

The Impact of Institutions on Structural Change in Manufacturing:

The Case of International Trade Regime in Textiles and Clothing



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The Impact of Institutions on Structural Change In Manufacturing: The Case of International Trade Regime in Textiles and Clothing

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Abstract

Contrary to most other industries, globalization of production and trade in the textile and clothing (T&C) sectors has been shaped by the protectionist international trade regime for more than four decades. In the beginning of 2000s, various studies predicted that the ending of the quota-based trading system in 2005 would result in dramatic structural changes in these industries. Some developing countries would suffer significant losses in exports, jobs and economic welfare, because of a substantial rise in exports from large producing countries, capable to produce and deliver greater quantities of demanded products with higher efficiency and with shorter lead times. Four years after the ending of the quota-based trade regime, this paper compares the *ex-ante* simulation estimates with the real trade data flows. The *ex-post* analysis shows that the *ex-ante* estimations are not fully borne out. The effects on some of the least-developed countries (LDCs) do not seem to be as severe as *a priori* estimated. The continuing use of restrictive trade policy instruments and the expansion of complex matrices of preferential market access schemes, all with different rules of origin, suggest that freer trade in T&C is still remote. The legacy of the protectionist international trade regime and various preferential market access schemes from the WTO members will continue to shape the specialization patterns of some developing and LDCs for some time to come. But, under the setting of more progressive trade liberalization and a shift toward market-forces driven division of labour, those developing countries and LDCs with high export dependency on T&C and specialization in low value added items, may face serious structural disturbance if not prepared for the challenge in time. The paper aims to contribute to the ongoing discussion in the literature on how institutions such as international trade regime can affect structural changes in industry, how these processes have to be properly monitored, and how existing international statistical databases need to be revisited to properly serve the economic analysis and public policy. The paper also outlines main policy recommendations for, small and landlocked LDCs to lower their transaction costs and stimulate diversification of their economic base.

1. Introduction

Contrary to many other manufacturing industries, global division of labour in textile and clothing (T&C) industries has been shaped by a protectionist international trade regime for more than four decades. Since the early 1960s, the developed countries were seeking ways to introduce discriminatory quantitative restrictions on T&C imports. These efforts led to the institutionalisation of the quantitative restrictions in T&C international trade under the Multi-Fibre Arrangement (MFA) in 1974 and the Agreement on Textiles and Clothing (ATC) in 1995. The ATC was launched to phase out the MFA over a 10-year period ending in 2005 and to develop a fairer trade regime in T&C to be integrated in the World Trade Organization (WTO) rules. The ATC was structured so that developing countries were not given full market access until the end of the 10-year period, whereas developed countries were allowed to preserve some of their privileges and could carry out selective liberalization without violating the agreement. The MFA from 1974 and the ATC from 1995 influenced T&C trade patterns at the multilateral level, while preferential market access and Rules of Origin (RoO) of bilateral and regional trade agreements regulated trade flows at the bilateral and regional levels. Four years after the expiration of the quota-based trade regime and ATC ending, the WTO policy space still allows for using other protectionist instruments such as antidumping, and temporary and selective safeguards against any surge of T&C imports that may cause market disruption until 2013. The continuous use of these restrictive trade policies means that freer trade in T&C is still remote.

In the beginning of 2000s, various studies predicted that the T&C trade liberalization, starting with the expiring of the quota system under the MFA and the ending of the WTO ATC in 2005, would result in a dramatic restructuring of these industries. According to these studies, some producing countries, particularly developing countries with preferential status under the ATC, would suffer major losses in exports, jobs and economic welfare due to a massive rise in exports from large low-cost countries with capabilities to produce and deliver large quantities at higher efficiency and with shorter lead times. The paper confronts the *ex-ante* simulations of the T&C trade liberalization effects with the *ex-post* analyses of the real trade data flows by major trading countries and regions. The real trade data show instead that the *ex-ante* forecasts are not fully borne out. The effects on some of the least-developed countries (LDCs) do not seem to be as severe as estimated.

The aim of this paper is to contribute to better understanding of how institutions such as international rules on trade can affect the dynamics of division of labour and structural changes in industry and how these processes need to be better monitored with the official statistics by looking at the case of T&C industries. Following this Introduction, Section Two, starts with outlining the main characteristics of T&C industries, their history of globalisation in production

and trade, and the major drivers behind the most recent wave of their globalisation in production and trade. Section Three takes a more in-depth look at the nature of the T&C international trade regime. Section Four discusses the impact of this regime on international division of labour in T&C. Section Five discusses how trade liberalization in T&C is still remote, as protectionist pressures to use other policy measures against T&C imports are persistent and strong. Section Six gives an overview of various *ex ante* estimations of the potential impact of post-quota situation on trade and production by major countries and their groupings. Section Seven contrasts the *ex post* analyses of the T&C trade after the expiry of the ATC with *ex ante* estimations. Section Eight concludes by outlining the main findings and provide some policy recommendations for diversification in T&C industries for developing countries and LDCs.

2. Globalization of production and trade in T&C industries

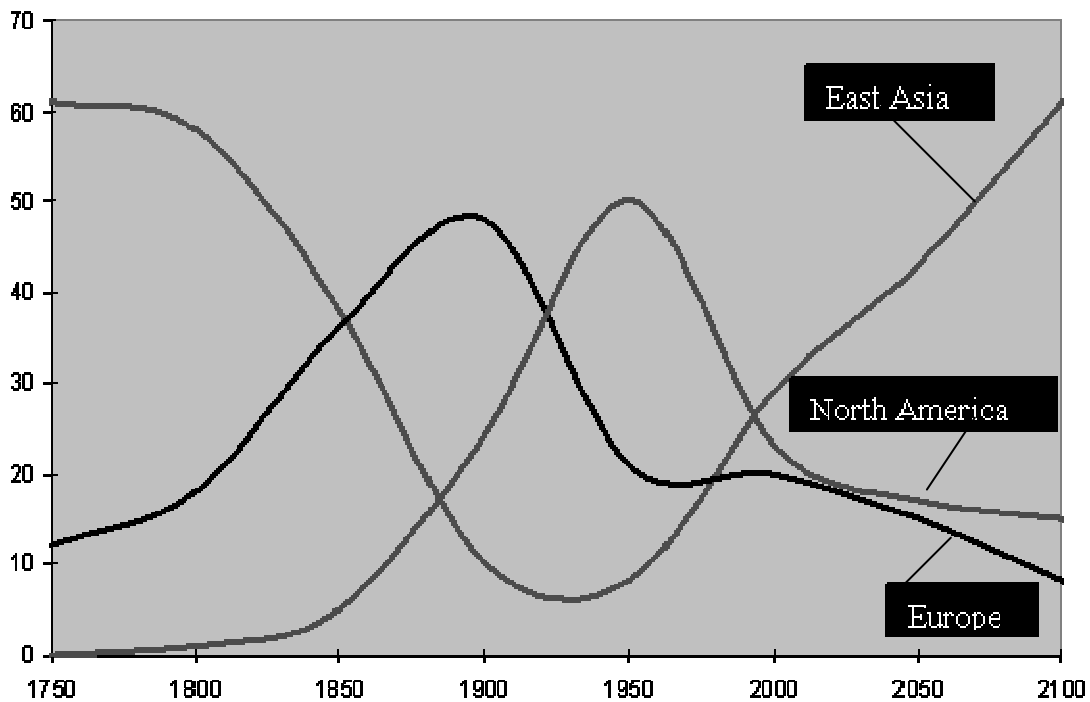
Textiles and clothing industries were of major economic importance to many countries for their industrialization and economic development, where they have made up for a fairly high share of foreign exchange earnings, value added and jobs in manufacturing, in the early stages of their industrialization. The examples are industrialized countries such as Great Britain and Japan, latecomers such as Hong Kong SAR, the Republic of Korea and Taiwan Province of China, and the late-latecomers such as Bangladesh, Laos, Cambodia and Viet Nam (Yang and Zhong, 1998; Adhikari and Yamamoto, 2007). Clothing industries have high potential to contribute to poverty alleviation in developing and least developed countries (LDCs), because they can provide low-skilled jobs for small and medium sized enterprises (SMEs) and marginalized groups such as women and migrants from the rural areas (ILO, 2005), and they have potential for innovation in design, pattern making and cutting (OECD, 2004: 19). Textiles industries have high potential for application of new technologies such as bio-and nano-technologies and for uptake of innovations from other industries such as chemicals, petrochemicals and machinery, which can contribute to raise competitiveness and diversification in this sub-sector. Textile products can also be used as input materials in other industries such as clothing and automotive, and for innovative technical applications in medicine, engineering, transport and household. Textiles and clothing are therefore still considered of strategic importance for economic diversification in developed and developing countries.¹

In the clothing value chain, essential requirements for capital investments and labour skills in production (assembly) are not so high relative to textiles and other manufacturing industries, but the consequences are lower entry barriers and higher competitive and protectionist pressures (Gereffi and Memedovic, 2003). In the textiles value chain, in contrast, requirements for capital,

specific machinery and knowledge investments are higher and so are barriers to entry. Consequently, the more complex, capital and skill-intensive tasks of textile value chains have remained in developed countries while those with low cost- and low skill-intensity have moved to developing countries and transition economies.

Textiles and clothing have a long history of migration in production (Gereffi and Memedovic, 2003). East Asia (including China and India) was the major global producer of textiles in the 17th and until mid 18th century. This is followed by the Great Britain from the mid to late 18th century, and North America from the beginning to the mid 19th century. Since the late 1990s, East Asia is resuming its historic role as the world's leading textile manufacturers, and according to some estimates this will intensify in the decades to come (Figure 1).

Figure 1 Textiles production moves back to Asia (proportion of global industrial output in %)



Source: Provided by Mattia Heikki, based on TLA – The Research Institute of Finnish Economy: www.etla.fi.

Shifting the attention from production to trade, in the early 19th century, international trade in textile products was growing faster than that of clothing. But since the 1950s, international trade in clothing started growing fast. It reached the same growth rate as that of textile's products in

1 Laperre, Jan, 2009, The European Technology Platform for the Future of textiles and Clothing, EuroNanoForum, Prague, June 2009.

the early 1980s, and grew faster than that of textile products in the 1990s and 2000s (Annex: Table A8; OECD, 2004: 35).

The major players in T&C trade are the European Union, the United States of America and the Asian countries, mainly China and the latecomers and late-latecomers from Asia. But different patterns can be observed for the different regional groups in terms of imports and exports. The European Union has been historically the leading clothing exporter in terms of values and shares, contributing constantly to almost one third of the total world clothing exports, with an annual growth rate of around 9 percent, which was higher than the world average in the period 2000-2008. However, since 2006, China has become the major clothing exporter of the world in terms of value and share, with an annual growth rate of 17 percent in the period 2005-2008. Eleven Asian countries presented in Table A9 in the Annex, made up for 56 per cent of clothing exports to the world in 2008 and had annual growth rate of around 13 per cent in the period 2005-2008.

The European Union remained the leading world importer of clothing. It made up for 47 per cent of the world total imports in 2008 and had an annual growth rate of around 11 per cent, comparing to the world average of 9 per cent. The European Union was followed by the United States of America with a 22 per cent share of the world total, but with decreasing import growth rates; Japan ranked third in terms of its import volumes and shares and had an annual growth rate of imports around 5 per cent. Republic of Korea and China showed the highest import growth rates, respectively 13 and 12 per cent over the period 2005-08. Major Asian importers of clothing made up for around 16 per cent of world imports in this sector in 2008 (see table A10).

In textile exports, the leading exporters in volume and share terms were the European Union and China, with respective shares of 32 and 26 per cent in 2008. Eleven Asian countries, presented in Table A11 in the Annex, made up for 55 per cent of world textile exports in 2008. China, India and Viet Nam had the highest growth rates of textile's exports over the period 2005-2008. Leading textile importers were the European Union, followed by the United States of America, China and Hong Kong SAR (table A12). The highest annual growth rates of textile's imports were in Indonesia, followed by Viet Nam, Thailand and Japan in the period 2005-2008.

In general, import growth rates of T&C to Asian countries have been rising since 2000, while that of the United States of America were decreasing. In the last decade, both T&C exports from Asia have been raising faster than those from the European Union, the United States of America and the world average, suggesting the leading role of the Asian region in world T&C trade.

Several driving factors of the most recent wave of globalisation in T&C industries are discussed in the literature:

- Rapid technological advances in information and communication technologies (ICTs) and their applications in design, manufacturing and sales (such as computer-aided design, manufacture and engineering -CAD/CAM/CAE), virtual prototyping packages, bar coding and point-of-scale scanning. These ICT tools have allowed for better and faster design, manufacturing and response to new demand needs.
- Changes in final consumer demand for several collections in a season (fast fashion), for fibres and clothes with new technological characteristics and product differentiation have required more flexibility in production, shortening of product-life cycles, production runs and lead times. These changes have in turn called for more investment in manufacturing capacity, in Research and Development (R&D), design, marketing and delivery.
- International regulations to liberalize trade and investment at the bilateral, regional and multilateral level and wage differentials between countries have stimulated the process of offshoring and outsourcing, and the engagements in the roundabout methods of production.
- Applications of ICT in trade facilitation, supply-chain management and logistics, combined with the radical innovations in containerisation and internationally accepted standards for product descriptions and business process protocols have all contributed to the lowering of trade and transaction costs and for just-in-time delivery of goods and services.

The combined effects of these technological advances and organizational and institutional innovations have made possible the functional and spatial fragmentation of some value chain tasks into distinct units, or tasks, in many discrete industries such as electronics, automotive, textile, clothing and footwear. These tasks can now be easily outsourced and offshored to capable producers worldwide and functionally reintegrated in the real time and space, thus forming supra-national regional and global value chains (GVCs) and production networks (GPNs). Their manifestation is faster trade in intermediate goods than in final goods.

These 'roundabout' methods of production become economical when their benefits can be diffused over the large final goods they are supplying (Young, 1928). The scale of their operation is thus determined by the size of the market for the final products they are supplying. For an economy, the economic gains from these methods of production depend on a trade-off between the gains from specialization and the economies of complementarity and transaction costs. The expansion of intermediate goods and services and their suppliers are crucial for the

progressive division of labour and thus for economic growth. Low levels of diversification in intermediate goods can lead to a low rate of return on investment and to an underdevelopment trap in which foreign and domestic investments may not materialize (Rodríguez-Clare A. 1996). Engagement in the roundabout methods of production internationally, brings about increasing returns from specialization, lower transaction cost, innovation, learning and technological development. Engaging in co evolutionary process of outsourcing, offshoring and capability development generates new demands and requirements in terms of operational scale, management, skills and finance. Empirical work has also shown that developing countries taking part in these production networks are keener to invest in modernising their physical infrastructure (roads and ports), rules and regulations, custom procedures, and in general to have better connection with global economy (Arvis et al. 2007).

A group of leading transnational corporations (TNCs), from developed and from developing countries, has played a major role in organizing and coordinating these global production systems (Gereffi and Memedovic, 2003; Gibbon, 2008; and Morris and Barnes, 2009). Coordination and cooperation have become central to their corporate strategies. To maintain and enhance competitiveness, the leading firms have pursued strategic outsourcing and offshoring of labour-intensive tasks of T&C clothing value chains to developing countries, while retaining more complex, skill- and capital-intensive tasks in their home countries. Large retailers, branded manufacturers and marketers, which do not own factories but organize, coordinate and control production, have become dominant players in the global T&C value chains. They have exercised their power by deciding who is going to produce what, when and how, thus influencing structural changes in these industries. They have been able to benefit from wage differentials and quota-free market access advantages of the various geographical locations worldwide and to operate under various business environments and socio-economic, political and institutional conditions.

In sum, value chains' functional and spatial fragmentations and their integration through trade are the main features of structural changes in the contemporary global economy. These processes are changing rapidly, generating volatility, uncertainty and structural disturbances in T&C. Migrations of T&C value chain tasks from the developed countries to late developers, and to late-late developers were accompanied by declining contribution of these industries to respective countries national income and job creation (see Annex, Tables A1 through A5 and Figures A1 through A4). Structural adjustments to these processes have not been easy and therefore the persistent protectionist trade regime in T&C.

3. The evolution of T&C international trade regime

The origin of the MFA dates back to mid 1950s when the voluntary export restraints (VERs) were in use in textiles by exporting countries and in the beginning of the 1960s, when the negotiations for the Short Term and the Long Term Arrangement (STA and LTA) of International Trade in Cotton Textiles started. The LTA allowed developed countries to impose restrictions, unilaterally or through a negotiated voluntary restraint agreement, on imports from developing countries, which was considered to be a source of real or potential “market disruption”. The LTA meant breaking the non-discrimination principle of the GATT. The provisions of LTA were preferred to those of the GATT that allowed safeguard action, retaliation and proof of “serious injury,” rather than “market disruption”. The developed countries considered the LTA to be more advantageous for developing countries because it offered a transparent set of rules for market access, including a guaranteed rise in quotas (of 5 per cent a year in most cases) rather than facing a series of *ad hoc*, restrictive measures. The LTA also required developed countries to undertake adjustment measures to restructure their industries and integrate international trade in T&C to GATT rules. The LTA was extended twice, in 1967 and 1970. The extension of the arrangement in 1974 gave way to the MFA.

The MFA, designed to protect local producers and thus jobs in importing developed countries, laid down rules for imposing quotas through bilateral or unilateral actions, when surges of imports caused disruption in trade and production in the T&C sector of importing developed countries. The MFA purpose was to prevent large structural adjustment costs in developed countries.

The MFA quota system was applied differently across countries and products, thus avoiding the GATT’s general principle of non-discrimination. More than 30 countries and their specific T&C products were highly constrained by quotas while other countries were largely unaffected. The most restricted exporter was China. The MFA restrictions also discriminated between developing countries. An estimate of the tariff equivalents of the quotas suggests the highest protection against exports from Asian countries such as China, India, Malaysia, Indonesia and the Philippines, and the lowest against exports from the Central and Eastern Europe (Francois and others, 2000). At the beginning of the quota phase-out, the lower-income suppliers in India and elsewhere in South Asia faced higher restrictions than suppliers from East Asia. Even the LDCs did not have the same preferential market access (Francois and Spinanger, 2004). The quotas were also more restrictive for clothing than for textiles (with the exceptions of Bangladesh and East European countries).

During the Uruguay Round of multilateral trade negotiations (1986-1993), the international community agreed to integrate the MFA into the ATC. The ATC included a clear timetable for phasing out the quota system set in 1974 within a 10-year period, starting on 1 January 1995 and ending on 1 January 2005. The ATC purpose was to integrate T&C trade into the GATT rules and to establish a stage approach to T&C trade liberalization. The ATC, alongside the progressive application of General Agreement on Tariffs and Trade (GATT) rules, called for a gradual elimination of quota restrictions in three stages, corresponding to three periods: 1995–1997, 1998–2001 and 2002–2004. The quota restrictions were to be fully phased out by 1 January 2005, with 49 per cent of the planned phase-outs, and in the most restricted categories of T&C products, occurring in the final tranche, thus actually back-loading the T&C trade liberalization and undermining the entire idea of the gradual approach to liberalization (Wolf, 2004, 215). Products covered included tops and yarns, fabrics, made-up textile products and clothing. The stage approach to T&C liberalization of the MFA/ATC is summarized in Box 1 below.

The world's largest importers of T&C, the United States of America and the European Union, pursued different approaches to T&C trade liberalization.² The United States of America employed restrictive quotas while the European Union progressively liberalized its T&C imports. The EU's share of imports under quotas was 25 per cent, no quotas were applied on LDCs, and the unilateral preference of a 20 per cent cut in tariffs was granted to all developing countries except for Mediterranean ones, for which liberalization of the T&C import regime was postponed until the final phase (Spinanger, 2003: 8).

4. The impact of the MFA regime on specialization patterns

The rising international division of labour in T&C industries under the persistent protectionist international trade regime has motivated researchers and international organizations to study the impact of institutions such as international rules on structural changes in these industries. The nature of the quota-based international trade regime and how it has shaped the global division of labour and thus the specialization patterns in T&C have been subjects of intensive discussion in the literature for more than three decades (Hopkins and Wallerstein 1977; Gereffi 1999; Bair & Gereffi 2001; Shrank 2004; UNIDO 2004; Appelbaum 2005 and 2008; UNCTAD 2004; Bair 2008; Morris and Barnes 2009; Gibbon 2008; Ahmad and Diaz 2008). This section discusses the main findings from this literature.

² <http://trade-info.cec.eu.int/textiles/index.cfm>.

Box 1 T&C trade liberalization reconsidered

The Uruguay Round of negotiations' completion resulted in an agreement to integrate T&C trade into the General Agreement on Tariffs and Trade (GATT). Concretely, in 1995, the Multi Fibre Arrangement (MFA) was replaced by the WTO's Agreement on Textiles and Clothing (ATC). The ATC was based on a 10-year transitional programme for the gradual removal of all T&C quotas by 1 January 2005. The ATC was binding only for WTO members and was subject to the same rules and a single system of resolving disputes that were applicable to all WTO agreements. Products covered by the ATC were to be integrated into GATT 1994 in four stages. The former MFA growth rates were to increase annually by 16, 25 and 27 per cent respectively from importing country 1990-base levels, as described below. Products to be integrated in the first three stages had to cover the four main types of T&C: tops and yarns; fabrics; made-up textile products, and clothing. Since importing countries could choose specific products for gradual integration at each stage, products that had under-utilized quotas or low unit values were integrated first, while products with a higher value added were postponed for the end of the period. This caused the back loading of product integration. Once the T&C products were integrated into WTO rules, the provision of GATT Article XIX (The Emergency Action on imports of Particular Products) and the Agreement of Safeguards would apply to them.

Percentage of products to be brought under GATT (including removal of any quotas)

In 1994 under MFA	6 per cent growth rate
<u>Step 1</u> 1 Jan 1995 to 31 Dec 1997	16 per cent of the total volume of each MFA member's T&C imports (taking 1990 imports as base) is freed from quota restrictions and integrated into WTO trade regime; 6.96 per cent per year [6+(0.16x6)]
<u>Step 2</u> 1 Jan 1998 to 31 Dec 2001	17 per cent ; 8.7 per cent per year [6.96+(0.25x6.96)]
<u>Step 3</u> 1 Jan 2002 to 31 Dec 2004	18 per cent ; 11.05 per cent per year [8.7+(0.27x8.7)]
<u>Step 4</u> 1 Jan 2005	49 per cent (maximum) ; final elimination of quotas); the ATC terminates
June 2005 to Dec 2008	EU quota limits on China's imports The EU and China Memorandum of Understanding (MoU) sets quota limits on imports of around 10 products. Growth of Chinese exports is limited to between 8.0 to 12.5 per cent per year, until the end of 2008. Product specific safeguard mechanisms are to be observed until 11 December 2013
...to 11 Dec 2013	EU product specific safeguard
January 2006 to 2008	US quota limits on China's imports The US-China Agreement sets limits Chinese imports of around 34 T&C categories from January 2006-2008. The import growth limits for clothing are set at 10 per cent for 2006, 12.5 per cent for 2007, and 15 per cent in 2008; and for textile, at 12.5 per cent in 2006 and 2007, and 15 per cent in 2008.
... to Dec 2016	"Non-market economy" criterion can be used to calculate dumping margin against China imports.

Sources: O. Memedovic (ed.), *Multilateralism and Regionalism in the Post Uruguay Round Era: What Role for the EU?* (Kluwer, 1999); WTO, "Trading into the Future: The Introduction to the WTO", www.wto.org; Mayer, 2004: 3-5; Doing Business in Textiles & Clothing with China-What you need to know? Downloaded from: <http://www.fibre2fashion.com/industry-article/20/1952/doing-business-in-textiles-clothing-with-china-what-you-need-to-know3.asp>

The regime triggered strategic outsourcing and offshoring practices that have led to engineered specialization in some developing and LDCs contrary to their comparative advantages. China and India, with comparative advantages in T&C, had fully utilized quotas while countries without comparative advantages had unutilised quotas, which attracted FDI. Once a country's quota was exhausted, TNCs moved to other countries with the low quota utilization. The regime has created new supply chains based on the quota advantage of locations rather than on real local productive capabilities, and has opened new foreign markets for LDC producers, which they would not have been able to enter because of their weak competitive advantages. For instance, the MFA allowed clothing producers from Republic of Korea and Taiwan Province of China to outsource to Africa, South Asia (Bangladesh and Sri Lanka) and Latin America (Dominican Republic, Guatemala and Honduras) to leverage their quota's free market access in major markets.

The MFA quota system has also prompted the upgrading of some East Asian developing-country producers. When quota-seeking investors moved to less quota-restrained locations, East Asian producers moved to unprotected high value-added segments to benefit from high value exports since the quota were volume based. They then started to outsource the lower value-added tasks to other countries and gradually developed capabilities in coordination and control of the chain (Gereffi and Memedovic, UNIDO, 2003).

The MFA stimulated a sophisticated network-type of trading and production system to develop. Its complex system of trade regulations has placed a premium on the specialized trading and management skills, and has created a paradoxical situation of a discriminatory trade regime driving globalisation of trade (Bradford and Branson, 1997: 84) and production, involving in this process a wide range of suppliers from developing and LDCs (Mayer, 2004: 3). This regime created *triangle manufacturing* between the United States, newly industrializing economies (NIEs) and other Asian countries, where large trading intermediaries emerged to coordinate orders from the US and EU buyers, with many small factories established in locations with quota-free access; *outward processing trade (OPT)* arrangements between West and East European countries, where western European firms exported textiles and other intermediate clothing goods to low-wage eastern European countries for assembly into final apparel goods and re-exports to the European Union, with import duties only on the value added abroad; and *production sharing* arrangements between the United States, Mexico and the Caribbean Basin Initiative (CBI), which extended preferential tariff treatment to T&C products assembled from US fabric (Gereffi and Memedovic, UNIDO, 2003).

But these MFA-generated benefits were not without costs for producers and consumers. The allocated quotas covered different products along T&C value chains and thus targeted tasks with different potentials for adding value. Statistically it covered highly disaggregated product levels going up to 6-digit harmonized system (HS) level. The uneven quota utilization implied that the regime has constrained specialization and adjustment to the changing market and technological conditions in some segments of the T&C value chains (Nordås, 2004, p. 10).

The MFA quota system has distorted global market for T&C products. It caused higher production and coordination (transaction) costs that resulted in wasted resources. Quotas raised production costs indirectly by restricting the supply of goods and creating scarcity price premiums, thereby inflating prices.³ Traded quotas added US\$ 1.5 to the cost of men's knitted shirts, US\$ 5.25 to the cost of men's jeans and US\$ 21 to the cost of men's suits (Gibbon, 2003).

Firms' productivity in quota-constrained countries was also dependent on traded quotas. Firms had to buy quotas to expand their exports and because the market for licences was volatile, it was not always possible to buy enough quotas to sustain profitability. Quota also wasted resources for channelling production factors to administrative tasks of monitoring and controlling trade under this regime, because the system stimulated rent seeking, transshipment, rerouting and false declarations of country or place of origin and the fibre content of the product (Nordås, 2004).

5. Other protectionist measures against T&C imports

Exports of some T&C products have also been and still are constrained by high tariffs, tariff peaks and escalations and rules of origin in preferential market access schemes. So, ending of the quantitative trade restrictions does not mean ending of the protectionist regime in T&C trade. GATT/WTO policy space also allows using other protectionist instruments against any surge of T&C imports that may cause domestic market disruption until 2013. Those include contingent protection measures such as antidumping, and temporary and selective safeguards (see Box 1). These protectionist measures mixed with the frictional barriers such as various standards, technical, safety, environmental and labour, create complex institutional setting for international trade in T&C in the post-quota world (EURATEX, 2003; Mayer, 2004, Adhikari and Yamamoto, 2007; UN, DESA, 2007).

³ Quotas were openly traded in some countries and markets. Quota created high rent premiums for holders of quota licences.

5.1 Tariffs, tariff peaks and tariff escalations

Tariffs on some T&C products were disproportionately higher than the average tariffs for other manufactured products and even higher than that for high technology-intensive manufacturing products, such as computers and office equipment (Mayer, 2004: 5-6; UN, DESA, 2007: 195; Brenton and Mombert, 2007: 10-11). Multilateral initiatives to cut tariffs in T&C are part of the ongoing Doha Development Agenda (DDA) negotiations on industrial tariffs, but given the stalled WTO negotiations on non-agricultural market access (NAMA) the chances for cutting them soon are slim (UN, DESA, 2007: 195).

Other important trade barriers are tariff peaks and escalations. Tariff peaks, or high tariffs on some products, rise prices of products making them less competitive in major markets; tariff escalations, or progressive rise of tariffs with higher processing stages, bias production and exports toward low value-added tasks, and thus against industrial upgrading (UNCTAD, 2003). Since different tariffs were applied along the production value chain for cotton, man-made filaments, man-made staple fibres and garments, and there are wide variation in tariff escalations across countries, monitoring and analysis of tariff peaks and escalations in T&C value chains have become complex.⁴

5.2 Antidumping

Antidumping investigations can be started by the industry, can last long and can be costly to resolve. They can be non-transparent, unpredictable and can target specific firms, thus rising uncertainty and risks in trading relationships (Adhikari and Yamamoto, 2005).⁵ Thus, antidumping investigations may cost respective countries their income revenues and job cuts. Trade data show the significant drop in targeted countries market shares after the antidumping initiations (ITCB, 2009: 2). Imports of higher value-added textile intermediary and final products, such as man made fibres, yarns, fabrics and made-up textile products from developing countries were the most targeted segments by the European Union, United States of America and other major importing countries.⁶ The most targeted countries were China, Republic of Korea, Indonesia, Malaysia, Pakistan, India, Bangladesh and Turkey. Developing countries such as India, Pakistan, Peru, Brazil, Mexico, Argentina, South Africa, Turkey and Republic of Korea have also used antidumping measures. China did not use antidumping measures but its use and implementation of Compulsory Certification system (CCC) were reported to cause

4 T&C includes over 150 subgroups at the 4-digit level of the Harmonized System (Mayer, 2004: 10).

5 See: <http://www.itcb.org> .

6 Between 44–66 per cent of EU imports (often the result of small and medium-sized firms' activities) from developing countries were subject to dumping practices. Antidumping measures were used relatively less in the United States and Japan than in the EU, but had the same effect; Japan used antidumping for Republic of Korea and Pakistan for the sensitive T&C products (ITCB, 2003: 3)

technical barriers to trade (WTO, 2004).⁷ Anti-dumping actions by developing countries have risen over the years and they are now the biggest users of anti-dumping measures in textiles (Ibid.: 3)

5.3 *Safeguards*

The European Union and the United States of America have imposed temporary safeguards on imports of textile products from China after the ATC ending. Under the China's 2001 WTO accession protocol, importing countries could take temporary safeguard measures to adjust to the rising foreign competition in sensitive products until 2008. The textile-specific safeguard clause permits countries to limit the annual growth of imports from China to 7.5 per cent, if it can be proved that these imports cause serious market disruption.⁸ Similarly, the US and China agreement reached in 2006, sets the limits for Chinese imports of around 34 categories for the period January 2006 - January 2008. The import growth limits for apparel categories were set at 10, 12.5 and 15 per cent, respectively for 2006, 2007 and 2008. For textile categories, import growth limits were set at 12.5 per cent for 2006 and 2007, and 15 per cent for 2008 (Jones, 2006). This Agreement includes also cooperation on preventing illegal transshipments of T&C products through Indonesia and African countries under the Africa Growth and Opportunity Act (AGOA). Transshipments were used to avoid tariffs and quotas and to gain preferential treatments under GSP. Since T&C are considered to be sensitive products, and are therefore excluded from GSP, transshipments through third countries to avoid quantitative restriction under US-China MoU, or through the African countries to gain access to the US market under the AGOA preference scheme, were common.

China's Protocol of WTO Accession allows also for introducing selective safeguards and non-market economy dumping margin against China's imports after 2008. Selective safeguards allow importing countries to impose safeguards against any Chinese exports that cause "market disruption" until 2013. Non-market economy dumping margin instrument allows importing country to use the "non-market economy" criterion against China imports to calculate a

⁷ The system requires separate certification for every imported component instead of a single certificate for the whole product. It can lead to double certification for certain products. It discriminates against foreign producers and often does not accept certificates from the country of manufacture even if it followed internationally recognized standards.

⁸ Safeguard action under the specific transitional safeguard mechanism could be called upon, after consultation has been sought with the WTO member or members affected by such measures, if it were demonstrated by the importing country that imports of a particular product were entering the country in such increased quantities "as to cause serious damage, or actual threat thereof, to the domestic industry producing like and/or directly competitive products", and that there was a sharp and substantial increase of imports, actual or imminent, from the individual country concerned.

Source: The Uruguay Round agreements Annex 1A Multilateral Agreements on Trade in Goods WTO legal texts, Agreement on Textiles and Clothing Article 6,
http://www.wto.org/english/docs_e/legal_e/legal_e.htm#goods

“dumping margin” in an anti-dumping investigation, until 2016. This margin can inflate the dumping margin, subjecting the Chinese imports to a higher anti-dumping duty.

It is widely believed that the above temporary safeguards imposed on China would delay structural adjustments in T&C industries after ATC ends and some countries such as Bangladesh and Cambodia would benefit from this. Under the assumption that the safeguarded conditions will once end and that another type of safeguards will not in the meantime be used, competition will rise and market prices for T&C products will fall even further.

5.4 Standards as “frictional” barriers

Various types of standards, internationally agreed and private, can also generate trade distortions. The costs of compliance with standards may be higher for foreign firms than for domestic firms, so standards can be used to gain strategic trade advantage. Standards may be non transparent and higher than needed for some items with the purpose to guard against competitive entry into specific markets or to foreclose market access for some products (Maskus, Wilson and Otsuki, 1999). Stringent and complex technical standards can make compliance costly and sometimes impossible to meet, especially where many standards with different monitoring and reporting requirements are involved (Humphrey and Memedovic, 2006). Non-transparent standard may introduce uncertainty in trade relationships. Developing countries consider technical barriers a major issue since they require technical assistance in meeting standards and are concerned about abuse of standards by developed countries to restrict access to their markets (UNIDO, 2008).

Standard can also raise the cost for importing countries, imposing such requirements. They rise administrative costs of inspection at the borders while do not provide any bases for collecting revenues from import taxes (Adhikari and Yamamoto, 2007). They can also create barriers for division of labour and thus growth in importing countries, as large share of technical standards covers imports of intermediate goods. Lead firms from importing countries can favour some product norms and in doing so can discriminate against foreign varieties.

Environmental and ethical standards and labeling can also be a source of trade friction (Maskus, Wilson and Otsuki, 1999; Jha, Markandya and Vossenaar, 1999). Under the pressures from various groups such as consumers, the environmental lobby and trade unions, major buyers in developed countries have introduced private “codes of conduct” about the environmental and labour standards. The buyers expect from their developing country suppliers and subcontractors to follow strictly the eco-labelling and sweatshop-free requirements, otherwise they can face

negative publicity, which can seriously hamper their market gains. To ensure that eco- and ethical-labelling schemes do not become instruments of powerful domestic protectionist lobbies and a new market access barrier, ensuring transparency and monitoring of these actions is called for.

5.5 The Generalized System of Preferences and preferential trade agreements

Preferential market access schemes of regional trade agreements and the Generalized System of Preferences (GSP) and their verities, such as the successive Lomé Conventions and their successor, the Cotonou Agreement and AGOA, have resulted in a significant variation in the preference margins (i.e. difference between MFN and applied tariffs). The lower the applied tariffs relative to the most favoured nation (MFN) tariffs, the higher the preference margins (Table 1). Mayer (2004: 8) pointed out that differences in preference margins gave the PTAs exporting countries a competitive edge of between 5 and 10 per cent relative to non- PTAs exporting countries, thus making developing country exporters captive on preference giving markets.

Indonesia, Viet Nam Sri Lanka Cambodia and Bangladesh had to pay between 70 to 87 times higher tariffs than Canada in 2006. Bangladesh exports of knitted apparel contributed almost the same share to US customs revenue as that of Canada, and its woven apparel exports around three times that of Canada. Cambodia paid 144 times higher tariffs for knitted apparel and 233 times higher tariffs for woven apparel to access the US market than Lesotho did (Table 2).

Some preferential trade schemes with developing countries include also provisions on rules of origin (RoO), which set criteria for determining a country of origin for the products that can enter tariff- and quota-free importing country markets. Countries starting PTAs are allowed to use RoO with different stringency for different products in their PTAs. The less restrictive RoO allowed exporting country manufacturers to claim origin status for products incorporating parts and components from a third country, as long as the final assembly occurred in the beneficiary country. In more restrictive RoO, such as the case in some US PTAs, it is mandatory to use yarn and fabrics from countries signatories to the PTA as a precondition to qualify for the preferential market access; in which case producers in importing country can gain from these rules while exporting country producers are made captive and less competitive obliged by the RoO to source the intermediate goods from PTA beneficiary (UN, DESA, 2007: 196). In even more restrictive RoO, such as those of the European Union, at least two value chain transformation stages were required to occur in the exporting country to qualify for the preferential market access. Trade data show that exporting countries facing more restrictive

RoO relative to those countries facing less restrictive RoO in the same market have experienced decline in their exports while second had expansion of their exports in the same period.

Table 1 MFN and actually applied tariffs on EU and US imports of T&C from the respective PTA countries in 2002 (in %)

Imports	<i>Textiles</i>		<i>Clothing</i>	
	MFN tariffs	Applied tariffs	MFN tariffs	Applied tariffs
<i>EU imports</i>				
<i>From the EU PTA countries*</i>				
Eastern Europe	7.7	0.0	11.9	0.0
North Africa	8.3	0.0	11.9	0.0
Turkey	8.6	0.0	11.8	0.0
<i>From other economies</i>				
Bangladesh	6.9	0.0	12.1	0.0
China	8.9	6.8	10.7	8.1
India	7.8	6.2	10.7	8.1
Kenya	7.7	0.0	11.7	0.0
Lesotho	7.2	0.0	12.2	
Mauritius	8.5	0.0	11.5	0.0
Mexico	7.3	1.3	10.2	2.1
Viet Nam	9.3	7.2	11.6	9.2
ASEAN-4	7.3	5.7	10.3	8.0
NIEs	7.7	7.7	11.5	11.5
South Africa	5.4	1.5	11.8	3.8
<i>US imports</i>				
<i>From the US PTA Countries</i>				
Mexico	7.6	0.0	12.3	0.7
<i>From other economies</i>				
Bangladesh	6.2	6.0	11.6	11.6
China	6.9	6.9	9.1	9.1
India	6.0	5.6	11.6	11.4
Kenya	8.4	n.a.**	10.8	n.a.**
Lesotho	8.7	n.a.**	12.6	n.a.**
Mauritius	8.4	n.a.**	11.1	n.a.**
South Africa	6.5	n.a.**	12.9	n.a.**
Turkey	9.3	9.2	11.5	11.4
Viet Nam	8.5	8.5	12.6	12.6
ASEAN-4	9.2	9.0	11.8	11.7
Eastern Europe	6.6	6.2	12.1	12.0
NIEs	9.7	9.7	12.4	12.4
North Africa	5.9	5.9	11.5	11.5

Note: Eastern Europe includes Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. North Africa includes Morocco and Tunisia. Newly industrialize economies (NIEs) include Hong Kong China SAR, Republic of Korea, Singapore and Taiwan Province of China. ASEAN-4 includes Indonesia, Malaysia, the Philippines and Thailand.

* Stands for the types of trade agreements see WTO (2003b: 18) and WTO (2004: 20–23).

** Stands for the tariff preferences granted by the United States under AGOA on textile products of Harmonized System (HS) Chapters 61–63 are not included in the TRAINS database (i.e. the source of the tariff data in the World Bank World Integrated Trade Solution (WITS) database on which table is based

Source: Adapted from Mayer 2004, Table 4, p. 7.

These preferential access schemes are discriminatory in their nature and thus against the WTO core principle of non-discrimination. They have also distorted the T&C industrial tariff regime. Adhikari and Yamamoto (2007: 20) showed that non-PTA beneficiaries paid much higher tariffs on T&C products than PTAs' beneficiaries. Exporters of knitted apparel from developing countries such as Indonesia, Vietnam Sri Lanka Cambodia and Bangladesh had to pay between 70 to 87 times higher tariffs than Canada in 2006. Bangladesh exports of knitted apparel contributed almost the same share to US customs revenue as that of Canada, and its woven apparel exports around three times that of Canada. Cambodia paid 144 times higher tariffs for knitted apparel and 233 times higher tariffs for woven apparel to access the US market than Lesotho did (Table 2).

Table 2 US discriminatory tariffs on apparel imports (based on January-May 2006 figures)

	Calculated duties as a share of customs value (%)	Calculated duties as a share of customs value (%)	Customs value share (%)	Customs value share (%)
	Knit HS chapter 61	Woven HS chapter 62	Knit HS chapter 61	Woven HS chapter 62
<i>Non-beneficiary Asian exporters</i>				
Bangladesh	17.96	17.12	2.04	5.38
Cambodia	17.29	16.36	3.47	2.43
China	13.20	11.58	14.50	27.04
India	16.62	13.38	4.22	7.34
Indonesia	19.33	17.40	3.90	6.32
Sri Lanka	15.86	16.54	2.12	2.90
Viet Nam	18.40	16.92	4.47	4.56
<i>NAFTA beneficiaries</i>				
Canada	0.22	0.16	2.09	1.94
Mexico	0.34	0.24	7.78	8.62
<i>CBTPA beneficiary</i>				
Honduras	3.13	1.90	6.06	1.58
<i>AGOA beneficiaries</i>				
Kenya	n.a.	0.68	n.a.	0.52
Lesotho	0.12	0.07	0.68	0.38
Madagascar	n.a.	0.38	n.a.	0.33
<i>Bilateral FTA beneficiary</i>				
Jordan	0.19	0.41	2.50	1.27

Note: n.a. = not available; Data taken from the EmergingTextiles.com, 2006

Source: Adhikari and Yamamoto (2007: 20) .

The RoO can be used to control transshipment and to provide incentives for producers to use local input materials, parts and components, or to give trade advantages to the importing country textile producers. Transshipments, or the re-exports of goods through a third country with zero

local transformations, are considered illegal when undertaken to misuse bilateral or multilateral trade agreements.⁹ Transshipments can undermine bilateral trade agreements and other preferential schemes and can make identification of country of origin by products and the product nature, difficult: importers of manufactures may falsify documents on the origin of products and products' nature through transshipments, and can thus avoid paying duties. The lack of data on transshipments can also have consequences for analytical work, as the transshipments can overstate or understate trade data.

Too restrictive or opaque RoO can divert sourcing away from lower-cost intermediate good producers from the rest of the world toward high-cost producers in PTA countries, or in the extreme case toward producers of yarns and fabrics in the importing country, thus making these products less competitive. Because of RoO in GSP preferences, most developing countries and LDCs lacking yarns or other input materials, or with small capabilities to produce required fabrics were not able to meet the minimum RoO threshold to qualify for the preferential market access and therefore had low preference utilization (Adhikari and Yamamoto, 2007). The low preference utilization meant that those LDCs had to pay the MFN tariffs on their exports to the European Union (Table 2). Inama (2002, quoted in Adhikari and Yamamoto, 2007) estimated that at least a third of all LDC exports to developed countries was subject to MFN tariff rates because of the RoO.

Proliferation of PTAs, all with different RoO complexity, generated extra costs related to the administration and management of import market shares that resulted in the less efficient policy instrument relative to the quantitative restrictions (Mayer, 2004). It was estimated that the costs arising from the administration and monitoring potential benefits from the US concession could add between 3 to 5 per cent to the costs of exported products in developing countries (US International Trade Commission, 2004).

6. T&C trade liberalization after the expiry of the ATC—*ex ante* analyses

Since the lifting of 49 per cent of quotas on the most restrictive T&C products (almost all in the highest value-added segments of the value chain) was delayed until the end of 2004, several *ex ante* estimations based on computable general-equilibrium (CGE) model of the Global Trade Analysis Project (GTAP)¹⁰ and trade gravity models were undertaken to forecast the potential impact of T&C liberalization on welfare gains, production and trade flows at national, regional

9 For instance, when goods are shipped through African countries beneficiaries of preferential access to the US market under AGOA, to benefit from this arrangement.

10 GTAP belongs to a family of economic models characterized by an input-output structure (based on regional and national input-output tables). GTAP uses The International Standard Industrial Classification (ISIC).

and global levels (Nordås, 2004; Mlachila and Yang, 2004, Ernst and others, 2005; Spinanger, 2003; Francois and Spinanger, 2002, 2004). The following section discusses the results from this trade-modelling work.

According to these simulations, the phasing out of quotas would create both winners and losers. The immediate losers were expected to be workers in the high-cost developed countries, where the quota system protected their jobs, and in the less-competitive developing countries, which would lose market shares to China. In other developing countries, job cuts and pressures to lower wages and neglect labour and environmental standards were expected.¹¹ Even for China, it was not clear how projected shifts in production would affect its workers.

The immediate beneficiaries were expected to be the consumers. Quota elimination would raise efficiency in production by ending quota rents and rent-seeking activities and this would push export prices down. This would further translate in rising demand, trade and welfare gains in the importing developed countries. The estimate of the annual cost of quotas for US consumers was US\$70 billion while each job saved by quotas in the US industry was estimated to have cost consumers on average US\$170,000 (Jonguières, 2004). But an OECD study (2003), reviewing the econometrical estimates of the ATC liberalization, pointed out to the considerable variation in the estimates of global benefits and welfare gains' distribution. Estimated annual global benefits ranged from around US\$7 billion to US\$ 324 billion and from up to two thirds to only 5 per cent of all estimated gains from the Uruguay Round liberalization package. Some studies saw developing countries as the main beneficiaries of the ATC ending, while others argued that developed countries would benefit the most. Spinanger (2003) pointed out that in the United States of America almost 90 per cent of the welfare losses resulting from protectionist measures were caused by restrictions on T&C imports while in the European Union, they generated costs of €250 for every family of four. But most studies agreed that lower consumer prices and more efficient resource allocation were likely to result in welfare gains for all countries in the longer run.

For Asian countries, the model of Francois and Spinanger (2002) included China's entire WTO accession package such as tariff cuts, quota-free access and services liberalization and the improvement in its business climate. This model predicted a rise in GDP of around 6 per cent for China and one of 0.15 per cent for Hong Kong SAR, a fall of about a third of a percentage point for Taiwan Province of China, a marginal rise in Japan and the ASEAN countries and a

¹¹ One job protected in developed countries costs 35 jobs in developing countries (Jonguières, 2004).

larger rise in the Republic of Korea and Viet Nam, and a shift from declining to rising GDP in Bangladesh and other South Asian economies, after 1 January 2005.¹²

Various econometric simulations consistently projected the probability of substantial T&C market share rises for China and India after 1 January 2005, followed by Hong Kong SAR and Viet Nam. Francois and Spinanger (2002) predicted a 39 per cent rise in textile exports from China and 168 per cent rise in clothing while their respective output raises were put at 45 per cent and 125 per cent over the base year (1997).

Nordås (2004) predicted that in the EU market China and India's combined market shares in textiles would rise (from 19 to 23 per cent), followed by Indonesia and Bangladesh. For clothing, China and India's gains were even higher: their combined market share rose from 24 to 38 per cent. Other countries such as Turkey and Central and East European countries were expected to lose market share while still others such as the Republic of Korea, Hong Kong SAR, Indonesia and Bangladesh would not improve their market share significantly.¹³

In the US market, China's market share in textiles was expected to rise by about 50 per cent (from 11 to 18 per cent) while India's was expected to be unchanged. In clothing, China was expected to triple its market share and India to quadruple, while their combined market share was expected to reach 65 per cent compared with 20 per cent in the base year. The market share of all other countries was estimated to fall, with Mexico suffering the greatest loss of around 70 per cent (ibid. 2004). Ianchovichina and Martin's (2001) simulations based on GTAP gave similar results.

In the China's market, rose demand for foreign textile and other intermediary inputs by its growing clothing industry was expected to create opportunities for other Asian countries. Those producing high- fashion and high-quality clothing, mostly ASEAN countries, were identified as the main beneficiaries while other South Asian producers that used traditional labour-intensive methods for low-quality textile production were not to benefit from this demand patterns.

12 They used an upgraded version of the computable general equilibrium model of the GTAP, which included variables of income changes, trade and shifts in production and market shares. The improvement in the business climate in China (i.e. the increased competitive position of China in producing T&C products) was estimated as a 10 percent cost advantage for firms doing business in China.

13 The GTAP model in Nordås (2004) used 1997 as the reference year, while the ATC was introduced in 1995 and all quotas were to be phased out by 2005. Since there was a little change between 1995 and 1997, Nordås assumed that the simulation using 1997 as the base year would not be a major problem in analyzing the ATC impact. The two simulated scenarios were suggested as the base line GTAP solutions, which assumed that all the quotas were eliminated and all other parameters and resource endowments were constant.

6.1 *Quota elimination and preferential trade agreements*

According to the estimations, quota elimination would especially affect those countries with bilateral trade agreements with the European Union and the United States of America and also those benefiting from the Generalised Systems of Preferences (GSP) schemes with the European Union, United States of America and other developed-countries. Their preferential tariff margin would be smaller as low-level tariff benefits are estimated to be less significant than quota benefits.¹⁴

Francois and Spinanger (2004) estimated that their preferential margin would be further eroded if industrial tariff reductions and services liberalization under the DDA were carried out: the lower the DDA duties agreed, the higher the preference erosion would be.¹⁵ This study further predicted that countries with trade agreements with the United States of America would face the highest risk, with Mexico likely to be the biggest loser. Within NAFTA, Mexico profits from quota-free access to the US and Canadian markets. It also enjoys tariff preferences and special market access arrangements in other product and service sectors as well. With some of these preferences abolished with the quota elimination, or eroded with further tariff cuts, the advantages for Mexico would decrease and diminish. Francois and Spinanger's (2002) estimates of Mexican losses included: 1 per cent because of the ATC quotas ending by all WTO members; around 1 per cent attributed to China no longer being subjected to ATC quotas; and almost 1 per cent because of tariff cuts and services liberalization under DDA. Gereffi and others (2002, pp. 23–53) argued that in a post-MFA world, Mexico would need to develop full-package production capabilities to be able to face China's rising competitiveness in this sector.

Sub-Saharan African countries, signatories of the AGOA, whose T&C production and trade benefited significantly under AGOA, would be hurt by the phasing out of MFA and by the eventual replacing of the less-restrictive with the more-restrictive RoO provisions, although they have not fully used their quotas.¹⁶ Simulation work carried out for UNIDO (UNIDO, 2004, pp. 11–13; 64–70) on the benefits of AGOA and Everything But Arms (EBAs) arrangement of the European Union and on what extent these arrangements might be affected by the China's

14 Kathuria, Martin and Bhardwaj (2003), pointed to average external tariff equivalents of around 40 per cent in the United States and 20 per cent in Europe in the period up to 1999. Estimates derived based on interviews with market participants in the quota trading market.

15 The EU has dealt with this problem by pursuing the "Everything But Arms" (EBA) initiative as a part of EU GSP, where the poorest developing countries have duty-free access to the EU market except for some products such as armaments and agricultural products with transitional arrangements (such as sugar, bananas and rice). The EU RoO requirements on two stages of transformation still apply for apparel and can restrict exports from these countries if these requirements are not met.

16 The stringency of the AGOA RoO is reflected in the quota utilization rates: quotas on products assembled from non-US fabrics were filled by 36 per cent; the limit on products subject to liberal RoO was utilized by 62 per cent and the quota on products assembled from regional fabric was filled by less than 10 per cent (Gibbon, 2003).

accession to the WTO and the phasing out of the MFA, showed that clothing industries in sub-Saharan African states would be hit hard and their world market shares would decrease. In the quota-free world, they would lose their key-pulling factor, the preferential market access, for FDI. Regarding other pulling factors, African-based exporters do not yet have industrial capabilities at levels that would permit them to compete with China. Their productivity is much less, while wage costs are no lower (Ibid, p. 13). More restrictive RoO would also force African producers to use higher-cost fabrics (regional or US-made), making it difficult to compete in the US market and to diversify into clothing (Morris and Barnes, 2009).

It was further estimated that other developing countries with an export structure and competitive advantage based on favourable quota treatment and thus on price distortions, and with high export dependency ratios for T&C exports, would be the most adversely affected. Hillman, (2003) estimated that these would be countries such as Lesotho, Haiti (among the least developed countries) and Jamaica, Honduras, El Salvador, Kenya and Nicaragua, with more than three quarters of all apparel exports in highly constrained quota categories and which competed on price rather than quality.

In the European Union, the United States of America and Canada, local producers that have enjoyed more than 40 years of “temporary” protection were likely to lose their market shares. They would face a long-term structural decline although EU producers could benefit from the large and growing Chinese market.

6.2 The impact of a total liberalization package

Various studies estimated that quota elimination with tariff cuts and service liberalization according to the DDA, would most likely result in a concentration in production in those developing countries with capabilities in full-package production. It was expected that large retailers and manufacturers such as Gap, JC Penny, Liz Claiborne and Wal-Mart, would narrow the focus of developing countries from which they source and this would in turn favour trading intermediaries with strong logistic capabilities and large producers from countries such as China, India and Pakistan.

According to Francois and Spinanger (2004) those LDCs without a primary textile industry, such as Cambodia, would be at risk. Although Cambodia would still benefit from the trade preferences given to 49 LDCs, there would be greater competition with countries such as Bangladesh, Nepal and Laos. When the tariff cuts and service-sector liberalization are carried out under DDA, Bangladesh and other South Asian economies’ export gains from quota

liberalization could disappear.¹⁷ For fashion clothing that is sensitive to market fluctuations, demand for rapid delivery, replenishment and demand response continuously throughout the selling season would continue to affect outsourcing and trade patterns. In sum, the expected structural disturbances in the T&C would create pressures for a large-scale reallocation of resources in the global economy and these would create important policy challenges for developed and developing countries alike.

7. T&C trade liberalization after the expiry of the ATC — *ex post* analyses

Most forecasts discussed above predicted significant structural shifts in T&C production and trade in Asian countries, particularly China and India, which were expected to gain lion's market shares in the European Union and the United States of America. Now, almost four years after the phasing out of the quota system, the question is whether these projections have materialized in the reality. This section confronts *ex ante* estimates with the real data on trade flows.

7.1 China and India expand their exports

In the year following the ending of quotas, China's T&C exports to the United States of America and the European 27 countries shot up. Exports to the United States of America rose by around 54 per cent between January and December 2005 compared with the same period in 2004 (Table 3). Similarly, China's exports to the EU 27 countries rose by around 43 per cent between 2005 and 2004 (Table 4). But, following the introduction of the EU and US temporary safeguards that set quota limits against the Chinese exports of several T&C products, the Chinese export growth to these markets slowed down to around 13 per cent to the US market and to 20 per cent to EU27 market between 2005 and 2008. In volume terms, similar trends are observed, although CAGR rates are lower over the period 2005-08.

Table 3 US T&C imports from China and India, 2004 – 2008 (in million US\$ and in square meter equivalent) and Compound Annual Growth Rate (in %),

Country	<i>Import value in million US\$</i>					<i>CAGR (%)*</i>	
	2004	2005	2006	2007	2008	2008/2005	2005/2004
China	14,558.10	22,405.20	27,067.60	32,323.00	32,678.60	13.4	53.9
India	3,633.30	4,616.60	5,031.10	5,104.10	5,078.10	3.2	27.1
Country	<i>Import volume (Millions of square meter equivalent)</i>					<i>CAGR (%)</i>	
	2004	2005	2006	2007	2008	2008/2005	2005/2004
China	11,662.30	16,763.00	18,613.50	21,391.60	20,612.40	7.1	43.7
India	1,914.80	2,333.90	2,654.10	2,722.70	2,838.40	6.7	21.9

Note: *Compound annual growth rate (CAGR).

Source: UNIDO calculation based on ITCB database.

¹⁷ For India, this is estimated as a 50 per cent drop in the export rise after ATC quotas elimination

India's T&C exports have also expanded. In the first year of ending of quotas (2005), Indian export to the United States of America rose by 27 per cent (Table 3) in value terms, while value of its exports to the EU27 grew by 19 per cent (Table 4). Respective figures for volumes are 22 and 2 per cent. In the years that follow until 2008, the growth rate kept a slow pace of 3 per cent to the United States and 11 per cent to the EU 27 in volume terms. Respective figures for volumes are 6.7 and 6 per cent.

Table 4 EU (27) T&C imports from China and India (in million US\$ and in square meter equivalent) and Compound Annual Growth Rate (in %), 2004 – 2008

Country	<i>Import value in million US\$</i>					<i>CAGR (%)*</i>	
	2004	2005	2006	2007	2008	2008/2005	2005/2004
China	18,378.00	26,201.80	29,826.80	37,420.10	45,351.40	20.1	42.6
India	5,535.00	6,566.00	7,559.30	8,531.10	8,992.80	11.1	18.6
Country	<i>Import volumes in metric tones</i>					<i>CAGR (%)*</i>	
	2004	2005	2006	2007	2008	2008/2005	2005/2004
China	2,019,958	2,723,504	2,890,265	3,426,383	3,753,844	11.3	34.8
India	759,133	806,848	879,649	997,046	971,586	6.4	2.3

Note: *Compound annual growth rate (CAGR).

Source: UNIDO calculation based on ITCB database.

Quotas were not the only market access barriers for Indian exporters. Domestic regulations may have also hindered the development and competitiveness of Indian export industries. Although the government has started introducing reforms in the T&C sector, there are still obstacles to be addressed. Structural inflexibilities in government policy and the legacy of uncompetitive business environment characterized by the fairly high transaction costs, low labour market flexibility, SME dominated market structure and, product mix that is specific for small-scale producers could slow export growth in the longer term (IMF, 2005).

7.2 *Some unexpected effects for late-late developers*

According to predictions discussed earlier in the paper, the smaller, low-cost, producing countries such as Bangladesh, Cambodia and Sri Lanka, with almost three quarters of their total export made of clothing, would suffer dramatic export losses because of stronger competitive pressures while developments of their industrial capabilities is constrained by shallow accumulation of physical and human capital, poor physical and institutional infrastructure, and distance from the main markets. Contrary to these predictions, these countries have in fact reached sound growth rates in export value of around 16, 13 and 6 per cent, respectively over the period 2004-2007 (Table 5).

(Francois and Spinanger, 2004).

The safeguard measures imposed on China by the European Union and the United States of America might have contributed to these countries' impressive exports performances. According to some views, removal of all restrictions on China's exports from the beginning of 2009 and high similarity of export items of these countries (especially by Bangladesh and China) in the US market would lead to a much more challenging competitive environment (Mohammad, 2007).

Table 5 Exports of T&C to the world by selected countries and Compound Annual Growth Rate 2004-07 (in US \$ and in %)

Country	<i>Exports value in million US\$</i>				<i>CAGR (%)*</i>
	2004	2005	2006	2007	2007/2005
Bangladesh	6,892.2	8,014.1	10,258.2	10,778.4	16.1
Cambodia	2,007.0	2,262.5	2,539.8	2,914.3	13.5
Sri Lanka	29,253.7	3,009.50	3,200.0	3,459.0	7.2

Note: *Compound annual growth rate (CAGR).

Source: UNIDO calculation based on WTO database.

Other factors, working in the opposite directions, such as the rising cost pressures in India, China and other East Asian countries, might have contributed to the enhancement of export performance in these late-late developers.¹⁸ Bangladesh's knitwear and woven garment exports rose by around 42 and 36 per cent over the period December 2008 - December 2007.¹⁹ The advantages of Bangladesh's exporters *vis-à-vis* that of India's are in lower manufacturing cost because of cheap labour, simplified labour laws, economies of scale based on larger firms, competitive rates of fabric inputs, and simplified custom procedures.

Bangladesh's T&C exports make up for 78 per cent of its export earnings and for 45 per cent of its industrial jobs (nearly 4 million people). Major clothing exports items such as knitted, woven shirts and blouses, trousers, skirts, shorts, jackets, sweaters and sportswear supplied to H&M and other big branded marketers, made up for a lion's share of its exports. These low-end textile products' sales have been the least affected by the current economic crisis and predictions are that they would most likely remain competitive in the global market in the years to come.

Sri Lanka has focused on a specific apparel market segment such as women's underwear for a fairly long period and has already established a reputation in this market segment. This sector is not likely to face higher competitive pressure in the immediate future because it requires higher

¹⁸ "Bangladesh exporters under the Global Textile Spotlight": <http://www.fibre2fashion.com/industry-article/20/1921/bangladesh-exporters-under-the-global-textile-spotlight1.asp>

¹⁹ Ibid

skill intensity. One distinct competitive advantage of Sri Lanka has been its fairly skilled and educated labour force (Adhikari and Yamamoto, 2007).

Cambodia adopted a corporate social responsibility programme in collaboration with the International Labour Organization (ILO), known as Better Factories Cambodia (formerly the ILO Garment Sector Project). Cambodia has gained reputation in export markets as a country with labour standards higher than that in other Asian countries (such as Bangladesh, China, Thailand and Viet Nam). But Adhikari and Yamamoto (2007) pointed out that compliance with labour standards and pursuing greater freedom of labour unionisations has led to a rise of strikes and which rose costs of the exports and eroded export competitiveness (Chan and Sok, 2006).

Other low- and middle-income countries in Asia, such as Kyrgyz Republic, Yemen, Viet Nam, Indonesia, Malaysia and Thailand (Figure 2 and Tables A9, A11 in annex) have also performed well in the post-quota era, despite the predictions that they would suffer when facing the competition from China and India. But many other countries in Asia, such as Mongolia, Macao China, Nepal, Chinese Taipei, Singapore, Republic of Korea, and Japan have faced declining exports (Figure 2).

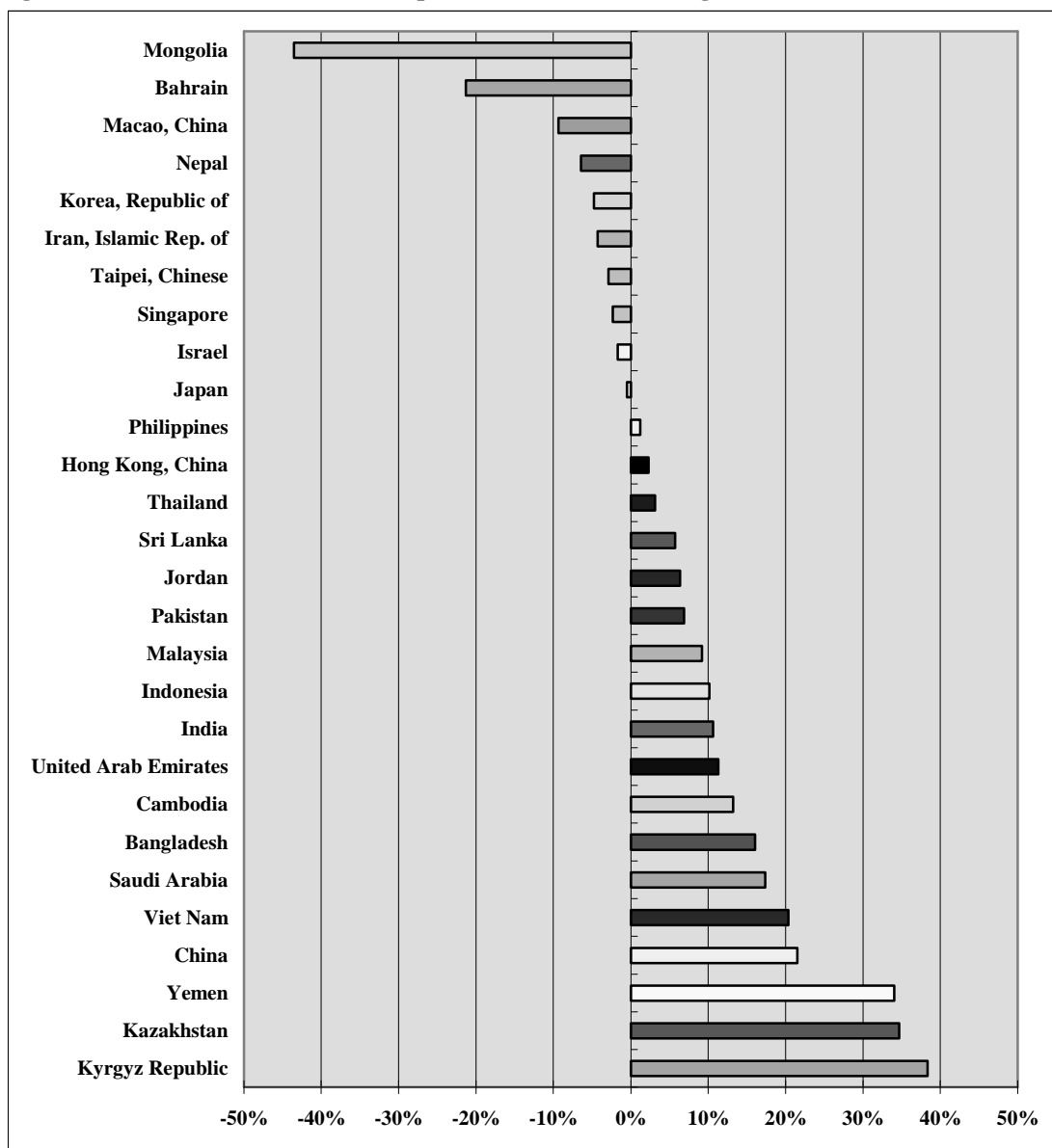
Among sub-Saharan African, several countries performed well in the post-quota period. Exports of T&C from Kenya, Botswana, Ethiopia, Tanzania, Uganda, Madagascar and Senegal rose between 2004 and 2007 (See Figure 3). This was mainly because these countries enjoyed the duty-free access to US markets under the AGOA preferential trade agreement.

But, with the temporary safeguard measures against Chinese exports abolished, the challenge for sub-Saharan African countries are now to face tougher competition in the US and the EU markets in low priced products. This has already proved to be difficult. Most sub-Saharan African countries experienced decline in T&C export to the US market (Figure 4 and Box 2). Their long-term survival will depend on several factors such as improvements in skills, infrastructure and trade facilitation that would allow for building capabilities in design, lead times, just-in-time and full package delivery (Box 2). A general perception among clothing producers in sub-Saharan Africa is that lead times for yarns and fabric are too long and it is more profitable to source these inputs from Asia.

Wages are another major share of cost for clothing production because the sector is labour intensive. Before the quota phase-out, duty-free privileges under the ACP/Cotonou Agreement and AGOA gave all African countries competitive advantage over China and all except South Africa had competitive advantages over India. In the post-MFA world, labour cost and

productivity comparison show that South Africa is no longer competitive with China and India, while Botswana has lost its competitive advantage over India (World Bank, 2007). Another important driver of competitiveness is access to and cost of energy, particularly for fabric and yarn production, which is capital intensive.

Figure 2 Asian countries' T&C exports, 2004-2007 (% change)



Source: UNIDO calculation based on WTO database.

Box 2 International Trade Agreements and Lesotho's experience

Lesotho's industrial sector is dominated by the production of garments for export to the United States of America under AGOA, which started on May 18, 2000. These exports are largely for the high-volume, low value end of the market. The garment industry has been the country's major source of employment and income.

Lesotho's liberal trade and investment regime, its quota-free access under the MFA and its successor, the ATC, as well as its reasonably good fiscal incentives and exchange rate policy, an efficient administration, and access to South Africa's transportation system, have all helped to attract foreign FDI to the T&C industries. FDI inflows increased employment and export earnings, created skills and contributed to build industrial capabilities. Between 2000 and 2005, the number of factories in the sector rose from six to 40, and exports increased from US\$140 to US\$390 million.

The duty-free access to the US market granted under AGOA, allowed Lesotho, as an LDC, to import fabric from other sub-Saharan countries (SSA), under the RoO third country fabric provision, to be used in manufacturing garments for export to the United States of America. The AGOA Acceleration Act of 2004 extends third country fabric provision for three years, from September 2004 until September 2007. The AGOA IV (signed in December 2006) further extends the third country provision from September 2007 to September 2012. But separate RoO apply to wearing apparel:

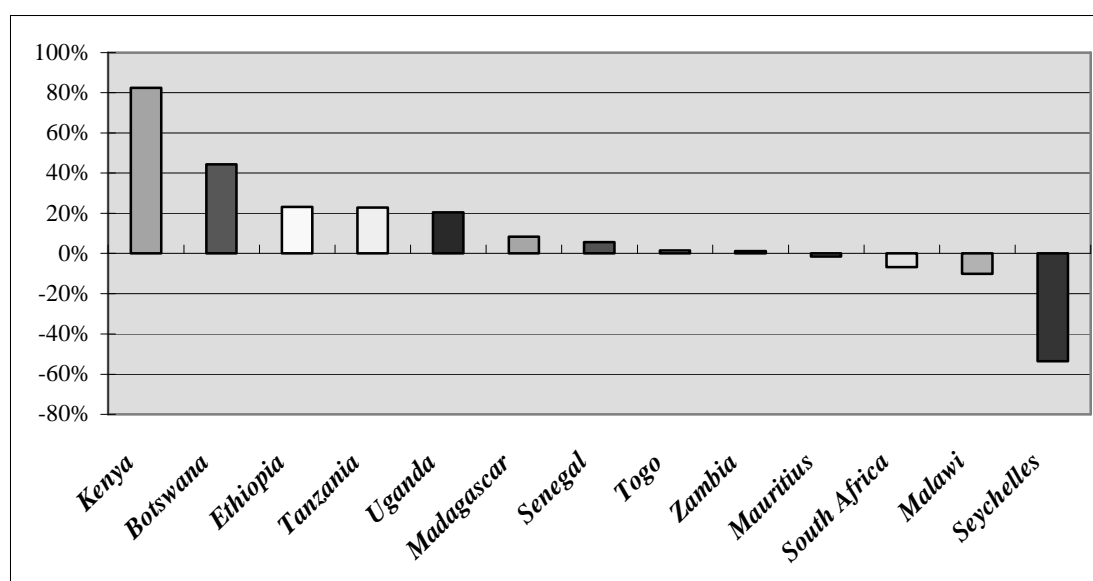
- Fabrics, yarn and thread have to be produced either in the US or in SSA countries
- Interlinings of foreign origin (other than US or SSA) are allowed as long as their value does not exceed 25 percent of the cost of all the components of the apparel article.
- "De Minimis Rule": Fibres or yarns of foreign origin are allowed as long as their total weight is not more than 10 percent of the total weight of the article.

Duty-free access to the EU market through the ACP-EU Partnership Agreement is also regulated by stringent RoO, which require that garments are manufactured either from fabric made in Lesotho or from fabric which originated in a country member of a regional trade agreement ("cumulation of rules of origin"). The EBA (Everything but Arms) agreement launched in March 2001 allows Lesotho, as a LDC, to export its production free of duty into the EU. The cumulation of RoO provisions also applies. The country's quota-free access and the availability of unfilled quotas have attracted numerous foreign investors. However, with the expiry of the ATC in December 2004, quotas no longer restrained exports from China, India and Viet Nam. The lower production costs in these countries, compared with those in SSA, encouraged buyers and retailers to leave SSA and transfer their orders to Asia. Lesotho faces strong difficulties to compete with China, Viet Nam, and Cambodia. As a result, many factories in the T&C sector in Lesotho are closing, leaving thousands of workers unemployed.

The development of the T&C industry in Lesotho under this trade and investment regime has failed to translate into enhanced local industrial capabilities. There has been no upgrading along the value chain, from assembly to using a range of manufactured fabrics, to design, and to manufacture of high value added goods. The industrial capability-building process has been low relative to other comparable countries such as Bangladesh, Viet Nam and Mauritius. Instead, strong dependency on AGOA PTAs (and hence on one market – the United States) has been created. Should the conditions of this bilateral trade relation change the economy could be negatively affected.

Sources: <http://www.agoa.gov>
http://ec.europa.eu/development/geographical/cotonouintro_en.cfm

Figure 3 Sub-Saharan African countries' T&C exports, 2004-2007 (% change)

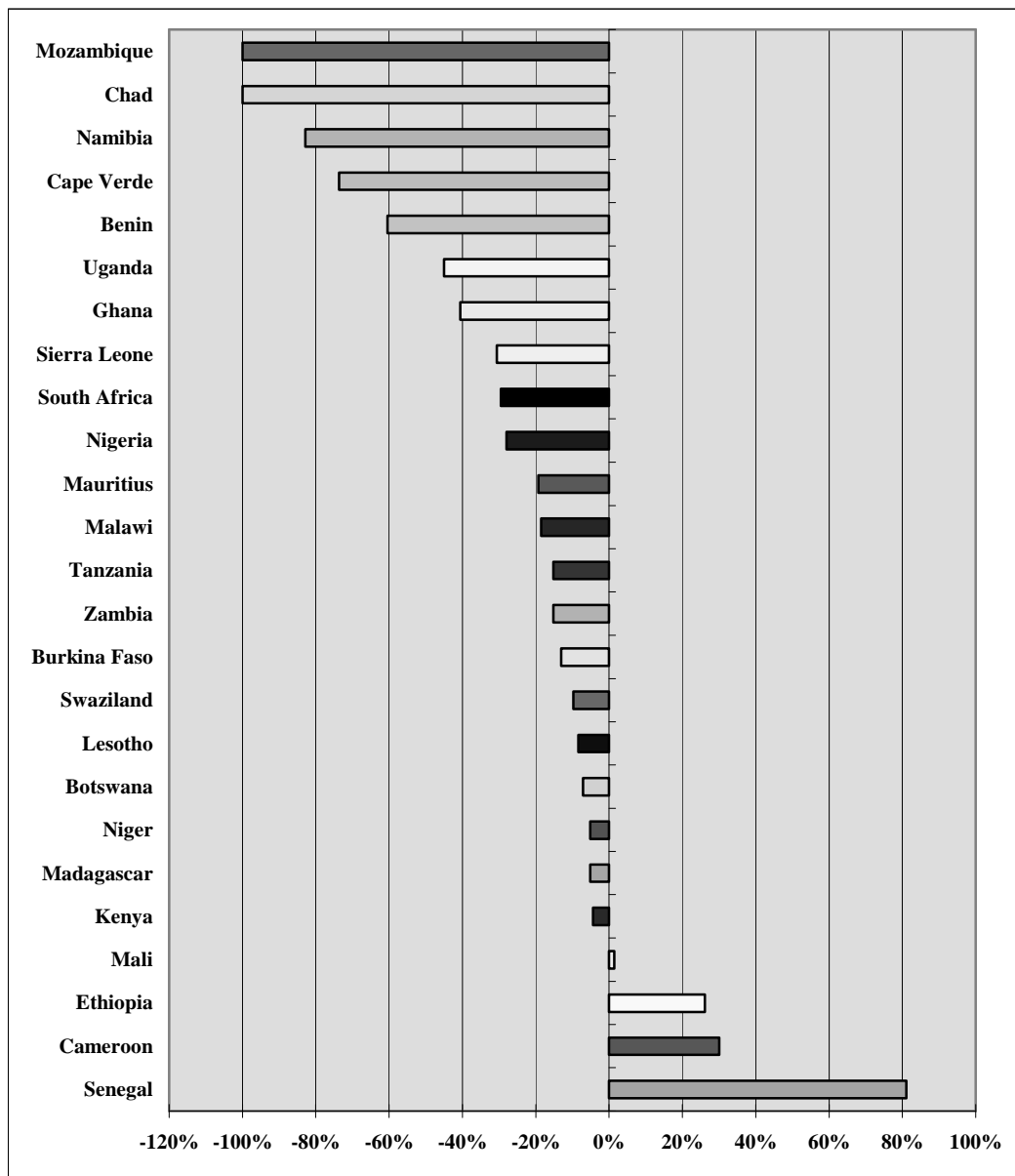


Source: UNIDO calculation based WTO database.

7.3 Does proximity to the main markets still matter?

The *ex-ante* estimations pointed out that countries close to the US or EU markets were to be less affected by the lifting of trade barriers, because of the lower transportation costs and their preferential access to these markets. Therefore, North Africa, Eastern Europe, Central America and the Caribbean were expected to maintain their positions as major suppliers. But *ex-post* data analysis shows some deviation from this picture (Table 6). Countries close to the European Union, including Morocco, Tunisia and Croatia have recorded fall in exports in the first year of ending of quotas (2004-2005), but their exports recovered in 2006 caused by the continuation of quantitative restrictions on Chinese exports (ITCB database). Turkey, for instance, rose its exports to the European Union at 5.2 per cent growth rate between 2004 and 2008, and ranked as the second largest EU supplier in 2008 (Tables A13, A14 in Annex).

Figure 4 US T&C imports from AGOA countries, 2004-2008 (% change)



Source: the data after 2006 taken from http://agoa.info/index.php?view=country_info&country=st#; Data before 2006 taken from World Bank (2007).

Table 6 EU (27) T&C imports from selected suppliers, 2004-2008 (in million US\$ and metric tons)

Country	<i>Import value in million US\$</i>					<i>CAGR %</i>	
	2004	2005	2006	2007	2008	2008/2005	2005/2004
Tunisia	3,527.90	3,342.10	3,398.20	3,908.80	4,186.60	7.8	-5.3
Turkey	13,548.00	14,221.60	14,948.30	17,430.40	16,597.00	5.3	5.0
Morocco	3,171.30	2,957.50	3,111.70	3,651.30	3,707.90	7.8	-6.7
Croatia	645.8	576.7	554.4	608.2	636.6	3.3	-10.7

Country	<i>Import quantity in metric tons</i>					<i>CAGR %</i>	
	2004	2005	2006	2007	2008	2008/2005	2005/2004
Tunisia	165,733	152,988	150,178	157,184	153,972	0.2	-5.3
Turkey	1,212,220	1,239,175	1,292,246	1,336,239	1,198,660	-1.1	2.2
Morocco	154,583	142,030	142,001	143,529	131,796	-2.5	-8.1
Croatia	29,601	27,239	27,411	29,395	29,504	2.7	-8.0

Source: UNIDO calculation based on ITCB database.

The EU Member States are also now looking for partners outside Europe (Table 7) and for low wage Asian countries, in particular (Tables, A13 and A14 in Annex). This signals the migration of production outside Europe. According to Adinolfi (2009), extra-EU imports of T&C made up for 47 per cent of the total EU imports in value terms in 2008. More than half of the imported garments came from non-EU countries (54 per cent), and more than a third of textile products were imported from outside the EU-27 (35 per cent). Similarly, the share of Extra-EU exports increased since 2000 and it made up for 27 per cent of EU exports in T&C to the World. However, the effects of the current financial and economic crisis could slow-down the relocation process outside the European Union and could deflect trade to nearby countries.

Table 7 Intra- and extra-EU 27 T&C imports to the World, 2004-2008 (in million US\$ and metric tons)

Country	<i>Import value in million US\$</i>					<i>CAGR %</i>	
	2004	2005	2006	2007	2008	2008/05	2005/04
Intra-EU 27	108,022.00	108,211.90	112,739.10	127,511.10	131,497.90	3.1	0.2
Extra-EU 27	77,940.90	83,936.50	94,616.60	108,171.90	116,462.50	7.7	7.7

Country	<i>Import quantity in metric tons</i>					<i>CAGR %</i>	
	2004	2005	2006	2007	2008	2008/05	2005/04
Intra-EU 27	11,650,346	10,105,383	9,024,717	9,494,020	11,760,676	23.9	13.3
Extra-EU 27	8,395,728	8,874,569	9,524,897	10,207,740	10,070,078	-1.3	5.7

Source: UNIDO based on ITCB database.

Countries close to, or in trade agreements, with the United States of America have seen their exports fall. Exports from Brazil, Canada, Argentina, Mexico, Colombia and Costa Rica, all suffered from sharp annual decline in the value terms between 2004 and 2008 (30.5, 17.4, 16.3, 12.0, 12.7 and 12.4, respectively) (ITCB database). In contrast, exports from Nicaragua, Peru and Haiti to the US market increased between 2004 and 2008. However, in the financial year 2007/08, T&C exports from these countries decreased.

Declining shares of the US imports from Mexico, Caribbean and other South American countries and declining European Union imports shares from Eastern European, Mediterranean and North African countries show that the geographical proximity to the main markets has less importance in influencing buyers' decisions. While this may still hold for some specific products, the significance of proximity is in general gradually declining because of the decreasing communications and transportation costs, innovations in transport and logistics, and upgrading in trade facilitation.

Similarly, trading blocks such as NAFTA, CAFTA, and ANDEAN taken as a group experienced falling exports (Table 8). Sub-Saharan African countries are also among the major losers. The AGOA initially stimulated FDI in the African T&C sectors. However, since the abolition of quotas foreign investors have tended to move their operations elsewhere. As a consequence, sub-Saharan African T&C compound annual growth rate of exports to the United States of America was negative over the period 2004-2008, but recovered in 2008/07.

Asian producers in general have gained the most from the liberalization of the T&C trade. As indicated in Annex: Table A7, Asian countries have shown largely positive growth rates in recent years, both in textile and clothing, while the United States of America registered very low or even negative changes. The European countries performed well, even though the more recent trends seem to suggest that they will face an increasing competition from Asia.

The example of Bangladesh and Viet Nam is interesting. The two low-income countries increased their annual market share in both United States and EU of T&C market (Table 9). These trade flows indicate that the buyer's behaviour is changing. Buyers tend to diversify sources of their supply to avoid risks. Due to the re-imposition of quotas on China, the buyers continue to source products from these low-income countries, and this contributes to the continued success of these countries even with the phasing out of quotas.

Table 8 The US T&C imports from selected suppliers, 2004-2008 (in million US\$ and in %)

	<i>Import value in million US\$</i>					<i>CAGR %</i>	
	2004	2005	2006	2007	2008	2008/2007	2008/2004
Brazil	407.8	425.9	347.7	325.1	243.4	-25.1	-12.1
Canada	3,085.5	2,844.4	2,587	2,201.7	1,652.3	-25	-14.5
Argentina	24.5	28.9	12.7	14.7	104.4	-29.6	-19.4
Mexico	7,793.3	7,246.3	6,376.3	5,625.5	4,957.1	-11.9	-10.7
Colombia	636.3	618.3	550.7	427.8	377.8	-11.7	-12.2
Costa Rica	524	491.6	479.5	431.5	307.2	-28.8	-12.5
Nicaragua	595	715.6	879.4	968.1	934.4	-3.5	11.9
Peru	691.6	821.1	864.6	832.6	816.5	-1.9	4.2
Haiti	324.2	406.3	449.7	452.2	412.4	-8.8	6.2
NAFTA*	10,878.8	10,090.7	8,963.4	7,827.2	6,609.4	-15.6	-11.7
CAFTA**	9,578.6	9,168.7	8,466.3	7,949	7,673.4	-3.5	-5.5
CBI Less							
CAFTA***	444.2	492.4	526.5	507.8	438.6	-13.7	-0.3
ANDEAN****	1,387.4	1,495.3	1,462.7	1,297.4	1,221.4	-5.9	-3.1
Sub-Sahara*****	1,782.6	1,486.2	1,315.5	1,316.2	1,177	10.7	-9.9

Notes:

* NAFTA refers to Canada and Mexico;

** CAFTA refer to 6 Central American exporters: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Dominican Rep;

*** CBI Less CAFTA refer to 19 Caribbean basin exporters: Anguilla, Antigua, Aruba, Bahamas, Barbados, Belize, British Virgin Islands, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Netherlands Antilles, Panama, St. Kitts-Nevis, St. Lucia, St. Vicent/Grenadines, Trinidad and Tobago;

**** ANDEAN refers to Andean exporters: Bolivia, Colombia, Ecuador, Peru;

***** SUB-SAHARA refer to 51 exporters: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central Africa, Chad, Comoros, Congo, Ivory Coast, Dibouti, Equatorial Guinea, Eritrea, Etheopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe, Antarctica, British Indian Ocean island, Mayotte, Reunion, Saint Helena

Source: UNIDO based on ITCB database.

Table 9 US and EU27 T&C imports (combined) from selected suppliers, 2004-2008 (in million US\$ and % CAGR)

	<i>Import value in million US\$</i>					<i>CAGR %</i>	
	2004	2005	2006	2007	2008	2008/2005	2005/2004
Viet Nam	3,631.1	3,854.4	4,844.6	6,361.4	7,473.1	24.7	6.1
Bangladesh	6,912.6	7,088	9,055	9,582.1	10,890	15.4	2.5

Source: UNIDO calculations based on ITCB database.

Shielded from the outside competition these suppliers were made captive in relationships. The rigidity of the trade regime did not stimulated to upgrade and to become efficient by sourcing input materials from more competitive suppliers and supplying wider markets.

7.4 Why the *ex ante* simulations failed?

Three main causes are discussed in the literature: 1) inconsistencies in data reporting by countries; 2) problems associated with the identification of the actual trading partners; and 3) problems related to various methodological issues. Factors one and two can create problems for analytical work on international comparisons and can lead to wrong conclusions (Ahmad and Diaz, 2008). In UN COMTRADE database data series on exports are reported Free On Board (FOB), while reported imports data include the Cost for Insurance and Freight (CIF). Theoretically, exports from country i to country j should be identical to country j imports from country i for any given product, except for the CIF additional cost. But in practice, this may not hold for several reasons as discussed below.

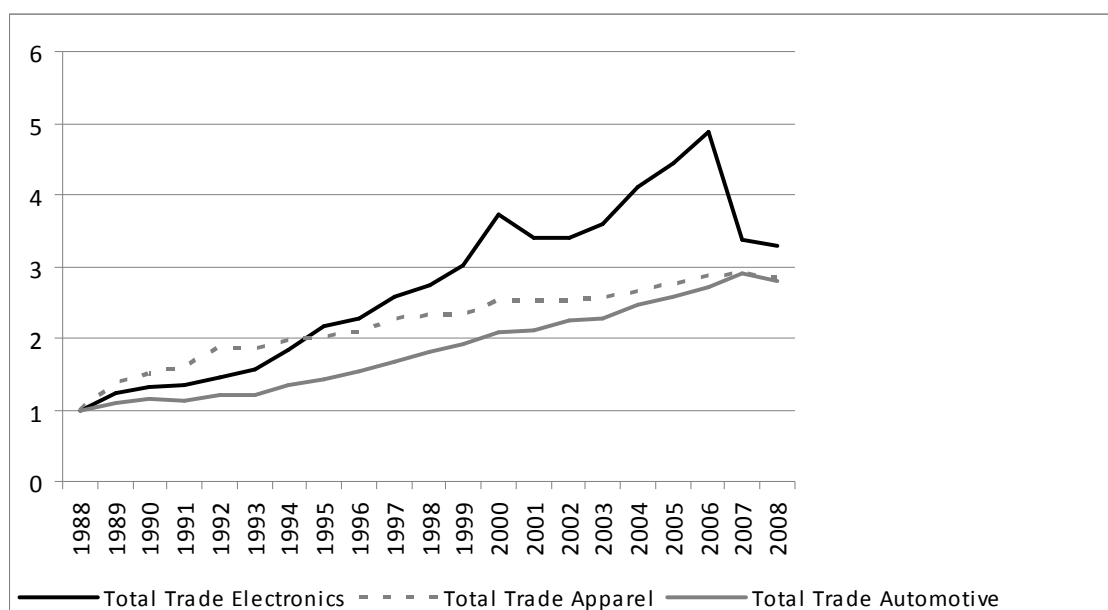
First, there are differences across countries in valuation of c.i.f. and f.o.b. values. Second, the identification of the actual trading partner may be difficult on the export side. While on the import side, customs officials are keen to identify a country of origin by imported products in order to determine the level of tariffs to be applied according to the RoO and because this is the source of government revenue, this is not the case for the export side. Customs officials are not so keen on determining the actual content of exports and destination of these exports. If the product is to be re-exported to country j with no transformation at all, this exports can still be considered as an export of i to j and can be counted in i total exports, and hence trade (Mellens, et al. 2007).

Third, the values of the reported data by product do not always sum up to the total trade value for a given country or for a higher aggregated product category. This can happen when countries do not wish to report data on trade for some products but this trade is included in the total country trade values because of confidentiality reasons.

Forth, the differences in classifying T&C products by various international classification schemes can lead to overstating or understating trade data in either textiles or in clothing (summary of the findings is given in Annex: Tables A6 and A7). For instance, the Harmonized Commodity Description and Coding System of the World Customs Organization (HS) includes in T&C sector agricultural raw materials such as raw cotton, silk, wool and animal hair, and other vegetable fibres such as jute, flax, ramie, which can overstate the extent of T&C trade. The Standard International Trade Classification (SITC) Revision 3 includes in the clothing industry accessories of leather, fur skin, plastics and vulcanised rubber, which can overstate trade data in clothing and so on (Ahmad and Diaz, 2008). Similar problems of misclassification of product exist in the International Standard Classification of activities (ISIC).

Fifth, countries report their trade data with different time lags in UN COMTRADE database. The updates are continuous and sometimes go several years back. This can lead to underestimation of the general trade flows and can make the comparison between industrial sectors difficult in certain point of time (see Figure 5).

Figure 5 Total trade in automotive, electronics and apparel industries, 1998-2008 with incomplete data series for 2007 and 2008



Source: UN COMTRADE (downloaded 2009-11-20), UNIDO calculations.

Sixth, there are also differences across countries in the counting of trade from economic zones or re-exports. Trade data can be understated when reporting countries do not include trade from export processing zones in their exports, or can be overstated when countries include re-exports in their trade statistics. The estimates of the missing or problematic data are often made using the mirror statistics (i.e. import data from partner countries), but these can also be problematic when the significant asymmetries in trade data exist as discussed above.

Seventh, reporting trade data in different currencies can cause problems of comparability of data while focusing only on value data can lead to wrong conclusions taking into account that the quotas were volume based with no limits in terms of values (see Table 10).²⁰

²⁰ Value data of EU imports were affected by shifts in exchange rates. In recent years, US \$ was depreciated vis-à-vis the Euro.

Table 10 T&C Imports in the United States of America and European Union 1995-2007 (in volumes and values)

Products/Markets	1995-2004	2005-2007
	Volumes <i>Annual % change</i>	Volumes <i>Annual % change</i>
Textiles and Clothing		
United States	11.0	4.2
European Union (25)*	7.4	6.2
Clothing only		
United States	8.9	5.4
European Union (25)	10.0	6.5
Textiles only		
United States	12.9	3.3
European Union (25)	5.7	6.0
	Values (current US\$)	Values (current US\$)
	<i>Annual % change</i>	<i>Annual % change</i>
Textiles and Clothing		
United States	7.4	5.0
European Union (25)	6.3	10.3
Clothing only		
United States	7.2	4.5
European Union (25)	7.6	10.6
Textiles only		
United States	8.0	6.6
European Union (25)	3.5	9.4

Note: * Extra EU-25

Source: Ahmad M. and D. Diaz, 2008: 25.

In sum, using international trade data for the analytical work on international comparisons calls for building more coherent data sets of trade flows considering all the aspects discussed above. Some efforts are made in this direction and complementary data sets such as BACI and CHELEM are created to facilitate analytical work (See Table 11).²¹

As regards the methodological issues, Ahmad and Diaz (2008: 9) pointed out that most of the work on forecasting is based only on market share analyses, which can give a partial picture of a country trade performance. This analysis therefore needs to be complemented with the analysis of absolute trade flows in volume and value terms, trade and market concentration, relative growth rates in trade, trade specialization patterns, historical factors affecting the evolution of T&C trade, and the complexity of the international trade regime and its changes over time.

²¹ For the details on the Chelem database see: <http://www.cepii.fr/anglaisgraph/bdd/chelem.htm>
For the BACI database see: <http://www.cepii.fr/anglaisgraph/bdd/baci.htm>

Table 11 Comparison of different data sets on trade: BACI, NBER-UN, CHELEM, COMTRADE and GTAP

	BACI	NBER-UN Feenstra & Lipsey	CHELEM	COMTRADE	GTAP 7
		1962-2000	1967-2005	1962-2005 ²	2004
Number of Countries/Regions	239	72	71	150	113
Nomenclature Disaggregation Level	HS6 6-digit	SITC 4-digit	CHELEM 3-digit	HS6 6-digit	GTAP n.a. ³
Number of Commodities	5041	1,276 ⁴	71	5,041	57

Notes: n.a.: Not Applicable ¹ The public BACI version is released only for the 1995-2004 period; ² The 6-digit level of disaggregation; is only available since 1989. ³ Codes are in letters. ⁴ This total number of products contains several items used to represent “residual categories”, i.e., trade within 3-digit code that could not be accurately assigned to a 4-digit code.

Source: Gaulier and Zignago (2008); <http://www.cepii.fr/anglaisgraph/bdd/baci/baciwp.pdf>

8. Conclusion

The paper discusses how institutions such as international trade regimes can shape structural change in manufacturing by examining the case of T&C. The paper reflects on the nature of the international trade regime in T&C and how the sustained institutional complexity of this regime has stimulated a sophisticated network-type of international trading and production-sharing systems to develop, involving in this process a wide range of suppliers from developing and LDCs. This has resulted in a paradoxical situation of a discriminatory, distorting and complex trade policy regime driving international trade and internalisation of production.

Multilateral negotiation efforts to end quantitative restrictions and cut tariffs on T&C products have motivated researchers to forecast the possible effects of implementing various trade liberalization packages on different countries and country groupings by using computable general-equilibrium (CGE) trade models. Four years after the ending of quota-based international trade in T&C, the paper compares the *ex-ante* simulation estimates of the removal of quantitative restrictions in trade with the *ex post* analyses of the real trade data flows. The real data show that *ex ante* forecasts are not fully borne out. The effects on some of the LDCs do not seem to be as severe as estimated.

The paper also addresses possible causes of these differences, such as inconsistencies in reporting statistical data in the UN COMTRADE database by reporting countries, inconsistencies in T&C product coverage by different product classification schemes, problems related the identification of the actual trading partners, and methodological issues related to

using data series in volume and value terms. These data problems can create obstacles for the analytical work on international comparisons and methodological issues can lead to wrong results. Building more coherent and complementary data sets on trade and production flows and using more appropriate methodological tools is therefore needed. Although some initiatives are undertaken in this direction, more cooperation among various international organizations and institutions is called for to address these statistical and methodological problems, so that analytical work can better inform the policy.

What strategies and policies for LDCs?

The legacy of the protectionist international trade regime will continue to shape the LDCs' specialization patterns in T&C for some time to come. These countries will also continue to benefit from various preferential market access schemes. But if the total T&C liberalization package is pursued, including the full removal of quantitative restrictions in trade and the implementation of the DDA agenda, a shift toward market-forces driven division of labour and intensified competitive pressures may severely affect those LDCs with high specialization and export dependence on low value added items. These countries would therefore need to prepare themselves to face this challenge, or otherwise may face job cuts and income losses. The question is then: what strategies and policies these countries should pursue?

African LDCs have specialized in labour-intensive ends of T&C value chains such as raw cotton production and apparel assembly of simple trousers, t-shirts and sweaters. They lack domestic textile industries and industries supplying machinery and other intermediary inputs for reaching integrated T&C value chains. They are import dependent on yarns, fabrics, trims and other intermediary inputs. It would be unrealistic to assume that these countries will be able to pursue industrialization by developing vertically integrated national value chains, in the short to medium term in the present global economic setting. A vertically integrated textile industry at the national level calls for a certain level of demand in clothing production to justify the investment made. One possibility is to engage in intra-regional division of labour in T&C value chains, through pursuing deep regional economic integration not only by lowering border barriers such as tariffs to facilitate intermediate goods trade, but also by investing in infrastructure and trade facilitation. This type of regional economic integration assumes that firms, industrial associations, governments and other intermediary organization for profit and non-profit, engage in collective actions for the formulation of national and supra-national regional strategies and programs for diversification of their economic base, and for T&C sector in particular.

Regional economic agreements between countries from the same geographical region covering aspects such as modernising mobility infrastructure; setting up energy supply networks; standardising, modernising and coordinating cross-border procedures; setting up trade and transport corridors can contribute to deal with market and coordination failures in a region and can speed up policy reforms in some countries. This can stimulate trade and capital relations among neighbouring countries. Cooperation on trade corridors can also bring about various clusters and can help to set up intra-regional cluster linkages, involving SMEs. Clusters in a region can benefit from the differences in production factor costs and from complementarities in the different business environments. Intensified competition and cooperation between industrial locations in the region would stimulate reforms in the business environment that would further benefit productivity and competitiveness enhancement.

At the national level, diversifying the T&C sector and developing productive and export capacities of other complementary industrial sectors, call for addressing structural issues, improving the business environment conditions, reducing transaction costs and strengthening the capacity of government. Various programmes can be devised to deal with these areas, as follows:

Addressing structural factors:

- Programmes to enhance productivity at factory level; to support entrepreneurship and skills upgrading, especially in material sourcing and design; to stimulate leveraging of new skills, knowledge, technology and markets through linking with foreign partners in global and regional value chains.

Reducing transaction costs

- Programmes to address trade facilitation issues such as harmonization of custom procedures and clearances and associated laws and regulations; to build adequate quality infrastructure (standards, metrology and conformity), physical infrastructure (roads, ports and transport corridors) and utilities.

Stimulating private sector development and small, medium and micro enterprises (SMMEs)

- Programmes to support cluster development and regional innovation systems through stimulating interactive learning and innovation processes in collaboration with research institutes in national and regional innovation systems.
- Programmes to survey SMME sector in terms of its structure, geographical and sectoral concentration, gender balance, and obstacles faced in terms of access to skills, finance, technology and markets.

- Programmes to improve provision of business advisory services for SMMEs such as business and market intelligence, environmental management, investment promotion, and so on.
- Programmes to develop new innovative approaches to access finance (for instance through attracting investments from remittances).

Enhancing the industrial governance system (functional structure and capacity):

- Programmes to revisit the industrial governance structure to eliminate uncertainties regarding the functions and responsibilities of some bodies, avoid unequal distribution of responsibilities among various bodies, and to ensure better representation by the private sector and other stakeholders' interests.
- Programmes to address the role of intermediary organizations (their financing and capacity building) such as business membership organizations, productivity centers, cleaner production centers, regional institutes, and others.

Strengthening capacity of various ministries and their special departments:

- Programmes on capacity building to benchmark productivity, competitiveness and industrial capabilities at the national and sectoral level relative to other comparator countries and in cooperation with private sector stakeholders.
- Programmes to provide training on how to use value chain analysis for strategic decision-making on industrial upgrading and diversification of T&C industries. The value chain approach can be used for analysing possibilities for the formation of local and regional value chains in the T&C and other related industries; for benchmarking local capabilities and performances against that of comparators and for exploiting new market niches such as the "Fair Trade" share of the market, and for exploiting the opportunities related to new potential markets of emerging economies with high growth and demand potential, such as China, Brazil, and South Africa.
- Programmes to analyse policy constraints such as the impact of import tariffs on textile and other intermediate inputs; the impact of poorly administered export duty drawback schemes; the treatment of firms in export processing zones and restrictions imposed on their domestic sales; the role of taxes and subsidies applied to T&C sub across and lessons learned from comparator countries.
- Programmes on strengthening trade negotiation capacity and for policy formulation and implementation at the national and supra-national regional level. Having a common regional approach for policies to attract FDI would avoid destructive competition in

terms of reducing wages, disregarding environmental or labour standards, or discriminating against domestic investors.

- Programmes on capacity building to analyze the effects of preferential trade agreements (such as those of the United States of America including AGOA and those of the European Union including Economic Partnership Agreement (EPAs), the Southern African Customs Union (SACU), Southern African Development Community (SADC), and others) and erosion of preferences from various preferential giving schemes and to create databases on these effects. To allow producers to fully profit from the duty free access of various preference-giving schemes, a thorough understanding of the nature of these schemes and their RoO is needed (too restrictive RoO can hamper the regional integration in T&C).
- Programmes for landlocked countries in Africa to develop transport corridors to ports in coastal areas. This is essential because high transport costs make their products less competitive in the world market. Insufficient transport infrastructure constrains intra-regional trade and regional competitiveness, and makes consumers and producers worse off.

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Annex

Table A1 Distribution of textile world value added, 1995-2007 (%)

	1995	2000	2005	2007		
All countries	65.7	54.0	39.3	35.5		
<i>Industrialized countries</i>	CIS	n.a.	1.2	1.3	15.5	
	EU-15	32.7	24.3	17.6	16.5	
	Europe	EU-12	n.a.	1.7	1.6	1.6
		Other	1.0	0.5	0.3	0.3
	East Asia	10.7* ^b	11.3	6.9	6.3	
	North America	16.7	13.5	10.5	8.4	
	Others	1.9	1.5	1.0	0.9	
<i>Developing countries</i>	All countries	34.3	46.0	60.7	64.5	
	NICs	17.4	22.0	18.7	18.8	
	2 nd generation NICs	9.0	n.a.	n.a.	n.a.	
	Others* ^a	7.9	24.0	42.1	45.7	
World	100	100	100	100		

Notes:

a Japan only

b: including China, except for 1995

n.a. not available

Source: UNIDO, International Yearbook of Industrial Statistics, 2009.

Table A2 Wearing apparel, fur - distribution of world value added, 1995-2007 (%)

		1995	2000	2005	2007	
<i>Industrialised countries</i>	All countries	76.7	63.9	44.6	40.8	
	CIS	n.a.	1.1	1.3	1.3	
	EU-15	26.4	20.8	15.6	14.8	
	Europe	EU-12	n.a.	3.2	3.1	2.7
		Other	0.7	0.5	0.5	0.9
	East Asia	22.3 ^a	19.4	12.4	10.7	
	North America	21.7	17.3	10.3	9.1	
	Others	2.4	1.6	1.4	1.3	
<i>Developing countries</i>	All countries	23.3	36.1	55.4	59.2	
	NICs	9.2	17.9	20.4	20.2	
	2 nd generation NICs	9.1	n.a.	n.a.	n.a.	
	Others ^b	5.0	18.2	35.0	39.0	
World	100.0	100.0	100.0	100.0		

Notes:

a: Japan only; excluding China in other years

b: including China, except for 1995

n.a. not available

Source: UNIDO, International Yearbook of Industrial Statistics, 2009.

Table A3 Textiles – structure of MVA by country groups, 1995, 2000, 2005 and 2007

		1995	2000	2005	2007	
<i>Industrialized countries</i>	CIS	n.a.	2.9	2.5	2.5	
	EU-15	3.0	2.7	2.1	1.9	
	Europe	EU-12	n.a.	3.4	2.6	2.2
		Other	1.7	1.1	0.8	0.8
	East Asia	1.4	1.4 ^a	1.0 ^a	0.8 ^a	
	North America	1.9	1.2	0.9	0.6	
	All countries	2.2	1.8	1.3	1.1	
<i>Developing countries</i>	NICs	5.0	5.2	4.1	3.8	
	2 nd generation NICs	7.0	n.a.	n.a.	n.a.	
	LDCs	13.7	14.2	16.8	19.6	
	Others ^b	6.3	6.1	5.6	5.1	
	All countries	5.8	5.7	5.1	4.8	

Notes:

a: Japan only

b: including China, except for 1995

n.a. not available

Source: UNIDO, International Yearbook of Industrial Statistics, 2009.

Table A4 Wearing apparel, fur - distribution of world value added, 1995, 2000, 2005 and 2007

		1995	2000	2005	2007
<i>Industrialized countries</i>	CIS	n.a.	1.9	1.5	1.3
	Countries in Transition	3.0	n.a.	n.a.	n.a.
	EU-15	2.1	1.6	1.1	1.0
	EU-12	n.a.	4.7	3.1	2.4
	Europe Other	1.1	0.8	0.9	1.3
	East Asia	2.4 b	1.8	1.0	0.8
	North America	2.2	1.1	0.5	0.4
	All countries	2.3	1.5	0.9	0.8
<i>Developing countries</i>	NICs	2.3	3.1	2.7	2.5
	2 nd generation NICs	6.1	n.a.	n.a.	n.a.
	LDCs	5.3	10.5	10.3	11.5
	Others* ^a	3.7	3.3	2.8	2.7
	All countries	3.4	3.3	2.8	2.7

Notes:

* a: including China, except for 1995 which excludes China

b Japan only

n.a. not available

Source: UNIDO, International Yearbook of Industrial Statistics, 2009.

Table A5 List of countries by country groups

<i>CIS (2007)</i>	<i>Countries in transition (1995)</i>	<i>EU-15 (2007), EU (1995)</i>	<i>EU-12 (2007)</i>
Armenia	Albania	Austria	Bulgaria
Azerbaijan	Armenia	Belgium	Cyprus
Belarus	Azerbaijan	Denmark	Czech Republic
Georgia	Belarus	Finland	Estonia
Kazakhstan	Bulgaria	France	Hungary
Kyrgyzstan	Czech Republic	Germany	Latvia
Republic of Moldova	Estonia	Greece	Lithuania
Russian Federation	Georgia	Ireland	Malta
Tajikistan	Hungary	Italy	Poland
Turkmenistan	Kazakhstan	Luxembourg	Romania
Ukraine	Kyrgyzstan	Netherlands	Slovakia
Uzbekistan	Latvia	Portugal	Slovenia
	Lithuania	Spain	
	Poland	Sweden	
	Republic of Moldova	United Kingdom	
	Romania	<i>North America (2007)</i>	<i>North America (1995)</i>
	Russian Federation	Canada	Canada
	Slovakia	United States of America	United States of America
	Tajikistan	<i>Others (2007)</i>	<i>Others (1995)</i>
	Turkmenistan	Australia	Australia
	Ukraine	Israel	Israel
	Uzbekistan	New Zealand	New Zealand
<i>^b East Asia (2007)</i>	<i>East Asia (1995)</i>	South Africa	South Africa
Japan	Japan		
Republic of Korea			
Singapore			

Source: UNIDO, International Yearbook of Industrial Statistics, 2009.

Table A6 Coverage of textile and clothing items by different product classifications

	The Standard International Trade Classification (SITC) Revision 3, classification of products by the United Nations Statistical Office (Used by the WTO)	The International Standard Industrial Classification (ISIC), of activities, Revision 3	The Harmonized System (HS) of activities The Harmonized Commodity Description and Coding System of the World Customs Organization (HS)	The Commission of the European Communities	The United States; the Office of Textiles and Apparel of the Department of Commerce	The Agreement on Textiles and Clothing (ATC)
Textiles	Classified in Division 65. Includes also yarns and fabrics of glass fibre - hat-shapes, hat-forms, hat bodies and hoods. The inclusion of the above products overstates the extent of trade in textiles.	Division 17 Items such as T-shirts, singlets and other vests; jerseys, pullovers, cardigans, waistcoats and other similar articles; and panty hose, tights, stockings, socks and other hosiery as textiles (Classified in the HS as clothing under headings 61.09, 61.10 and 61.15)		The Commission of the European Communities treats the entire HS Section XI as T&C. i.e., including agricultural raw materials such as raw cotton, silk, wool and animal hair, and other hard vegetable fibres, (jute, flax, ramie, etc.) it also treats made-up articles of HS Chapter 63 as clothing which are generally treated as textiles.	Excludes raw materials such as cotton, wool, silk and other vegetable fibres. Does not include apparel of leather It includes high volume items such as luggage, handbags and similar items containing textile content.	
Clothing	Classified in Division 84. Includes also accessories of leather and composition leather, of fur skin, of plastics and vulcanized rubber. The inclusion of the above products overstate the extent of trade in clothing	Division 18				

<i>Textiles and Clothing, taken together</i>			<p>Section XI</p> <p>Includes raw cotton, silk, wool and animal hair, and other vegetable fibres including jute, flax, ramie</p> <p>Does not include apparel of leather yarns and fabrics of fibre glass, and hat-shapes</p>		<p>Closer to the HS definition of textiles and clothing.</p>	<p>Based on HS, Section XI but excludes the agricultural raw materials</p> <p>Includes items not classified in Section XI: luggage, hand bags and footwear uppers of textile materials; fabrics coated, covered or laminated with plastics; headgear; yarns and fabrics of glass fibre; safety seat belts; pillows and cushions; some of these are more technical textiles</p>
<i>In sum</i>	<p>The inclusion of the above products overstate the extent of T&C trade</p>		<p>The inclusion of the agricultural raw materials overstate the extent of T&C trade</p>			

Source: Adapted from Ahmad and Diaz, 2008.

Table A7 Items Classified as Textiles in ISIC, SITC and HS: concordance between different classifications

<i>ISIC</i>	<i>SITC</i>	<i>HS 88</i>	<i>HS88-Description</i>
1730	84621	611511	"Panty hose & tights, of synthetic fibre yarns <67dtex/single yarn knitted"
1730	84621	611512	"Panty hose & tights, of synthetic fib yarns >/=67 dtex/single yarn knitted"
1730	84621	611519	"Panty hose and tights, of other textile materials, knitted"
1730	84622	611520	"Women full-l/knee-l hosiery, of textile yarn <67 dtex/single yarn knitted"
1730	84629	611591	"Hosiery nes, of wool or fine animal hair, knitted"
1730	84629	611592	"Hosiery nes, of cotton, knitted"
1730	84629	611593	"Hosiery nes, of synthetic fibres, knitted"
1730	84629	611599	"Hosiery nes, of other textile materials, knitted"
1730	8454	610910	"T-shirts, singlets and other vests, of cotton, knitted"
1730	8454	610990	"T-shirts, singlets and other vests, of other textile materials, knitted"
1730	8453	611010	"Pullovers, cardigans& similar article of wool or fine animal hair, knitted"
1730	8453	611020	"Pullovers, cardigans and similar articles of cotton, knitted"
1730	8453	611030	"Pullovers, cardigans and similar articles of man-made fibres, knitted"
1730	8453	611090	"Pullovers, cardigans & similar articles of other textile materials, knitted"

Notes:

- (i) Division 84 of SITC relates to wearing apparel; Chapter 61 of the HS likewise pertains to knit apparel;
- (ii) "nes" denotes "not elsewhere specified";
- (iii) Under the ISIC, and GTAP database, all these items are treated as textiles, while they present the bulk of many developing countries clothing exports.

Source: Ahmad M. and D. Diaz, 2008: 62.

Table A8 World Compound Annual Growth Rate (CAGR) for exports and imports of clothing and textile (in %)

<i>Clothing</i>				<i>Textile</i>			
<i>exports</i>		<i>Imports</i>		<i>exports</i>		<i>Imports</i>	
1990-2000	2000-2008	1990-2000	2000-2008	1990-2000	2000-2008	1990-2000	2000-2008
6.2	7.8	6.4	7.6	4.2	6.0	4.5	5.8

Source: UNIDO calculation based WTO database.

Table A9 Clothing Exports and Compound Annual Growth Rate (CAGR) – World, European Union, USA and selected Asian Countries: 1990 - 2008

Region/Country	Value (US Billion dollars at current prices)							% Share at World level							CAGR (%)			
	1990	1995	2000	2005	2006	2007	2008	1990	1995	2000	2005	2006	2007	2008	1990-1995	1995-2000	2000-2005	2005-2008
World	108.1	158.4	197.7	277.1	309.1	345.8	361.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	7.9	4.5	7.0	9.3
European Union (27)	n.a.	n.a.	56.2	85.5	91.4	105.1	112.4	n.a.	n.a.	28.4	30.8	29.6	30.4	31.1	n.a.	n.a.	8.7	9.6
United States	2.6	6.7	8.6	5.0	4.9	4.3	4.4	2.4	4.2	4.4	1.8	1.6	1.2	1.2	21.0	5.3	-10.3	-3.8
China	9.7	24.0	36.1	74.2	95.4	115.2	120.0	8.9	15.2	18.2	26.8	30.9	33.3	33.2	20.0	8.4	15.5	17.4
Hong Kong, SAR	15.4	21.3	24.2	27.3	28.4	28.8	27.9	14.2	13.4	12.2	9.8	9.2	8.3	7.7	6.7	2.6	2.4	0.7
Bangladesh	0.6	2.0	5.1	6.9	8.3	8.9	10.9	0.6	1.2	2.6	2.5	2.7	2.6	3.0	25.1	20.8	6.3	16.6
India	2.5	4.1	6.0	8.6	9.5	9.8	10.9	2.3	2.6	3.0	3.1	3.1	2.8	3.0	10.2	7.7	7.6	8.1
Viet Nam	0.0	0.0	1.8	4.7	5.6	7.4	9.0	0.0	0.0	0.9	1.7	1.8	2.1	2.5	0.0	0.0	20.8	24.2
Indonesia	1.6	3.4	4.7	5.0	5.8	5.9	6.3	1.5	2.1	2.4	1.8	1.9	1.7	1.7	15.4	7.0	0.9	8.2
Thailand	2.8	5.0	3.8	4.1	4.2	4.1	4.2	2.6	3.2	1.9	1.5	1.4	1.2	1.2	12.2	-5.6	1.7	1.3
Pakistan	1.0	1.6	2.1	3.6	3.9	3.8	3.9	0.9	1.0	1.1	1.3	1.3	1.1	1.1	9.7	5.9	10.9	2.7
Cambodia	0.0	0.0	1.0	2.2	2.5	3.5	3.6	0.0	0.0	0.5	0.8	0.8	1.0	1.0	0.0	0.0	18.1	17.8
Malaysia	1.3	2.3	2.3	2.5	2.8	3.2	3.6	1.2	1.4	1.1	0.9	0.9	0.9	1.0	11.5	-0.1	1.9	13.5
Sri Lanka	0.6	1.8	2.8	2.9	3.0	3.3	3.5	0.6	1.1	1.4	1.0	1.0	0.9	1.0	22.5	9.8	0.4	6.4
Asia (selection)	35.7	65.4	89.8	141.9	169.5	193.7	203.8	33.0	41.3	45.4	51.2	54.8	56.0	56.3	12.9	6.5	9.6	12.8

Source: UNIDO calculation based WTO database

Table A10 Clothing Imports and Compound Annual Growth Rate (CAGR) – World, European Union and selected Asian Countries: 1990 - 2008

<i>Region/Country</i>	<i>Value (US Billion dollars at current prices)</i>							<i>% Share at World level</i>							<i>CAGR</i>			
	<i>1990</i>	<i>1995</i>	<i>2000</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>1990</i>	<i>1995</i>	<i>2000</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>1990-1995</i>	<i>1995-2000</i>	<i>2000-2005</i>	<i>2005-2008</i>
<i>World</i>	112.2	162.9	208.9	291.2	322.5	358.1	375.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	7.7	5.1	6.9	8.9
<i>European Union (27)</i>	n.a.	n.a.	83.2	131.5	144.4	165.0	177.7	n.a.	n.a.	39.8	45.2	44.8	46.1	47.3	n.a.	n.a.	9.6	10.6
<i>United States</i>	27.0	41.4	67.1	80.1	83.0	84.9	82.5	24.0	25.4	32.1	27.5	25.7	23.7	22.0	8.9	10.2	3.6	1.0
<i>Japan</i>	8.8	18.8	19.7	22.5	23.8	24.0	25.9	7.8	11.5	9.4	7.7	7.4	6.7	6.9	16.4	1.0	2.7	4.7
<i>Hong Kong, SAR</i>	6.9	12.7	16.0	18.4	18.9	19.1	18.5	6.2	7.8	7.7	6.3	5.8	5.3	4.9	12.9	4.8	2.9	0.2
<i>United Arab Emirates</i>	0.5	1.3	0.8	1.8	3.1	5.0	5.5	0.5	0.8	0.4	0.6	0.9	1.4	1.5	20.8	-8.9	16.4	45.7
<i>Korea, Republic of</i>	0.2	1.1	1.3	2.9	3.7	4.3	4.2	0.1	0.7	0.6	1.0	1.2	1.2	1.1	48.1	4.0	17.4	13.2
<i>China</i>	0.0	1.0	1.2	1.6	1.7	2.0	2.3	0.0	0.6	0.6	0.6	0.5	0.6	0.6	82.4	4.2	6.4	11.9
<i>Singapore</i>	0.9	1.6	1.9	2.1	2.5	2.4	2.2	0.8	1.0	0.9	0.7	0.8	0.7	0.6	12.3	2.7	2.5	1.4
<i>Asia (selection)</i>	17.3	36.4	40.9	49.4	53.7	56.9	58.6	15.4	22.4	19.6	17.0	16.7	15.9	15.6	16.0	2.4	3.8	5.9

Source: UNIDO calculation based WTO database .

Table A11 Textile Exports and Compound Annual Growth Rate (CAGR) – World, European Union and selected Asian Countries: 1990 – 2008

<i>Region/Country</i>	<i>Value (US Billion dollars at current prices)</i>							<i>% Share at World level</i>							<i>CAGR</i>			
	1990	1995	2000	2005	2006	2007	2008	1990	1995	2000	2005	2006	2007	2008	1990-1995	1995-2000	2000-2005	2005-2008
<i>World</i>	104.4	152.3	157.3	204.3	220.4	240.4	250.2	100.0	100.0	100.0	100.0	100.0	100.0	100.0	7.9	0.6	5.4	7.0
<i>European Union (27)</i>	n.a.	n.a.	56.7	70.5	73.8	81.8	80.2	n.a.	n.a.	36.1	34.5	33.5	34.1	32.1	n.a.	n.a.	4.4	4.4
<i>United States</i>	5.0	7.4	11.0	12.4	12.7	12.4	12.5	4.8	4.8	7.0	6.1	5.8	5.2	5.0	7.9	8.2	2.5	0.3
<i>China</i>	7.2	13.9	16.1	41.1	48.7	56.0	65.3	6.9	9.1	10.3	20.1	22.1	23.3	26.1	14.0	3.0	20.5	16.7
<i>Hong Kong, SAR</i>	8.2	13.8	13.4	13.8	13.9	13.4	12.3	7.9	9.1	8.5	6.8	6.3	5.6	4.9	11.0	-0.5	0.6	-3.9
<i>Korea, Republic of</i>	6.1	12.3	12.7	10.4	10.1	10.4	10.4	5.8	8.1	8.1	5.1	4.6	4.3	4.1	15.2	0.6	-3.9	-0.1
<i>India</i>	2.2	4.4	5.6	8.3	8.9	9.7	10.3	2.1	2.9	3.5	4.1	4.0	4.0	4.1	14.9	5.0	8.3	7.4
<i>Taipei, Chinese</i>	6.1	11.9	11.9	9.7	9.8	9.7	9.2	5.9	7.8	7.6	4.8	4.4	4.0	3.7	14.1	0.0	-4.0	-1.7
<i>Japan</i>	5.9	7.2	7.0	6.9	6.9	7.1	7.3	5.6	4.7	4.5	3.4	3.1	3.0	2.9	4.1	-0.4	-0.3	2.1
<i>Pakistan</i>	2.7	4.3	4.5	7.1	7.5	7.4	7.2	2.6	2.8	2.9	3.5	3.4	3.1	2.9	9.8	1.3	9.4	0.5
<i>United Arab Emirates</i>	0.0	0.0	3.1	2.3	4.6	5.8	5.8	0.0	0.0	2.0	1.1	2.1	2.4	2.3	0.0	0.0	-6.2	36.1
<i>Indonesia</i>	1.2	2.7	3.5	3.4	3.6	3.8	3.7	1.2	1.8	2.2	1.6	1.6	1.6	1.5	16.9	5.3	-0.9	3.1
<i>Thailand</i>	0.9	1.9	2.0	2.8	2.9	3.1	3.2	0.9	1.3	1.2	1.4	1.3	1.3	1.3	15.9	0.2	7.1	5.1
<i>Viet Nam</i>	0.0	0.0	0.3	0.7	1.1	1.3	1.6	0.0	0.0	0.2	0.4	0.5	0.5	0.7	0.0	0.0	19.4	31.2
<i>Malaysia</i>	0.3	1.1	1.3	1.4	1.4	1.5	1.5	0.3	0.7	0.8	0.7	0.7	0.6	0.6	26.9	2.4	1.3	4.5
<i>Asia (selection)</i>	40.9	73.5	81.5	107.7	119.3	129.1	137.7	39.2	48.2	51.8	52.7	54.2	53.7	55.0	12.4	2.1	5.7	8.5

Source: UNIDO calculation based WTO database .

Table A12 Textile Imports and Compound Annual Growth Rate (CAGR) – World, European Union and selected Asian Countries: 1990 – 2008

<i>Region/Country</i>	<i>Value (US Billion dollars at current prices)</i>							<i>% Share at World level</i>							<i>CAGR</i>			
	1990	1995	2000	2005	2006	2007	2008	1990	1995	2000	2005	2006	2007	2008	1990-1995	1995-2000	2000-2005	2005-2008
<i>World</i>	107.8	156.5	167.5	217.2	232.4	252.0	262.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	7.7	1.4	5.3	6.6
<i>European Union (27)</i>	n.a.	n.a.	57.4	71.6	76.3	85.5	84.0	n.a.	n.a.	34.3	33.0	32.9	33.9	31.9	n.a.	n.a.	4.5	5.4
<i>United States</i>	6.7	10.4	16.0	22.5	23.5	24.1	23.1	6.2	6.7	9.5	10.4	10.1	9.6	8.8	9.2	8.9	7.1	0.9
<i>China</i>	5.3	10.9	12.8	15.5	16.4	16.6	16.2	4.9	7.0	7.7	7.1	7.0	6.6	6.2	15.6	3.3	3.9	1.5
<i>Hong Kong, SAR</i>	10.2	16.9	13.7	13.8	14.0	13.6	12.3	9.4	10.8	8.2	6.4	6.0	5.4	4.7	10.6	-4.0	0.1	-3.7
<i>Japan</i>	4.1	6.0	4.9	5.8	6.2	6.3	6.9	3.8	3.8	2.9	2.7	2.7	2.5	2.6	7.7	-3.8	3.3	6.1
<i>Viet Nam</i>	0.0	0.0	1.4	3.4	4.0	5.1	6.0	0.0	0.0	0.8	1.6	1.7	2.0	2.3	0.0	0.0	20.0	20.8
<i>United Arab Emirates</i>	1.0	2.0	2.1	3.3	3.6	4.1	4.8	0.9	1.3	1.2	1.5	1.5	1.6	1.8	15.5	0.4	9.6	13.6
<i>Korea, Republic of</i>	1.9	4.0	3.4	3.5	3.9	4.1	4.1	1.8	2.5	2.0	1.6	1.7	1.6	1.6	15.3	-3.2	1.1	5.1
<i>Indonesia</i>	0.8	1.3	1.3	0.8	0.7	0.8	3.3	0.7	0.8	0.7	0.3	0.3	0.3	1.2	10.7	-0.9	-9.6	62.8
<i>Thailand</i>	0.9	1.5	1.6	2.0	2.1	2.2	2.4	0.8	1.0	1.0	0.9	0.9	0.9	0.9	11.3	1.2	4.0	7.2
<i>India</i>	0.2	0.3	0.6	2.0	2.0	2.1	2.3	0.2	0.2	0.3	0.9	0.8	0.8	0.9	7.6	10.9	28.0	5.3
<i>Asia (selection)</i>	24.5	42.9	41.7	50.1	52.7	54.9	58.4	22.7	27.4	24.9	23.1	22.7	21.8	22.2	11.9	-0.6	3.7	5.3

Source: UNIDO calculation based WTO database

Table A13 Top 15 Textile Importers to EU 27 (% share), 2008.

<i>Countries/Regions</i>	<i>Rank</i>	<i>Share</i>
World		100.0
European Union (27)	1	66.7
China	2	9.9
Turkey	3	5.8
India	4	3.7
Pakistan	5	2.6
Switzerland	6	1.5
United States	7	1.5
Korea, Republic of	8	1.0
Japan	9	0.8
Indonesia	10	0.6
Taipei, Chinese	11	0.6
Egypt	12	0.5
Bangladesh	13	0.5
Tunisia	14	0.5
Thailand	15	0.4

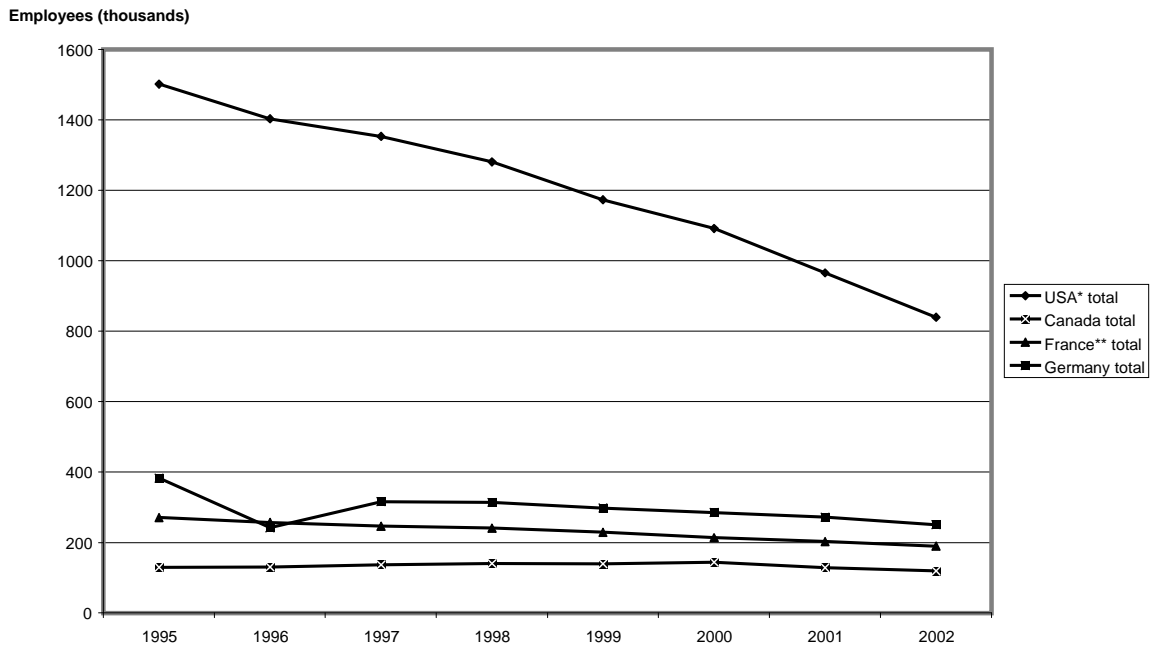
Source: UNIDO calculation based WTO database.

Table A14 Top 15 Clothing Importers to EU 27 (% share), 2008.

<i>Countries/Regions</i>	<i>Rank</i>	<i>Share</i>
World		100.0
European Union (27)	1	47.6
China	2	22.4
Turkey	3	6.7
Bangladesh	4	3.9
India	5	3.6
Tunisia	6	2.2
Morocco	7	2.0
Viet Nam	8	1.1
Indonesia	9	1.0
Sri Lanka	10	1.0
Pakistan	11	0.9
Thailand	12	0.8
Hong Kong, China	13	0.7
Switzerland	14	0.6
Malaysia	15	0.5

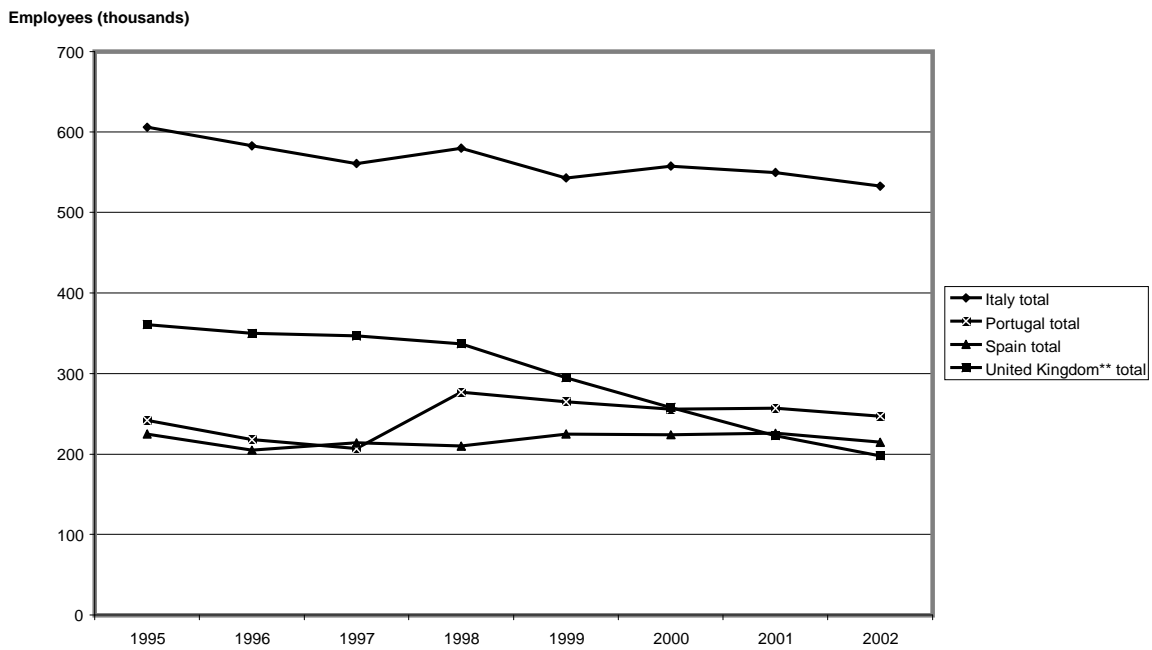
Source: UNIDO calculation based WTO database.

Figure A1 Employment in textile and clothing 1995-2002 mature economies (a)



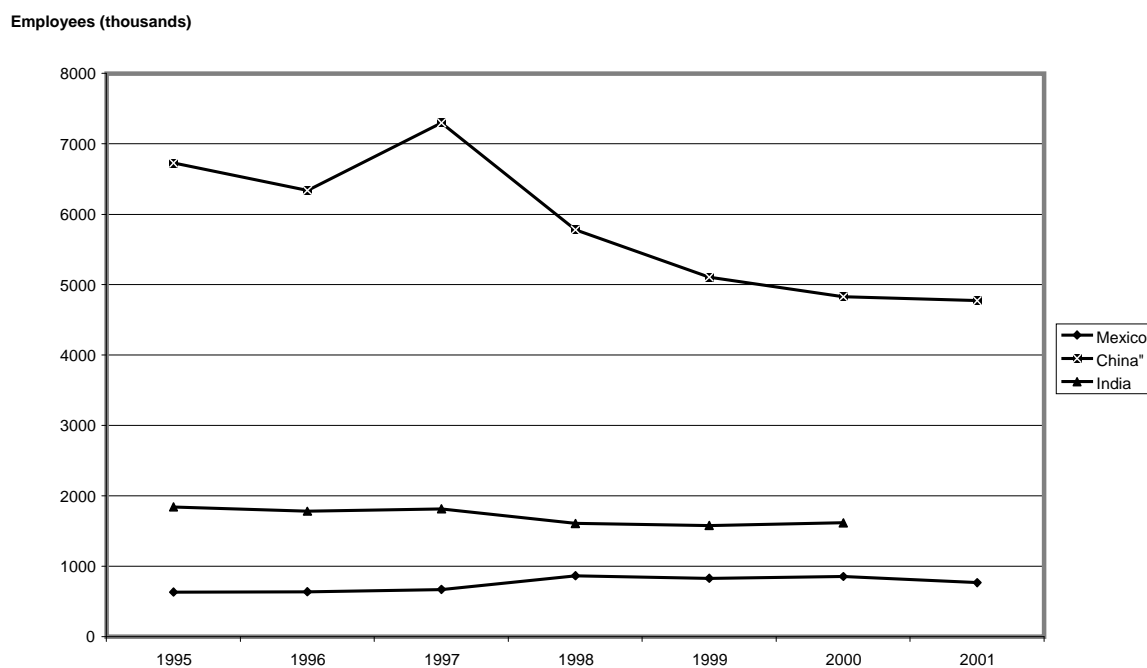
Source: UNIDO Calculations

Figure A2 Employment in textile and clothing 1995-2002 mature economies (b)



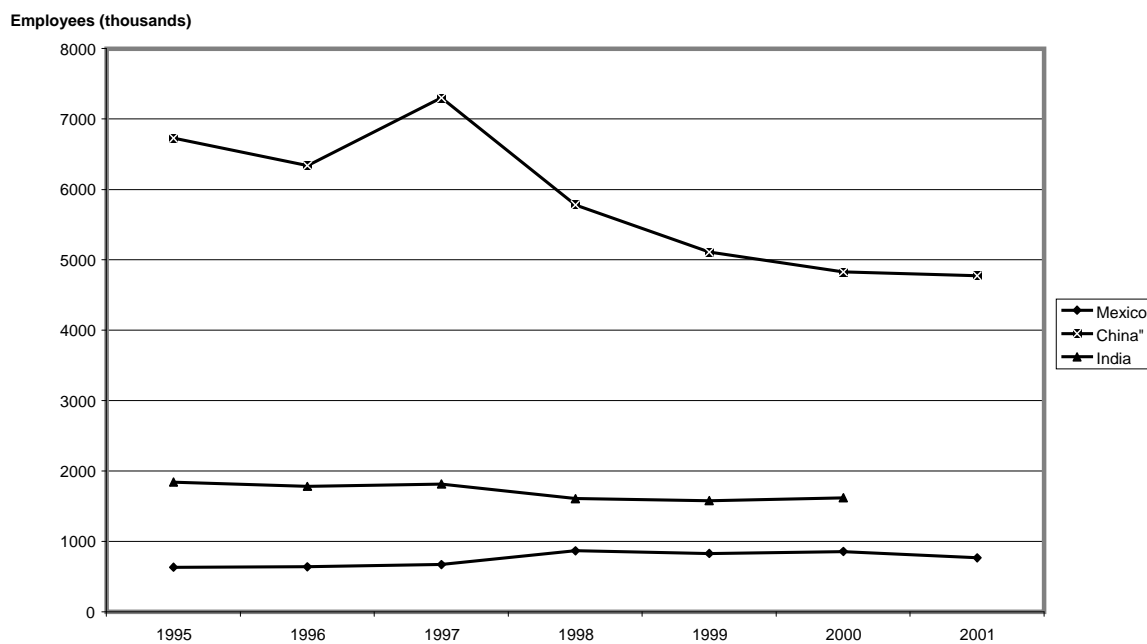
Source: UNIDO Calculations.

Figure A3 Employment in textile and clothing 1995-2002 emerging economies (a)



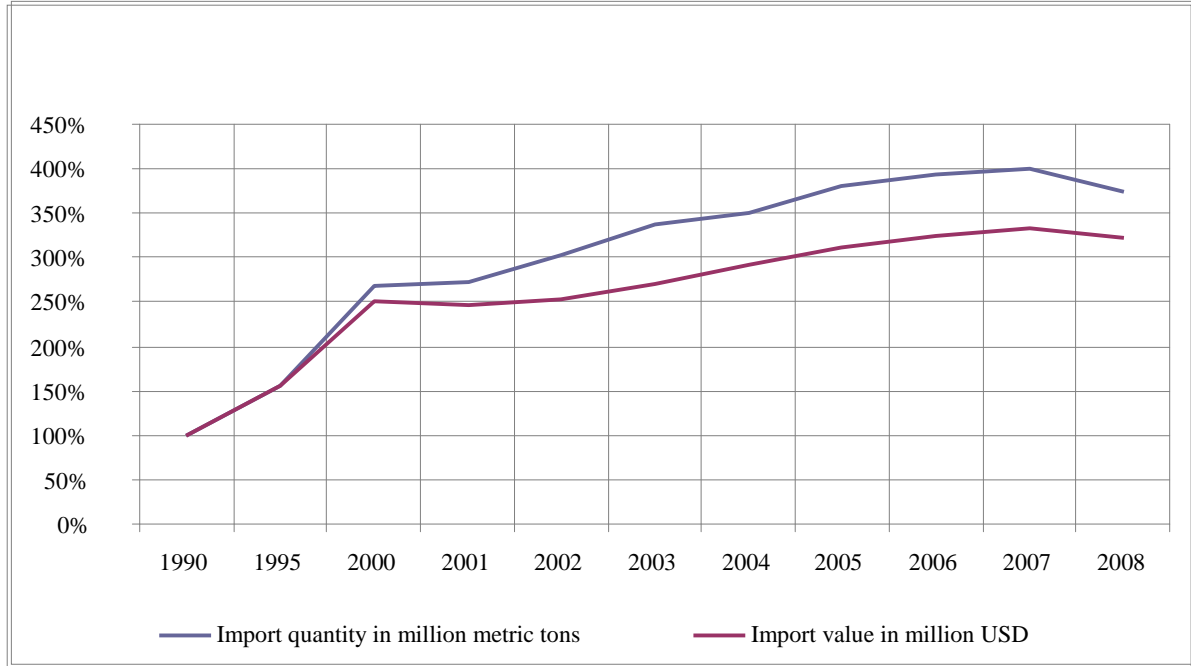
Source: UNIDO Calculations

Figure A4 Employment in textile and clothing 1995-2002 emerging economies (a)



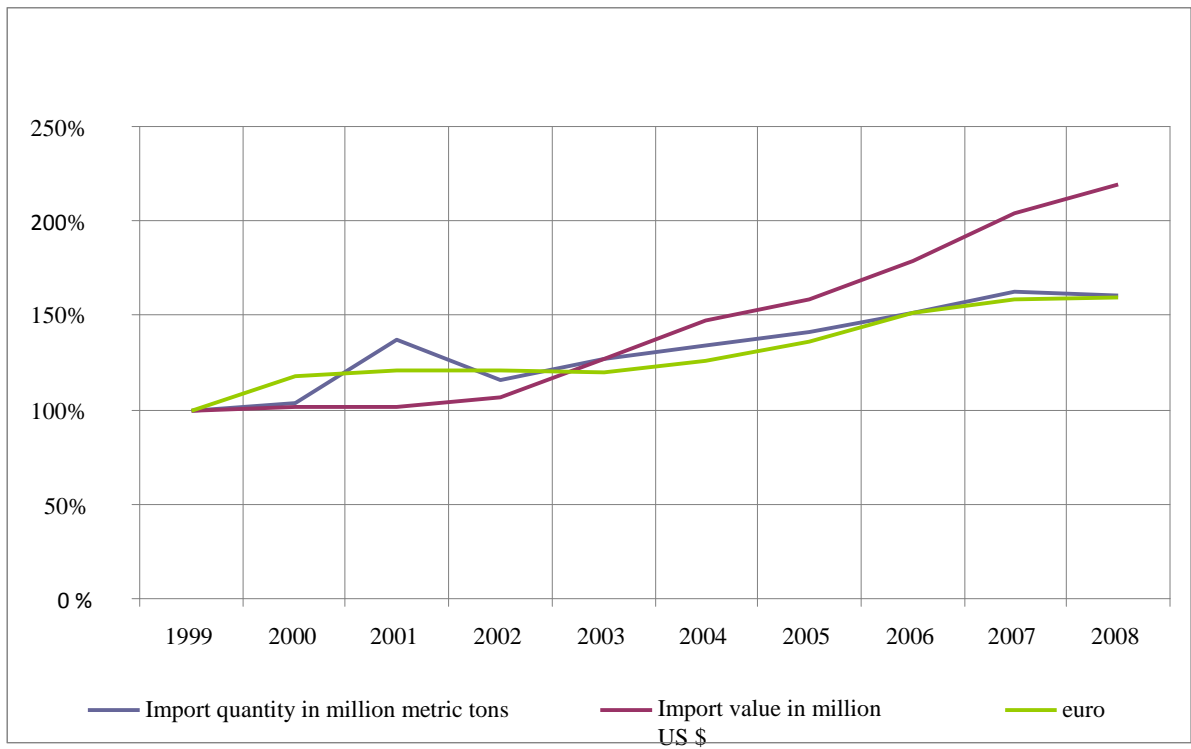
Source: UNIDO Calculations

Figure A5 US Imports Textile and Clothing



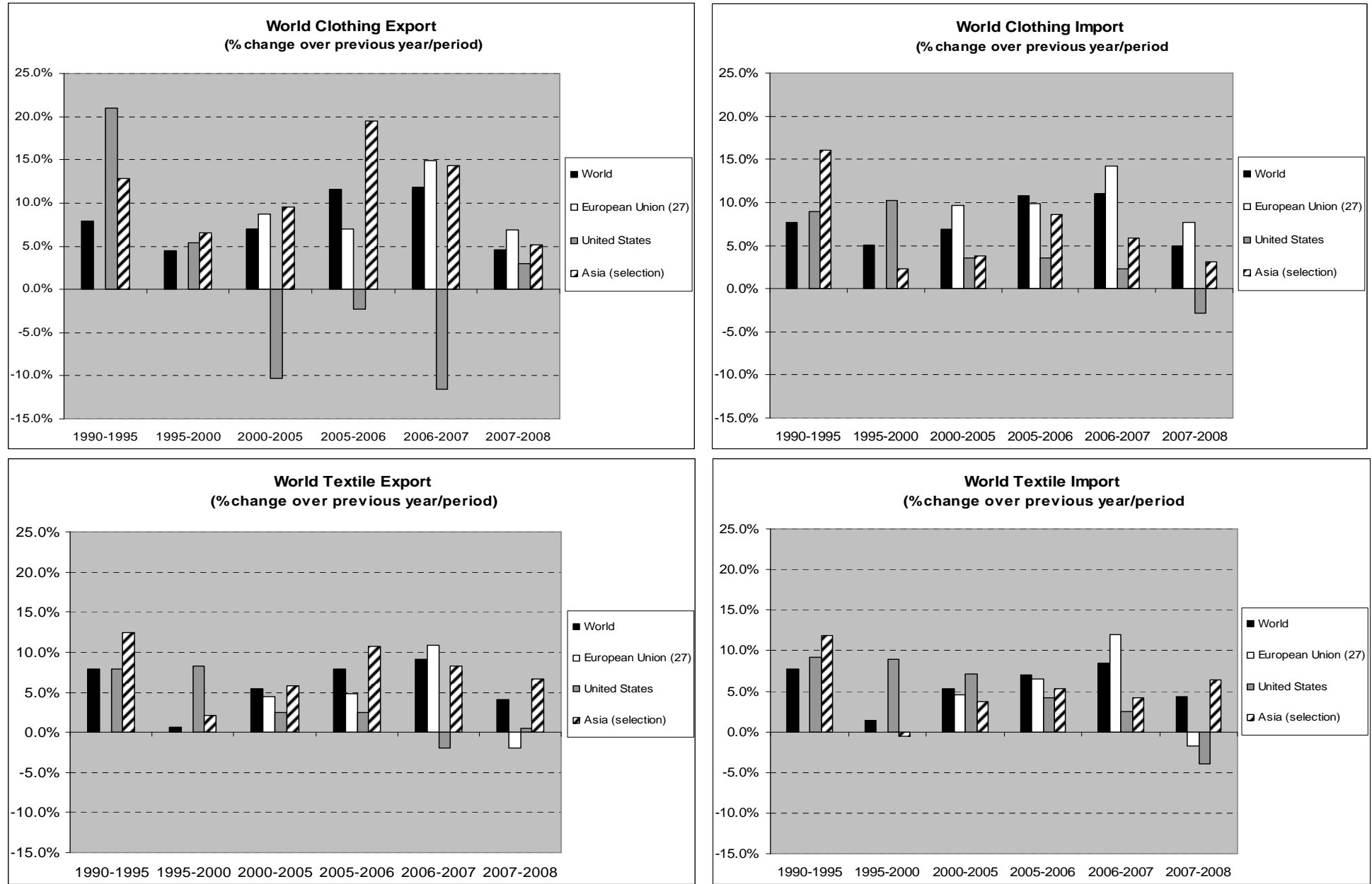
Source: ITCB database.

Figure A6 EU27-Extra Imports Textile and Clothing



Source: ITCB database.

Figure A7 Exports and Imports of Clothing and Textile - Percentage changeover previous year/period – Selected Regions: 1990 - 2008



Notes: the graphs are built on the data shown in tables A9, A10, A11, A12.
Source: UNIDO calculation based WTO database.



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