup>



a) The analysis was conducted in Greek Drachmas, Results were transformed to US dollars.

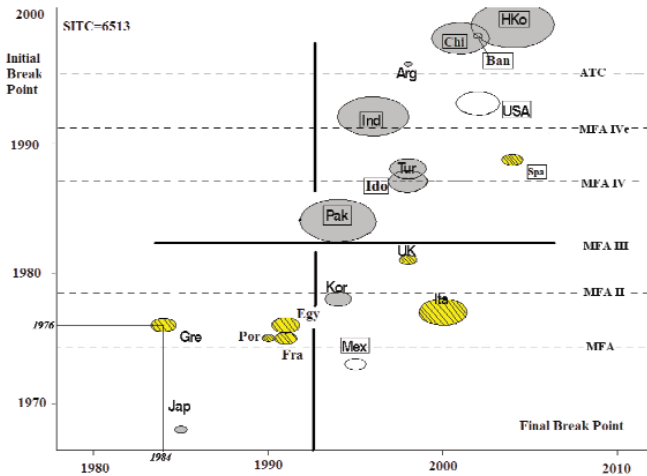
Source: Ministry of Agriculture, UN Comtrade, Hellenic Statistical Authority, ElStat, Data available upon request.

Similar structural breaks, observed during the early period of the MFA, are present in other developed countries that benefited during the MFA regime from the imposition of quotas. An interesting pattern emerges when we compare the structural breaks for European and Asian countries. On average, European countries benefited from the MFA regime whereas Asian countries benefited from the ATC regime and the plan for the gradual release of quotas. In Figure 3, Dadakas, Katranidis, Varelas (2009) use bubble diagrams to graph the break dates for the value of exports of cotton yarn products. On the vertical axis, the initial break dates approved are indicated and on the horizontal axis, the final break dates. I.e., Greece intersects the vertical axis in 1976 and the horizontal axis in 1984. There-

fore the structural break observed on the time series of cotton-yarn exports (value) spans from 1976 to 1984. Larger bubbles represent countries with a higher share in the export markets<sup>8</sup>. Small exporting countries cover the lower part of the diagram whereas large exporting countries the upper part. Small countries were (mostly positively) affected during the MFA regime whereas large exporting countries were (mostly positively) affected during the ATC regime. Furthermore, the cluster of the Asian countries (grey shaded) concentrates on the upper right hand corner of the diagram showing that Asian countries benefited during the latter period of the ATC.

FIGURE 3

Cotton-yarn break points – bubble graph (SITC – 6513)



Source: Dadakas, Katranidis, Varelas (2009).

Greece was one of the first countries that was (positively) affected by the MFA quota regime. Looking back at Figure 1 the, regime-induced, price differences between domestic and international prices of cotton-yarn justify the increasing levels of production and export values. When the gap between domestic and international prices started closing down, Greece lost the competitive edge offered by the cotton-yarn price differential (recall that the difference between domestic and international prices can be perceived as an income transfer to domestic producers due to the intervention regime. When this gap decreased producers lost a significant portion of welfare transfers and their competitiveness – Factor B). *Benefits were transferred to those countries that gained from the labor-cost price differential (difference between domestic and international cost of labor), Asian*

countries mostly, where the cost of labor is substantially less than in the rest of the world<sup>9</sup> (this is also the reason those countries' bubble plots appear on the upper right hand corner of the diagram in Figure 3).

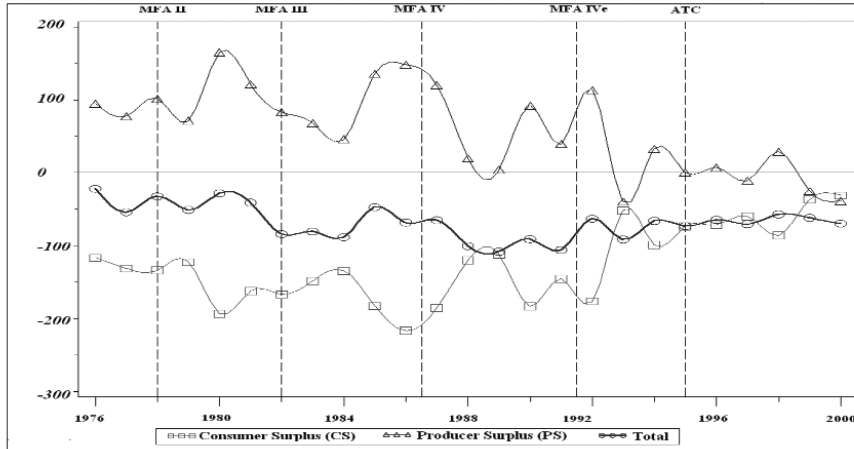
The production data, the export values data and the cotton-yarn price differential suggest that Greek producers received substantial welfare transfers during the MFA regime while they lost welfare transfers during the ATC regime. The size of these welfare effects was examined by *Dadakas and Katranidis* (20010b). They used a multi-market model (Just *et al.*, 1982; 2004) to examine the price-induced effects of trade liberalization on the welfare of producers and consumers of cotton-yarn. Their method consisted of estimating welfare changes to producers of cotton-yarn due to the simultaneous decreases in the prices of cotton-yarn (decrease in the gap) and the simultaneous increases in the cost of labor (increase in the gap). Results showed that producers' welfare substantially decreased over the last 2 decades (Figure 4). The negative trend, observed after 1987, became stronger after 1992 with transfers reaching negative levels by 1995. Figure 4 indicates that producers first started realizing decreasing welfare transfers after 1982. *“Although transfers recovered during 1985-1987 the initiation and the further progress in the negotiations of the Uruguay Round sealed the fate of the MFA as early as 1992”* (*Dadakas and Katranidis* 2010b). “Period mean annual income transfers” to producers of cotton-yarn differed significantly for MFA IV vs. MFA IVe and for MFA IVe vs. ATC (significant decreases in period average welfare transfers). In other words, the 1991-1994 extensions of the MFA and the implementation of the ATC plan for the liberalization of trade had a significant negative impact on the mean annual income transfers received by producers. *Although the final agreement was signed in 1995, the after-effects of the Uruguay Round were already felt by producers some years earlier, i.e. after 1992* (*ibid*).

On the other hand, consumers of cotton-yarn gained substantial amounts from the price decreases. After 1987 losses in producers' welfare were partially leveled by the gains to consumers.

*Dadakas and Katranidis* (2010a) compared the welfare results for Greek producers of cotton-yarn with those of other cotton-yarn producing countries, this time, using a single-market approach and data that span up to the year 2005<sup>10</sup>. Results showed that after the year 2000, transfers to Greek producers of cotton-yarn kept decreasing (Figure 5)<sup>11</sup>.

**FIGURE 4**

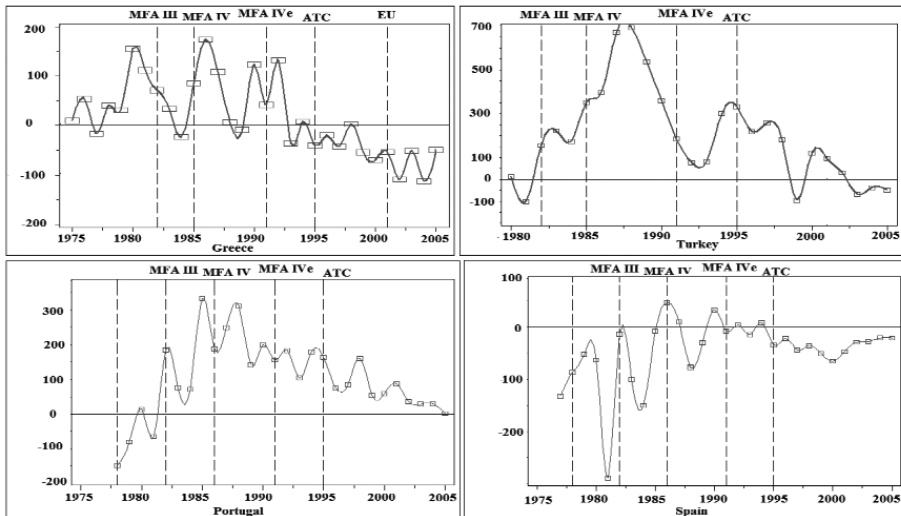
Annual transfers to producers and consumers of cotton-yarn (mil. 1987 \$ US)



Source: Dadakas, Katranidis (2010b).

**FIGURE 5**

Welfare Effects for Greece, Turkey, Portugal and Spain (1987 mil. \$ US)

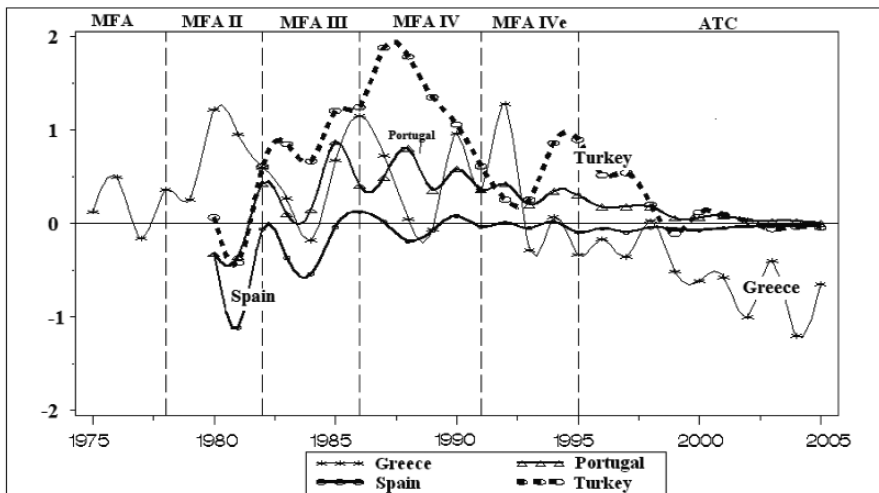


Source: Dadakas, Katranidis (2010a).

Comparative to Portugal, Spain and Turkey, Greek producers were most affected by the liberalization of trade. Welfare transfers kept decreasing after the year 2000 reaching low negative values. These results are also depicted in a per unit of production diagram (Figure 6). Transfers to Greek producers decreased more than transfers to producers in the other countries included in the study Dadakas, Katranidis (2010a). The main cause for the continuing downtrend of welfare transfers in Greece is that domestic producers were very dependent on the MFA quota regime as compared to their international counterparts. In the early 80's welfare transfers in Greece accounted for more than 20% of cotton-yarn producers' own revenues. The MFA regime kept domestic prices at substantially higher levels than the respective international ones. When the quotas were released Greek producers became less competitive than their international counterparts.

**FIGURE 6**

Welfare Effects for Greece, Turkey, Portugal and Spain per klg. (1987 mil. \$ US)

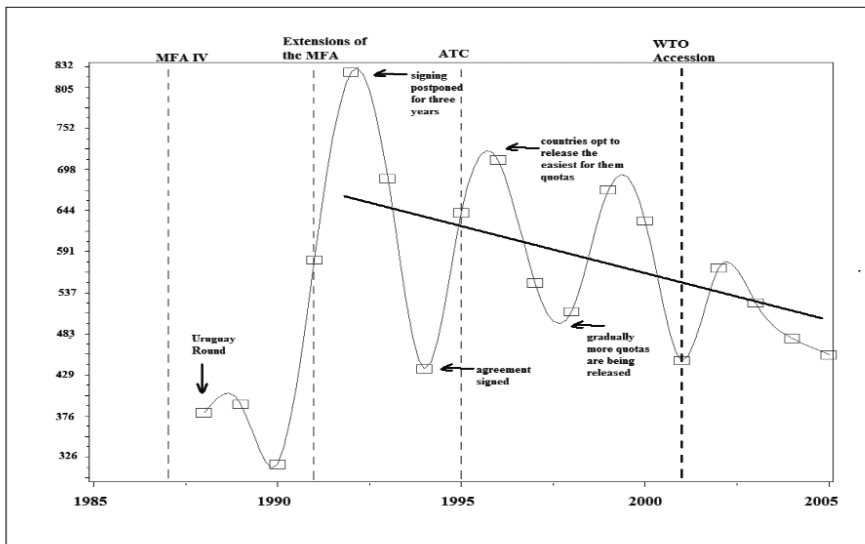


Source: Dadakas, Katranidis (2010a).

Greek producers lost a significant amount of welfare transfers. The question that is raised is where did those transfers go? Who were the producers that benefited? Figure 3 already indicated that the value of exports for Asian developing countries showed a structural break after the signing of the ATC. The existing literature also suggests that China and India will be (and already, are!) the major

beneficiaries of the liberalized markets (Spinanger, 2005). Moreover, Dadakas and Katranidis (2007) estimated, using a single-market model, the welfare effects of trade liberalization on cotton-yarn producers' welfare in China. Results showed that after 1990, right about the time the welfare transfers to Greek (as well as Portuguese, Spanish and Turkish) producers started decreasing, the welfare transfers for producers in China exhibited an upward spike (Figure 7). *After 1990, welfare transfers received by producers of cotton-yarn in some European countries, were competed away by Chinese producers. Similarly to the conclusions we reached earlier on our analysis, welfare was transferred to producers in countries with low labor-costs.*

**FIGURE 7**  
Welfare Effects for China (1987 mil. \$ US)



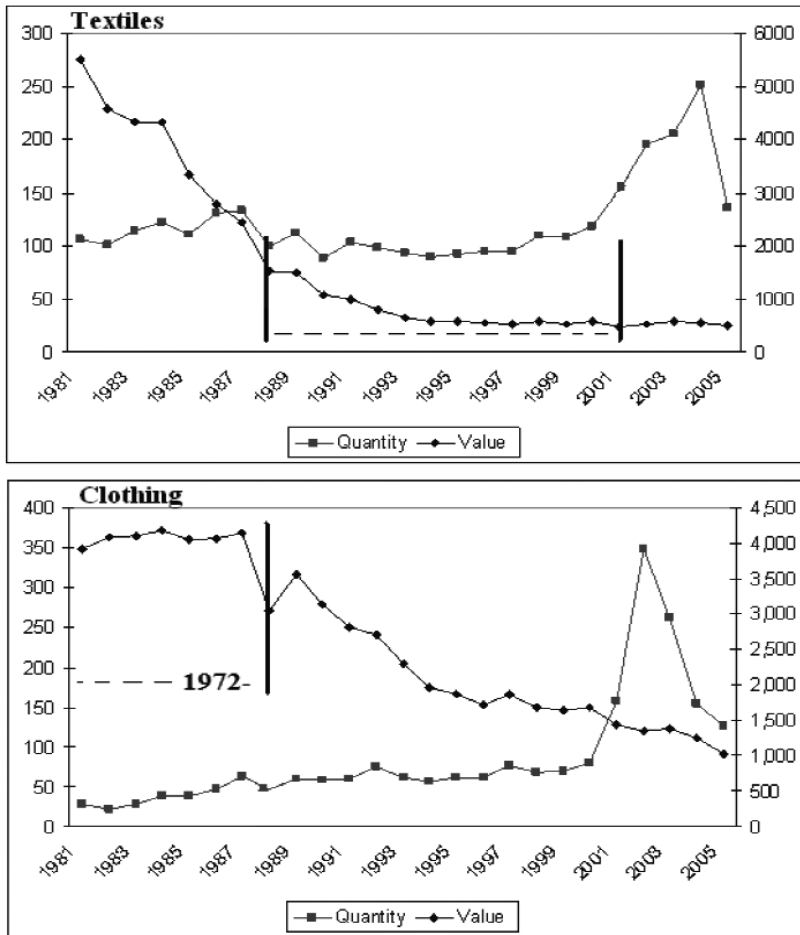
Source: Dadakas and Katranidis (2007).

Analogous observations can be made when we examine the value of exports for the “aggregate” T&C sectors. The pattern of exports and export values for T&C products exhibit similar trends as in the cotton-yarn sector (Figure 8). Textiles SITC code 65 shows large decreases in the value of exports as early as 1981, whereas, clothing exports show large decreases after 1985. Quantities exported remained constant for the most part but they also exhibited an increasing trend after 2001. Greece’s adoption of the Euro and China’s entry to the WTO were

accompanied by a further release of quotas and an increase in demand for T&C products which seemed to benefit producers in Greece in terms of export quantities. Any gains, however, from the large increases in export quantities over the last few years were offset by, respective, decreases in prices.

**FIGURE 8**

Exports and export values of textiles and clothing (1987 mil. \$ US)



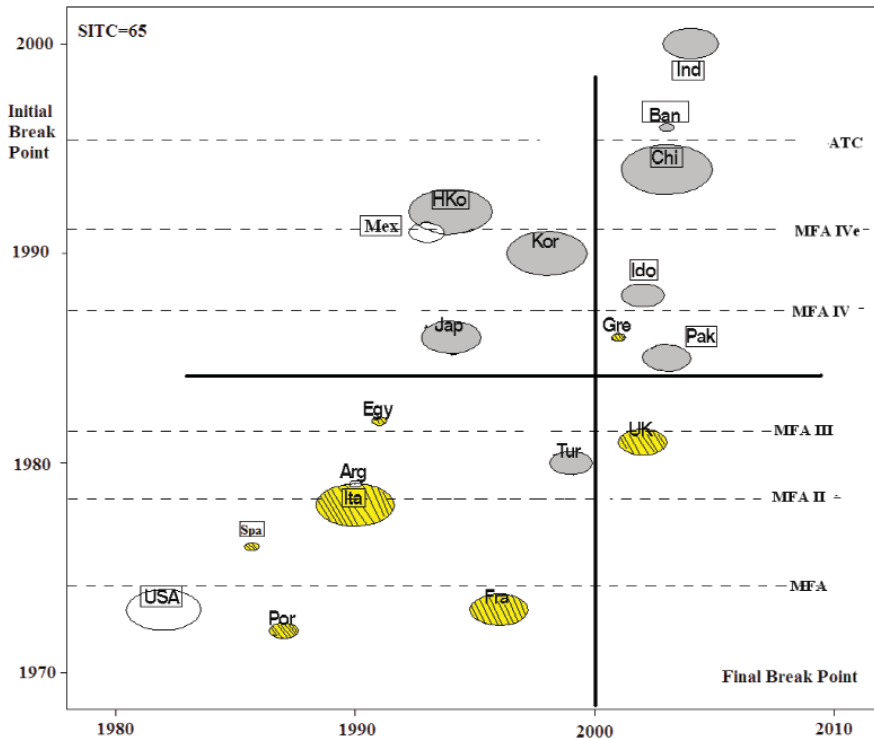
Source: Ministry of Agriculture, UN comtrade, Hellenic Statistical Authority - ElStat, Data available upon request.

The analysis for the existence of structural breaks in the textiles sector shows a cluster of Asian countries on the upper right hand corner of the diagram (Fi-



gure 9). European countries were positively affected by the MFA regime whereas Asian countries, that show a strong cluster on the upper right hand corner of the diagram, were positively affected by the release of quotas<sup>12</sup>. After the partial release of quotas the competitiveness shifted back to Asian, low labor-cost, countries. Greece's approved structural break ranged from 1987 to 2001, very late in the sample.

**FIGURE 9**  
Textiles break points – Bubble Graph (SITC – 65)



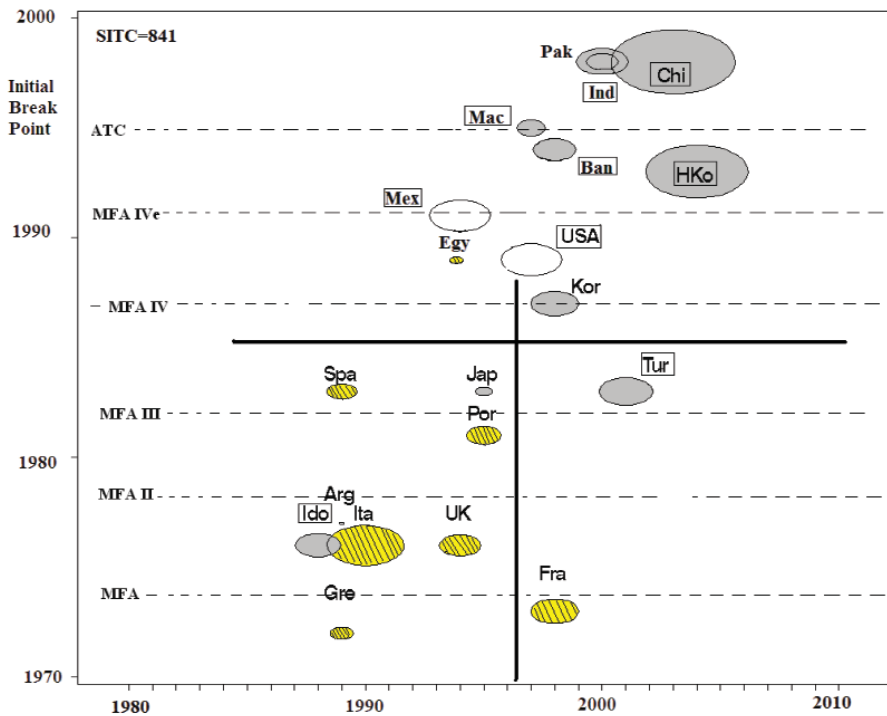
Source: Dadakas, Katranidis, Varelas (2009).

Similar conclusions can be reached for the clothing sector, where the value of exports declined while export quantities remained constant (Figure 10). The time series of export values approved a break point for Greece from 1972 to 1989. As in the textiles sector, Asian countries were positively affected by the release of quotas whereas European countries were positively affected by the signing of the MFA.

In summary, when we compare how domestic T&C producers and their international counterparts perceived the liberalization of trade we have to take two factors into account:

- a) gains (losses) perceived from the price differential between domestic and international cost of labor and
- b) gains (losses) perceived from the price differential between domestic and international prices of yarn, textile and clothing products.

**FIGURE 10**  
Clothing Break Points – Bubble Graph (SITC – 841)



Source: Dadakas, Katranidis, Varelas (2009).

Asian countries carried in the past, and still carry, the advantage of the low cost of labor. Asian producers pay considerably fewer amounts to labor than European producers, thus gaining a significant cost advantage. Regarding the prices of final products (yarn, textiles and clothing), on the other hand, the advantage was held, during the MFA regime, by European countries. The quotas imposed allowed European producers to compete holding domestic prices at higher levels than the international ones. *More importantly, in Greece and in Europe, when the*

*MFA regime was in effect the price differences between domestic and international prices (relative prices) were enough to offset any losses incurred from the higher (relative) domestic cost of labor. These gains were competed away after the gradual elimination of quotas. This, fictitious, difference in yarn prices sustained the domestic industries in the past. When quotas were eliminated the benefits passed on to those countries that had the lower labor-cost advantage. That is why on all three bubble graphs the structural breaks for countries of the Asian continent appear on the latter stages of the study period and also why China shows increasing welfare transfers after the early 1990's. Positive shocks to Asian countries appeared when the cotton-yarn price differential disappeared from the European continent.*

Since the early 80's, Greek producers had to learn how to deal with decreasing export values, decreasing levels of production, dropping prices for their products but, most importantly, significant losses in welfare. When we combine the ongoing decreasing trend in the aforementioned variables with the: a) the final release of the "new" quotas in 2008, after the new deal that the EU struck with China for a more gradual transition towards free trade (i.e., more price drops are expected), and b) the continuing shift of domestic production to neighboring countries, the outlook that is mapped only promises for more downsizing of the domestic industry. It is thus important, not only to understand why the welfare of domestic producers decreased, but also, to identify a strategy to lead the sector into the future.

Although the perspectives and the outlook for the domestic industry are discussed in the next section of this article, the results presented so far already allow us to present a glimmer of hope for the domestic industry. When we revisit the welfare results for China (Figure 7) we see that, in spite of the sudden increase in the estimated welfare transfers during the early 1990's, a long-term downward trend is also present (black trend line). The initial program for the liberalization of trade and the subsequent implementation of the program had a positive effect on producers' welfare levels in China. *However, some of the gains were eventually competed away. Producers in other cotton-yarn producing countries gradually dealt with the increased competition by improving their technological abilities, the quality of their products by taking advantage of economies of scale ect.* Improvements in technology and gradually learning how to deal with the competition in the international markets competed away, some of China's gains from trade liberalization to producers in other countries (not Greece's, however, where welfare transfers kept decreasing onto the year 2005, see Figure 5).

The increased competition, the inflow of lower-priced products, the loss in market share and the losses of income, brought on by the gradual release of quotas, are only some of the factors that will keep affecting domestic production. With the Greek T&C industry being one of the 5 largest in the EU (together with Italy, the UK, France, Germany and Spain)<sup>13</sup> the aftermath of trade libe-

ralization may be devastating for the T&C sector if a new strategy line is not adopted. The 2005-2008 quotas were phased-out and we can now use our experience from past research to infer on the likely effects of the termination of the program for the liberalization of trade in the domestic industry.

#### **4. Recent Developments, Outlook and Policy Implementation**

Our results for Greece suggest that after 1995 and the gradual release of quotas producers did not use the time effectively to adjust to the new free trade regime. Therefore, when the final MFA quotas were released in 1/1/2005, producers were unable to match the international competition. Producers in other T&C producing/exporting countries encountered similar problems and were unprepared as well. In reality, these problems were created because countries opted, during the adjustment period offered by the ATC, to first release quotas that would leave domestic producers unaffected (ICAP, 2004). The ATC required the gradual release of quotas but it did not provide any directives as to which quotas (which product categories) would be released first and which next. Most countries ended up releasing quota restrictions on product categories that would not affect domestic producers as much (also see footnote 2). As a result, when in January 1, 2005, the remaining quotas were released producers found themselves unprepared for the sudden increase of imports that flooded the domestic markets.

In early 2005, large quantities of T&C products concentrated on the borders of the EU with a pending decision on whether they would be allowed to pass the borders. After building pressures by textiles producers who lobbied to the EU to take action against China (Vandenbussche, 2006), the EU was prompted to, once more, impose new quotas on Chinese imports. According to the "Textile Specific Safeguard Clause", included in China's 2001 WTO accession agreement, the EU, as well as other WTO member countries, had the right to unilaterally impose temporary safeguard quotas on Chinese textile and garment exports until 2008. After a first set of deliberations, the EU reached an agreement with China on June 10 that allowed the gradual increase of Chinese imports of textile products until the end of 2008, for ten categories of T&C products. The agreement restrained annual Chinese export increases from 8 to 12.5% (Textiles Intelligence, 2005). Despite the agreement, the Chinese government did not manage to implement a system of export quotas. More products ended up piling up at the EU borders during the period of June 11 to July 20. On September 5, an arrangement was reached which allowed these products to enter the EU with halve of the new entries added to the 2006 year quotas<sup>14</sup>.

The final release of the temporary quotas in 2008 is, however, not the only threat to the domestic industry. When in 2007 Bulgaria and Romania entered

the EU, imports from these countries were given a free pass to Greece. Greek companies that transferred operations to Bulgaria had already caused a first round of sizeable reductions in production and employment in the past. These companies were, as of 2007, free to export these products back to Greece. During the last months of 2006, retailers in northern Greece were sampling products from Bulgarian companies at much lower prices than those offered by the domestic industry. These products would be immediately available upon the advent 2007. Fears for another sizeable blow to domestic production materialized during the first 6 months of 2007 when imports of T&C products from Bulgaria increased by 1163.87% (as compared to the first 6 months of 2006). Imports of Textile products (SITC 65 and 26) increased by 244.72% and imports of Clothing products (-SITC 84-) increased by 1467.03% (EIStat data) (note however that the total increase of all T&C imports to Greece was only 9.24%).

Other factors that hurt the competitiveness of Greek producers include the 2001 evaluation of the EU currency, which lessened the attractiveness of EU products in the international markets, and regulation N2601/98 which was initially intended, through subsidization, to encourage investments in foreign countries. The regulation ended up providing incentive to domestic producers of T&C products to shut down production and move operations to other countries. After 2004, the Greek government amended the regulation with N3219/2004, which allowed for the subsidization of Greek companies in foreign countries only if they would not interrupt production or cutback operations in Greece (also see footnote 3).

The final release of quotas raises the question of how the Greek industry can, once again, successfully compete in the international markets. Technology and innovations seem to be the leading factors setting the stage for the future. Technological advances can aid the industry in becoming more competitive by reducing costs and providing high-quality products. Production units such as textile mills, taking advantage of economies of scale, located close by to the production of cotton and possessing a strong capital background can compete with the labor-intensive, high capital-cost units from developing countries (Akkas, 2005). Focus on quality products can also assist Greek producers corner a part of the market that the cheap, low-quality, imports from developing countries cannot (High Level Group recommendations).

Past research results confirm the importance of technology in the production process (Dadakas, Katranidis, Bullock, 2009; Dadakas, 2008). Although the release of quotas significantly reduced the welfare of producers of cotton-yarn in Greece, simulation analysis suggested that producers' welfare can substantially increase with the appropriate investments in new technologies. Losses in producers' welfare due to the cotton-yarn price decreases and due to labor cost increases can

be offset with investments in new technologies. In other words, welfare changes seemed to be more sensitive to technology improvements than to decreases in cotton-yarn price and increases in labor cost. Welfare losses to producers of cotton-yarn, due to annual decreases in domestic prices (the worst case scenario held 10% annual decreases in domestic cotton-yarn prices and 3% annual increases in the domestic cost of labor), can be offset, within a period of ten years, with 2% annual improvements in technology (Dadakas, 2008). These results suggest that the negative effects to the welfare of producers, due to the expected price decreases, can be offset with the respective investments in technology.

The Greek government cannot assist domestic producers anymore by imposing quotas, tariffs, by subsidizing exports or by using any type of direct market intervention. Moreover, the government cannot prevent producers from transferring operations to nearby countries where the wages and the tax regime are more lucrative. However, the government can:

a) assist the domestic industry by funding research to provide access to new improved technologies, marketing and business strategies,

b) direct and encourage healthy businesses, that currently have access to financing, to commit to the necessary investments for machinery upgrading and process automation,

c) resolve bureaucratic barriers that cause an inefficient use of available funds (and EU available funds). These barriers may be detrimental to businesses adoption of new strategic plans.

d) assist in worker's training, which could substantially improve the productivity in the industry. Although parts of the textile industry are nowadays completely automated the clothing sector remains, in the most part, a labor intensive process (Nordas, 2004). Worker training on new technologies, management training and logistics may increase productivity. Increasing production efficiency seems to be a strong cost-cutting tool which additionally is expected to deter producers from moving their operations to neighboring countries (productivity in those countries is already very low and worker mobility very high. Enhancing productivity in the domestic markets may prove to be a strong incentive for Greek producers).

e) attempt to effectively monitor all imports and exports of T&C products as well as fiber content so that companies can comprehensively address all aspects of product demand for research and marketing purposes.

f) provide the necessary infrastructure to improve efficiency in the production process and to reduce transportation and management costs.

On the producers' side, synergies and vertical integration can substantially improve the outlook for the domestic industry by reducing costs and capturing economies of scale. Technology has already significantly assisted producers in reducing overhead costs and warehousing costs in most T&C producing coun-

tries. Bar codes and Electronic Data Interchange (EDI) systems can manage the “round the year” cost efficient and timely replenishment of inventories as well as the timely satisfaction of consumers’ needs (McDonald *et al.*, 2005). Industry stakeholders must take full advantage of opportunities to further modernize and improve competitiveness and concentrate on value-added and innovative products (EC, 2006). Unfortunately, producers do not have the luxury to rest in temporary stories of success as the cutthroat industry relies heavily in new technologies and newly developed product lines. Reaching out for skillful management in order to penetrate new markets, to explore new products, to develop or market new fibers adds new costs that are imperative for a business in order to deal with the fierce competition.

Some of the concepts above are not new to the T&C industry. Early effects of trade liberalization prompted the formation of the “High Level Group” (HLG) for Textiles and Clothing (2004). The HLG’s obligations were to *formulate recommendations on concrete proposals and measures to improve the conditions for the competitiveness of the European T&C sectors* (EC, 2006c). The recommendations are designed to guide the T&C industry up to the year 2020. The group’s recommendations directed the sector towards research and innovation as they constitute the keystone to continuing success. Amongst others, the group suggested that the EU needs to encourage a skilled workforce and a set of higher education in textile manufacturing design. The main message of the Group was that the T&C sector can increase competitiveness by concentrating on quality and design, innovations and technology, high value added products and services and flexibility, rapidity and proximity to the markets (European Commission, 2006b). These recommendations are in accord to the main conclusions in Dadakas and Katranidis (2010a; 2010b) stressing the need for investments in new technologies in the T&C sectors. When we combine the Group’s directives with the conclusion that welfare changes are more sensitive to technology improvements than to decreases in cotton-yarn price and increases in labor cost we can argue that the Group’s directives are in the right track. Given the correct actions taken by the government and by producers the Greek T&C industry can, with the appropriate investments in new technologies, compete in the new free markets with the low-cost, low-technology companies from developing and Asian countries (Akkas, 2005).

## 5. Conclusions

The Greek industry has gone through major changes over the last few decades. The release of quotas, the cotton-yarn price decreases, the decreases in production and export levels, the loss of employment, the transfer of production practices to nearby Bulgaria are only some of the factors that will keep affecting



producers not only in Greece but, also, in other T&C producing developed countries.

Research results show that, after the release of quotas, welfare was transferred to the countries with low labor costs. The fictitious, regime-induced, difference in the prices of cotton-yarn could not sustain the domestic industries anymore. Developed countries lost the protection of their markets while developing countries and low labor-cost countries, with an abundance of low priced inputs, gained access to the international markets. Past research has shown that the losses incurred by producers can be offset by respective advances in technology. Producers that managed to improve their technological abilities in the past survived and even flourished in the new environment.

Policy recommendations to bring the domestic T&C sector back in track concentrate on worker training, technology adoption as well as other keypoints that can significantly improve the productivity of the domestic industry. The domestic industry should capitalize any opportunities given to modernize production so as to produce, efficiently, quality products. The new role of the government is to assist producers in following these directives so that they can successfully compete with the low-cost, low-quality products from developing countries.

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## **Notes**

1. Cotton comprises 33% of fiber content of global trade of textiles and clothing (2001-2002, WTO). The importance of the cotton-yarn sector in the world markets is further stressed by the fact that cotton consists of 39% of world textile fiber consumption (ICAC, 2003b).

2. Countries opted to reduce restrictions on those product categories (SITC) that were not produced intensively by domestic producers. As a result quotas were reduced, as suggested by the ATC, but producers were not affected.

3. These laws were intended to encourage investments but ended up resulting in a transfer of a large part of production to nearby countries. This problem was later on dealt with by changing law N2601/98 with N3219/2004 which stated that (free translation) “any companies investing funds in foreign countries that are being subsidized, are not allowed to interrupt operations or reduce in any manner their operations domestically” (Ministry of Economy and Finance).

4. The markets for cotton and cotton-lint are disjoint from the cotton yarn market, see Dadakas and Katranidis (2010b).

5. Greece is a small exporting country and cannot affect world price of cotton-yarn products. Differences in the domestic and international prices were sustained by the MFA and ATC intervention regimes.

6. The “international” cost of labor is an average of the price paid to labor in the 8 highest-volume exporting countries.

7. The price decreases (effect A) were felt by producers in all countries thus not having an effect on the average producer. We have to keep in mind however, that prices were already very low in some countries. While producers in those countries lost from the (international) price decreases that affected all producers, at the same time they observed competitive gains as compared to high priced countries.

8. The square indicators around the name of the country show countries whose export values benefited for at least a short period after the signing of the 1995 ATC agreement. These are irrelevant for the current analysis.

9. Country specific exceptions to this rule apply where technology advances may offset losses from price decreases.

10. Some differences in the single- and the multi- market method are present as the two models estimate different areas behind the supply curves. Although the two methods welfare change estimates are theoretically equal (Just, Hueth and Schmitz, 1982; 2004), in econometric applications differences exist due to data quality and the, necessary, assumed functional form of the supply curves (Dadakas and Katranidis, 2010b).

11. Transfers indicated with negative values represent years when producers would be better off in a free trade regime rather than the intervention quota regime. More specifically, during those years, gains from price differentials between domestic and international prices of yarn were not enough to offset the losses from the difference between domestic and international cost of labor. In short, they can be interpreted as years when Greek producers were less competitive than their international counterparts.

12. As in the cotton-yarn case, countries that benefited after 1995 (square indicators) appear on the upper right hand corner.

13. Amongst the European countries Greece, Portugal, Spain and France specialize, mainly, in clothing products whereas the UK, Germany, Belgium and Holland in textile products (SBBE, 2005).

14. Another agreement, that of the US with China, came to assist producers from sudden increases of imports from China. The agreement signed on November, 2005, established 22 safeguard quotas until the end of 2008. It required the USA to exercise restraint until the end of 2008 in the application of any new safeguard quotas on products outside the scope of the agreement (Textiles Intelligence, 2005). Chinese exports of T&C products are still under restrictions from the US, the EU, Turkey, South Africa and Brazil (Hongwei, 2007).

## References

- Akkas, C. (2006), Η Κλωστοϋφαντουργία Έχει Ακόμη Ελπίδες Ανάπτυξης, *Ναυτεμπορική*, 29/8/2005.
- Dadakas D., (2008), “Welfare Effects in Vertically Related Markets. A Multi-Market Analysis of the Effects of Trade Liberalization in Textiles and Clothing (T&C) on the Welfare of Greek Producers of Cotton-Yarn”, Dissertation, University of Macedonia Economics Department.
- Dadakas, D., Katranidis, D.S., (2007), “Welfare Effects of Trade Liberalization for Cotton-Yarn Producers: The Case of China”, Mimeo Prepared for Conference Presentation.
- Dadakas D., Katranidis S.D., (2008), “Single versus Multi-Market Approach: An Application to the Greek Cotton Market”, *Atlantic Economic Journal*, , 36 (4), 469-481.
- Dadakas D., Katranidis S.D., (2010a), “Trade Liberalization in T&C: An Overview of the Welfare Effects”, *International Journal of Trade and Global Markets*, v.3, n.3, pp. 247- 266.
- Dadakas D., Katranidis S.D., (2010b), “The Effects of Trade Liberalization in Textiles and Clothing on the Greek Market for Cotton Yarn: A Multi-Market Analysis”, *Review of International Economics*, 18(1), pp. 138-152.
- Dadakas D., Katranidis S.D, Bullock S.D., (2009), On the Effects of Technology Improvements in Multi-Market Models: Theory and Evidence, Discussion Paper Series 2009-04, Department of Economics, University of Macedonia.
- Dadakas D., Katranidis S.D., Varelas E., (2009), “Evaluation of the Cotton-Yarn Exports: An Analysis for Endogenous Structural Breaks”, *International Journal of Business Policy and Economics, Applied Economics and Policy Analysis*, 2(2), 185-203.
- European Commission (2006a), “EU Industrial Policy in Textiles and Clothing”, Screening exercise with Croatia and Turkey, Chapter 20 - SME and Industrial Policy, March 27-29.
- European Commission (2006b), Regional aid to the textile, clothing and leather sector in Greece – Invitation to submit comments pursuant to Article 88(2) of the EC Treaty (Text with EEA relevance), *Official Journal C 297*, 07/12/2006 P. 0038 – 0042.
- European Commission (2006c), High Level Group on Textiles and Clothing, [http://ec.europa.eu/enterprise/textile/high\\_level\\_group.htm](http://ec.europa.eu/enterprise/textile/high_level_group.htm)
- European Commission (2006d), European Textiles and Clothing in a Quota Free Environment, High Level Group Follow-up Report and Recommendations, [http://ec.europa.eu/enterprise/textile/high\\_level\\_group.htm](http://ec.europa.eu/enterprise/textile/high_level_group.htm)
- EU Monitor (2005), “Textile and Clothing Industry in Eastern Europe: Pressure Following Expiry of the Quota System”, *Deutsche Bank Research*, July 13.
- Francois, J.F., Glismann, H.H. and Spinanger, D. (2000), “The Cost of EU Trade Protection in Textiles and Clothing”, Working Paper no. 997, Kiel Institute of World Economics, August.
- GATT, (1981a), “Protocol Extending the Arrangement Regarding International Trade in Textiles”, L/5276, <http://gatt.stanford.edu/page/home>
- GATT, (1981b), “Report of the Consultative Group of Eighteen to the Council of Representatives”, L/5210, <http://gatt.stanford.edu/page/home>
- GATT, (1984), “Textiles and Clothing in the World Economy”, L/5603/ADD.12, <http://gatt.stanford.edu/page/home>
- GATT, (1986), “Extension of Multifibre Arrangement Agreed”, GATT/1390, <http://gatt.stanford.edu/page/home>

- GATT, (1993), "Multifibre Arrangement Extended for One Year", GATT/1601, <http://gatt.stanford.edu/page/home>
- Greek Fashion News Online, (2007), Μέτρα Ενίσχυσης του Κλάδου Ένδυσης-Κλωστοϋφαντουργίας, 7/5/2003.
- Hongwei, M. (2007), "Coping with Restrictive Policies and Maintaining Competitiveness: China", 9-10 April, Department of Foreign Trade, Ministry of Commerce.
- ICAC, (2003a), "World Textile Demand of the International Cotton Advisory Committee", Washington, DC, <http://www.icac.org>
- ICAC, (2003b), "World Cotton Statistics", September 2003.
- ICAP, (2004), «Υφαντουργία», Κλαδική Μελέτη ICAP, Αθήνα, Δεκέμβριος.
- ITKIB, AMTAC, NCTO, (2004), Summit on Fair Trade in Textiles and Clothing, Brussels, Belgium, June 15-17, 2004.
- Junyuan, C.T. (2005), "The Liberalization of Trade in Textiles and Clothing: China's impact on the ASEAN economies", Thesis, Stanford University, CA, USA.
- Just R.E., Hueth D.L. and Schmitz, A. (2004), *The Welfare Economics of Public Policy: A Practical Approach to Project and Policy Evaluation*, Edward Elgar Publishing Inc., Cheltenham, UK.
- Just R.E., Hueth D.L. and Schmitz, A. (1982), *Applied Welfare Economics and Public Policy*, Prentice-Hall, New York.
- Lumsdaine, R.L., Papell, D.H. (1997), "Multiple Trend Breaks and the Unit – Root Hypothesis", *The Review of Economics and Statistics*, 79, 2, pp. 212-218.
- MacDonald, S., Vollrath, T. (2005), "The Forces Shaping World Cotton Consumption After the Multifiber Arrangement", *Electronic Outlook Report from the Economic Research Service*, [www.ers.usda.gov](http://www.ers.usda.gov)
- McClenahan, W. (1991), "The Growth of Voluntary Export Restraints and American Foreign Economic Policy", *Business and Economic History*, vol. 20, pp. 180-190.
- MFA, (1974), "Arrangement Regarding International Trade in Textiles, General Agreement on Tariffs and Trade, Geneva 1974", <http://docsonline.wto.org>
- Navaretti, G.B., Riccardo, F. and Aubrey, S. (eds: 1995), "Beyond the Multifibre Arrangement? Third World Competition and Restructuring Europe's Textile Industry", *OECD*, Paris.
- Nordas, Hildergunn Kyvik (2004), "The Global Textile and Clothing Industry post the Agreement on Textiles and Clothing", *WTO Discussion Paper #5*.
- SBBE, (2005), *Ανάλυση της Αγοράς Εργασίας και της Διάθροωσης της Απασχόλησης στον Κλάδο «Κλωστοϋφαντουργία-Ένδυση» στην Περιφέρεια Κεντρικής Μακεδονίας*, Δεκέμβριος, ΣΒΒΕ.
- Spinanger, D. (1999), "Textiles Beyond the MFA Phase-Out", *The World Economy*, 22 (4): 455-476.
- Spinanger, D. (2005), "The End of Enchainment: Will the Removal of Textile and Clothing Quotas Bring Us Enchantment?", A Paper for a Seminar on "The WTO and the Doha Development Agenda, A PREM/WBI Training Course", The World Bank, Washington, D.C., April 25-26.
- Textiles Intelligence (2005), *Textile Outlook International, Business and Market Analysis for the Global Textile and Apparel Industries*, September- October, No. 119.
- Textiles Intelligence (2003), *Profile of the Textiles and Clothing Industry in Portugal*, 11/1/2003.
- Vandenbussche H. (2006), "Is the EU-China Trade Agreement on Textiles a good thing?", Université Catholique de Louvain and CORE, Chair Jacquemin, April.