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Upgrading in the Global Apparel Value Chain: an Analysis on Asian Developing Countries' Competition with China in Exporting Apparels

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Abstract

The purpose of this research is to examine how regional suppliers of apparels have performed in the global apparel industry compared to China during the past two decades, and particularly after the phase out of the Multi-Fibre Arrangement (MFA), which up to 2004 applied quotas to exports of clothing in the largest end markets. The speculation prior to the quota phase out was that large increases of Chinese exports would be at the expense of other Asian suppliers. This thesis effort to trace what consequences China's growth in exports caused for developing countries in Asia in exporting apparels. This analysis has adopted a parsimonious approach from Bernhardt (2013) to examine these effects, concerning three factors for upgrading in the global apparel value chain. To detect economic upgrading, export values and export market shares are analysed from 1993-2012. Product upgrading can be achieved by increasing export prices or export like commodities at a higher price, where prices are used as a proxy for quality. The final upgrading factor is social upgrading, which is analysed by studying real wages and employment.

Major findings is that economic upgrading has been extensive in the country sample, but the other factors has been more difficult to achieve. As expected, China was the biggest winner regarding the apparel upgrading indicators, followed by India. However, most of the regional countries had larger growth in export values and did not lose market share to China after the MFA-phase out. The major reason for this may be the preferential treatment the other countries are granted as developing countries, such as GSP tariffs in the EU and the US. Product upgrading were not easy to trace in the apparel sector, as most countries have shifted to cheaper fabrics to meet price demand from industrialized countries. One interesting finding was that Indonesia, Cambodia and Vietnam operates with same prices for the product categories to the world market and to different markets. These prices were significantly higher than from China, Bangladesh and India. Social upgrading in sweatshops in developing countries were not expected, and although all countries managed to employ more people, real wages only increased in China and India.

Keywords: international trade, apparel industry, upgrading, GVC, China, MFA

Abbreviations

ASEAN	Association of Southeast Asian Nations
ATC	Agreement on Textiles and Clothing
BGMEA	Bangladesh Garment Manufacturers and Exporters Association
CEPA	Closer Economic Partnership Arrangement
CMT	cut-make-trim
EBA	Everything but Arms
EU	the European Union
FDI	foreign direct investment
FTA	free trade agreement
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
GSP	Generalized System of Preferences
GVC	global value chain
LDC	least developed country
LIC	low-income country
MANOVA	multivariate analysis of variance
MFA	Multi-Fiber Arrangement
MFN	most favoured nation
MMF	man-made fibers
NIE	newly industrialized economy
OBM	original brand manufacture
ODM	original design manufacture
OEM	original equipment manufacturing
PTA	preferential trade agreement
ROO	rules of origin
SAARC	South Asian Association for Regional Cooperation
SOE	state-owned enterprise
TIFA	Trade and investment framework agreement
TPP	Trans-Pacific Partnership
UAE	the United Arab Emirates
UN Comtrade	United Nations Commodity Trade Statistics Database
USA/US	the United States of America
WCO	World Customs Organization
WTO	World Trade Organization

Table of contents

List of tables

List of figures

Chapter 1: Introduction

1.1 The apparel industry

The textile and apparel industry includes all businesses in production, processing, distribution, selling and marketing of textiles (Mann, 2014). This industry is one of the oldest, largest and most globalized industries in the world, and have been around almost as long as humankind itself has when they used animal skins and clothing woven from leaves and grasses. However, the mass production of textile goods started along with the Industrial Revolution in the 18th century when new inventions made harvesting raw materials and creating textiles possible (Mann, 2014). The apparel industry includes all stages in the textile industry, and covers all knitted and woven clothing. Because of the industry's low cost of entry, relatively simple technology requirement and its labour-intensive nature, the apparel industry has become a gateway for developing countries to industrialization and national development (Gereffi and Frederick, 2010). The apparel industry has contributed significantly in developing countries in terms of GDP, foreign exchange, employment and industrial development. One example is Cambodia, where the apparel and textile industry contributes 12 percent of GDP, employs 90 percent of its manufacturing workers and comprise of 80 percent of total exports (Keane and Willem te Velde, 2008). With the large supply of low-skilled workers in developing countries, the apparel sector has employed millions of workers that would otherwise be unemployed.

However, the apparel industry has been one of the most protected industries in the world. Because most nations produce for the international textile and apparel market, the global expansion of the industry has been driven by trade policies, ranging from agricultural subsidies on input materials to a long history of quotas (Gereffi and Frederick, 2010). One of the most comprehensive trade policies regimes came into being in 1974, when the Multi-Fibre Arrangement (MFA) was created to manage the trade in textiles and apparel through a system of quotas. The motivation for the MFA was arguably to protect the domestic textile and apparel industry in developed countries from developing countries where production was cheaper (Evans and Harrigan, 2005). Under the MFA, the United States, Canada and many European nations restricted imports from developing countries, and each developing country was assigned a quota or amount of a specific item that could be exported.

With the foundation of the World Trade Organization (WTO) in 1995, the multilateral organization where trade rules are negotiated and the disciplines enforced under the WTO Agreement on Textiles and Clothing (ATC), the MFA quota restrictions were agreed to be phased out over a ten-year period, after which countries could export apparels without limits by 2005 (Naumann, 2006). The ATC was approved as part of the Uruguay Round Agreements Act in 1994 and went into effect 1 January 1995, and the integration process of eliminating quotas would finish 1 January 2005.

With the elimination of the quotas, it was expected that large producer-exporter countries such as China would be among the biggest beneficiaries of the ending of the MFA (Nordås, 2004). China experienced rapid economic growth averaging around 10 percent in GDP per year since the country began reforming and open to the rest of the world in 1978 (World Bank, 2014a). Exports from China started to accelerate, especially after China's accession to the WTO in 2001 (Chow, 2003). By 2012, China's share of world merchandise exports was 11 percent, ranging number one in the world with exports of goods worth more than US$ 2 trillion (WTO, 2013). Labour-intensive products, such as clothing, textiles and furniture, accounted for 20 percent of total Chinese exports in 2012. China's global apparel exports increased from US$ 17 billion in 1993 to US$ 148 billion in 2012. However, the share of apparel exports out of total merchandise exports from China declined from a 15 percent share in 1993 to 7 percent in 2012. Instead, exports of high-tech products have grown rapidly, by an average of 22 percent per year since 2002 (World Bank, 2014b). This may indicate that with China's economic graduation the industry are moving away from low-cost products towards more sophisticated, high-tech products.

The other regional apparel exporters in Asia were expected to lose their market shares to China after the quota was phased out. This paper investigates how the regional suppliers of apparels have performed compared to China from 1993 to 2012. The largest apparel exporters in South East Asia after China are Bangladesh, India, Cambodia, Indonesia and Vietnam, and these are the countries included in this study. The choice of countries were made because the apparel exports account for an important share of total merchandise exports and apparel production accounts for a significant share of formal sector employment. The countries also had to have a geographical relation to China, where transportation costs to the largest markets of the EU and the US are typically similar. Compared to China, these countries' shares

in global apparel exports are still small, which raises the following questions: Is China crowding out its regional competitors in exporting apparels or has it becoming less of a competitor as the country industrializes? Have regional competitors specialized in production/export by focusing in niche products to avoid direct competition with China in like products? Have competitors managed to upgrade in the apparel sector despite China's leadership?

Global value chain (GVC) analyses are suitable to explain changes in a labour-intensive industry such as apparels (Gereffi and Memedovic, 2003). A value chain involves the whole range of activities, from raw materials to the end market, including design, production and marketing. One of the main elements in a global value chain is the term upgrading, which can be accomplished by moving up the stages in one commodity chain, or move to other, more sophisticated value chains, e.g. from apparels to high-tech products (Gereffi and Memedovic, 2003). Bernhardt (2013) divides the term upgrading in the apparel value chain into economic and social upgrading, where economic upgrading is achieved by increasing export value and export market share, while success in social upgrading is achieved by increasing employment and wages. This thesis will focus on economic upgrading and uses Bernhardt's (2013) economic upgrading factors to examine how China and its major regional competitors have performed during and after the MFA quota phase out. In addition, the main task will be to detect product upgrading in the apparel value chain. Product upgrading can be achieved by moving to higher quality products or by improving the quality of an existing product.

The research questions will be examined using these three measures for upgrading. Economic upgrading is identified using export values for apparel products defined under Chapters 61 (knitted products) and 62 (woven products) of the Harmonized Commodity Description and Coding System (HS) of the tariff nomenclature using the UN Comtrade database. The HS is a multipurpose international product classification system developed by the World Customs Organization (WCO). Product upgrading is detected by studying sub-sectors of HS-61 and HS-62 at the 6-digit level. The most exported commodities at this level from each country will be examined from 1993 to 2012, where commodity prices are calculated as an indicator for quality. Social upgrading is identified by data on employment and wages, and are included as a supplement to the other factors.

1.2 Organization of the thesis

Chapter 1 introduces the importance of an apparel industry for developing countries and the sector's main policy changes during 1993-2012. It also motivates the problem for upgrading in the apparel value chain. Chapter 2 provides background of the important events in the international apparel sector and present information on apparel export performance for the sample countries. Important preferential agreements and government policies are also portrayed. Chapter 3 presents theory and reviews the related literature on trade, GVC analyses and the world apparel industry. Chapter 4 constructs a modelling framework or method to examine the research questions. Chapter 5 reports on the analysis and results, while the summary and conclusions are in chapter 6.

Chapter 2: Background

2.1 The global apparel industry

The apparel industry has traditionally played an essential role in industrial and economic development for low-income countries (LICs). Because of the industry's low entry barriers, such as relatively simple technology requirements and its labour-intensive nature, the apparel industry has become an entrance for developing countries to industrialization and national development (Gereffi and Frederick, 2010). The apparel industry has also contributed significantly in employing large numbers of unskilled, mostly female workers in developing countries. Most countries in the world contribute to the global apparel industry and it has become one of the largest export sectors in the world. Global exports of apparels valued US$ 412 in 2011, accounting for 2.3 percent of world merchandise exports (WTO, 2011). Two major events have had a large impact on the apparel industry the past 20 years, that is the end of MFA quotas and the global financial crisis.

2.1.1 From the Multi-Fibre Arrangement to the Agreement on Textiles and Clothing

Until 2014, the apparel industry had been one of the most protected sectors in international trade. The Multi-Fibre Arrangement (MFA) regulated international trade in textiles and clothing from 1974 until the end of the Uruguay Round. This framework for bilateral agreements or unilateral actions established quantitative restrictions (quotas) on imports into countries whose domestic industries could be damaged by increasing imports. The MFA was signed in 1974, and it crucially shaped production, trade and employment patterns in the global apparel commodity chain. The country limits of the agreement was a piece of U.S. legislation to set up quotas on all textile-manufacturing nations, and grew out of a series of voluntary export restrictions imposed by primarily the US, Japan and the UK from 1955 to the early 1970s on imports from mainly Hong Kong, India and Pakistan (Brambilla, et al., 2007). Henceforth, the restrictions were primarily applied to developing countries and the amount they could export to developed nations. In a period of over 30 years, developed countries used these quotas to protect their domestic textile jobs, but in fact, it also guaranteed textile producers around the world to export their full limit to the largest markets such as the US and Europe. For example, once the quota of textiles imported from Taiwan was full, US purchasers

would then import goods from Korea or another country that had quota available (White and Case, 2004). The quotas also helped establish apparel plants in countries without an apparel industry, which meant they had no quota restrictions at that time. Other countries had preferential trade agreements and were granted higher quotas than their competitors.

During the Uruguay Round, the last multilateral trade negotiation round under the auspices of the General Agreement on Tariffs and Trade (GATT), it was decided that the World Trade Organisation (WTO) should replace the GATT. Trade disciplines would be extended to textile trade under the WTO Agreement on Textiles and Clothing (ATC), replacing the MFA in 1995 (WTO, 2014a). Under the ATC, countries agreed to eliminate quotas on textiles and clothing, with the transition to the new agreement to take place in four steps phased in over a ten-year period. During the first phase of the quota removal, occurring between 1995 and 1997, the WTO members had to integrate a minimum of 16 percent of the total volume of their 1990 imports, followed by 17 percent the next four years and then 18 percent in the three subsequent years. The fourth and final step occurred on the date of full integration, 1 January 2005, with the remaining 49 percent of the benchmark 1990 imports (Nordås, 2004).

With nearly half of the quotas remaining until 2005, the transition process was heavily back-loaded (Yang, 1999). If importing countries chose to liberalize products that were not regulated by the MFA, then most of the transition would not happen before the very end. This unbalanced phase-out would cause a more rapid and painful change than would a steady and careful elimination over a 10-year period. Clothing products have a higher value added than raw textile materials; hence, most countries left these to the final stage of the phase out (Nordås, 2004). Table 2.1 shows the amount of restrictions still underlying the quota system before the final stage and the share of clothing constraints of the already integrated products.

Table 2.1: Integration progress

	Constraints carried over from MFA	Remaining constraints to be eliminated 01.01.2005	Share clothing constraints eliminated before step 4 (%)
USA	758	701	6,5
EU	218	167	6
Canada	295	239	7

Source: Nordås, 2004

With more than 90 percent of the constraints remaining until 1 January 2005, the full effects of the quota phase out would not be felt until then. The elimination of quotas led to increased protectionism through measures such as tariffs, anti-dumping and countervailing duties as substitutes for the previous trade barriers. Anti-dumping actions are used to protect local industry from imports that WTO rules otherwise force them to accept, like products priced below production costs or goods that are sold on the domestic market at a higher price than like goods sold on world markets, and uses a third country or a reference price to determine dumping margins. Anti-dumping sanctions are increasing faster for textile products than other imports (Neufeld, 2001). In WTO's statistics on use of anti-dumping actions, the textile and article sector is the fourth in most anti-dumping practices. From 1995 to 2013, there were 245 anti-dumping actions, by which 68 submissions were towards China, 18 to Indonesia and 13 to India (WTO, 2014b).

The significant changes in regulations in the post-MFA era caused even bigger changes in the textile and clothing trade market, when export values exploded. With the quotas gone, developing countries should have been enthusiastic for the possibility to export more. Instead, as China entered the WTO in 2001, most countries were concerned that the removal of quotas would harm their textile industry. In 2005, Chinese apparel exports grew over 20 percent in value terms, causing great discomfort for developing countries. In June that year, EU managed to impose new quotas placed on Chinese textile goods that expired at the end of 2008 (Barbarosa and Meller, 2005). China agreed to the exception as a way to moderate the fears that its accession to the WTO would harm other members. This gave a three-year window for developing countries to win market share before China could completely participate. However, once the quotas were completely removed, the market share would go to the countries with the cheapest labour and cheapest raw material. Because China had the cheapest labour and had one of the strongest textile industries in the world, developing countries were concerned that their products would not be able to compete if China could export without limits.

2.1.2 The Global Financial Crisis

The global financial crisis in 2008 is considered the other large event beside the MFA-phase out that affected the apparel industry the past 20 years. The economic crisis hit the apparel industry in the form of lower demand from the American and European markets, which led to

decreasing order volumes from apparel suppliers (Maquila Solidarity Network, 2009). This led to factory shutdowns and sharp increases in unemployment for many apparel exporters. World apparel exports fell by 13 percent in 2009, and of the sample countries, Cambodia experienced the worst drop in export values at 19 percent that year (UN Comtrade, 2014). China's exports dropped by 13 percent, Indonesia's by 6 percent and Vietnam's by 2 percent. Exports from India grew in 2009, but decreased by 6 percent in 2010. Bangladesh were the only country that did not see a drop in apparel exports during or after the financial crisis.

Employment in the apparel sector was hit especially hard due to lower need for production, and it is determined that 11 million people in the apparel industry lost their job because of the crisis, and a further 3 million workers on short-time contracts, out of an estimated apparel workforce of 60 million (Maquila Solidarity Network, 2009). The amount of apparel factory shutdowns due to the crisis was estimated to 8000 in the emerging economies.

2.2 Apparel export performance

2.2.1 Export values and market shares

Apparel export values and export market shares are the main aspects in order to detect the nations' export performance. China is by far the largest exporter of apparel products, and gai-

Table 2.2: Apparel exports and share of global exports in 2012

Rank	Country	Export value in million $USD	World share
1	China	148 270	35,08 %
2	Hong Kong	21 281	5,03 %
3	Italy	20 345	4,81 %
4	Bangladesh	19 788	4,68 %
5	Germany	18 468	4,37 %
6	Viet Nam	14 079	3,33 %
7	Turkey	13 864	3,28 %
8	India	12 896	3,05 %
9	France	9 440	2,23 %
10	Spain	9 278	2,20 %
13	Indonesia	7 184	1,70 %
16	Cambodia	4 278	1,01 %

Source: UN Comtrade, 2014; Bangladesh: BGMEA, 2014a; world data: WTO, 2014c.

ned the leading position in 1994, when it exceeded Hong Kong. Apparel exports from Hong Kong are mainly re-exports from China, which in 2012 accounted for 92 percent of the total

export value (HKTDC Research, 2014); consequently, Hong Kong is not included among the top exporters if re-exports are omitted. Table 2.2 shows top apparel exporting countries in export value terms in 2012. Apparel export values are from HS chapters 61 and 62 (UN Comtrade, 2014). Four of the six countries included in this analysis are among the top ten apparel exporters. Four of the remaining nations are developed countries and are assumed to export more sophisticated and higher value-added products than the developing countries. World apparel exports in 2012 were valued at almost US$ 423 billion, to which China contributed 35 percent.

Table 2.3: Apparel exports by regional countries

Years	China	Bangladesh	Cambodia	India	Indonesia	Vietnam	World
				(Values in million $USD)			
1993	16 574	1 306	-	2 586	3 391	-	128 792
1994	21 341	1 477	-	3 282	3 078	-	140 757
1995	21 282	1 969	-	3 665	3 242	-	158 353
1996	22 197	2 218	-	3 753	3 454	-	166 077
1997	28 642	2 688	-	3 879	2 785	-	177 616
1998	27 110	3 784	-	4 365	2 518	-	185 963
1999	27 327	-	-	4 795	3 735	-	184 587
2000	32 290	4 120	963	5 465	4 562	1 789	197 786
2001	32 408	4 039	1 130	5 044	4 345	1 820	194 451
2002	36 566	4 057	1 303	5 499	3 805	2 562	203 865
2003	45 757	5 041	1 593	5 916	3 982	3 386	233 243
2004	54 783	6 231	1 973	6 415	4 290	4 136	259 813
2005	65 902	6 846	2 202	8 201	4 900	4 558	277 988
2006	88 621	8 252	2 634	9 015	5 534	5 417	309 264
2007	108 881	9 323	2 657	9 373	5 631	7 204	347 132
2008	113 368	11 877	3 008	10 265	6 016	8 500	363 892
2009	100 479	11 892	2 436	11 312	5 661	8 329	316 381
2010	121 072	14 855	3 033	10 604	6 501	10 119	353 092
2011	143 238	19 214	3 983	13 745	7 691	12 820	416 521
2012	148 270	19 788	4 278	12 896	7 184	14 079	422 686

Source: UN Comtrade, 2014; Bangladesh after 2007: BGMEA, 2014a; World: WTO, 2014c.

Table 2.3 illustrate apparel export values during the period of study. Chinese apparel exports have grown by an average of 12 percent the past 20 years. From an export value of US$ 16.5 billion in 1993, it has increased eleven times this value to over US$ 148 billion in 2012. This reflects the economic expansion that has occurred in China. Bangladesh has had the best percentage increase in apparel exports since 1993. Starting with global exports valued US$ 1.3 billion that year, it rose to nearly US$ 19.8 billion in 2012, an increase of 1400 percent or an

average yearly growth of over 15 percent. Compared with China, which had an average yearly growth in apparel exports of 12 percent over the period, the performance of Bangladesh was better. Bangladesh is a relatively new country and started with almost nothing when it gained its independence from Pakistan in 1971 (Szczepanski, 2014), however, it has managed to become one of the leading global clothing exporters by 2012. According to Bangladesh Garment Manufacturers and Exporters Association (BGMEA), Bangladesh is the second largest clothing exporting country in the world (BGMEA, 2014b). Average yearly growth from 2000 to 2012 was 14 percent for Bangladeshi apparel exports, surpassed only by Vietnam, which experienced yearly growth of 19 percent since 2000. Vietnamese apparel exports increased from a value of US$ 1.8 billion in 2000 to US$ 14 billion in 2012. Indonesia was the second largest apparel exporter of the five countries in 1993 with an export value of US$ 3.4 billion, but has had the weakest growth of all with an average yearly rate of about 4 percent both from 1993 and from 2000 to 2012.

India was one of the countries in addition to China expected to gain from the MFA quota phase out because of its large population and market power. However, it is the country with the second lowest growth in apparel exports after 2004, averaging 9 percent annually, only surpassing Indonesia whose growth was 6.5 percent per year since 2004. Until 2004, India's yearly growth in apparel exports was only 0.5 percent lower than after the quota elimination, suggesting that India was hardly affected by the changes in the multilateral trade regime. Yet, India was the eighth largest apparel exporting country in 2012 with an export value of US$ 12.9 billion.

Cambodia had the smallest export value of the countries in 2012 at US$ 4.3 billion. The garment and textile industry in Cambodia started relatively late, after the Cambodian-Vietnamese War (1979-1991), when foreign investors set up manufacturing there in 1993 (Thomasson, 2013a). From 2000 to 2004, Cambodian exports grew by an average of 20 percent per year at a time when foreign investors took advantage of unused quotas. Cambodia faced tougher competition after the quotas were gone, and growth in apparel exports averaged 10 percent per year from 2004 to 2012.

2.2.2 Apparel reliance

Trade is a key means to fight poverty, and the Asian developing countries included in this study highly depend on their apparel exports. Not only as a way to earn foreign capital and investment, but the textile and apparel sector is the largest employer in these countries.

Table 2.4: Apparel exports as a percentage of total merchandise exports

Exporter	1993	1998	2001	2005	2008	2012
China	18 %	15 %	12 %	9 %	8 %	7 %
Bangladesh	51 %	74 %	66 %	74 %	77 %	79 %
Cambodia	-	-	75 %	71 %	64 %	52 %
India	12 %	13 %	12 %	8 %	5 %	4 %
Indonesia	9 %	5 %	8 %	6 %	4 %	4 %
Vietnam	-	-	12 %	14 %	14 %	12 %

Sources: Apparel exports: UN Comtrade database, Total merchandise exports: WTO, 2014a.

Table 2.4 show that Bangladesh and Cambodia are the countries that rely most on their apparel exports. Bangladesh is the only country where the apparel exports are still increasing in importance, and in 2012, it accounted for 79 percent of all merchandise exports. Cambodia is still heavily dependent of the apparel sector with 52 percent, but the reliance is diminishing. In 2001, 75 percent of all merchandise exports were apparel products. Vietnam's apparel exports have been stable at around 12-14 percent since 2000. The other countries have had decreasing importance of apparel exports, indicating that they have upgraded to a higher value-added part of the apparel GVC or moved to more high-tech and capital-intensive products. Analyses show that as economies become more developed, the contribution of capital-intensive inputs to GDP growth increases relative to the labour-intensive inputs (Ross, 2010). In the case of China, exports of high-tech products have grown rapidly with an average rate of 22 percent per year since 2002, and has taken a 29 percent share of exports in 2012 (World Bank, 2014b). Thus, while apparel exports has decreased in importance, high-tech products has become more significant. Frederick and Staritz (2011) and Staritz (2012) have similar calculations of apparel reliance in their studies. Values available are from 1990, 2000, 2004 and 2007-2010 for Bangladesh, Cambodia, India and Vietnam. Most statistics support values in table 2.4, however two are significantly different. They report that apparel exports from Cambodia consisted of 85 percent of merchandise exports in 2008 and 79 percent from Bangladesh in 2000. Using clothing export values compiled from the WTO statistic database instead of the UN Comtrade, as Frederick and Staritz (2011) states they did, the value of 79

percent from Bangladesh in 2000 is supported; however, the value of 85 percent from Cambodia is not. Thomasson (2013a) reports that 85 percent of Cambodia's exports consist of textile and clothing, hence this figure is not only for apparels.

2.3 Export markets

The export markets from all nations have changed between 1993/2000 and 2012, and capturing new markets is important to increase profits. For China, Bangladesh, Cambodia and India, the top six importing countries consisted of a larger part of all exports in 1993 (2000 for Cambodia) than in 2012, which implies they have diversified their exports to new markets or increased their exports to existing markets. Another possibility is that the exports to their principal importers have decreased between the years. China's top export markets in 1993 imported 79 percent of China's export basket, while the top six countries in 2012 imported 49 percent of the exports. When Russia, as the sixth largest importer of China's garment exports in 2012, accounted for only three percent, China must have diversified its export markets around the world.

Table 2.5: Principle export markets 1993/2000 and 2012

Exporter	China		Bangladesh		Cambodia		India		Indonesia		Vietnam	
Importers 1993/2000	Hong Kong	29	USA	53	USA	76	USA	27	USA	27	Japan	32
	Japan	24	Germany	12	UK	8	Germany	12	Germany	10	Other Asia	14
	USA	15	UK	8	Germany	6	UK	10	Japan	9	Germany	14
	Russia	4	France	8	France	2	France	7	Singapore	8	France	4
	Germany	4	Italy	6	Netherlands	2	UAE	5	UK	8	UK	4
	Australia	2	Netherlands	4	Ireland	1	Netherlands	5	Saudi Arabia	6	South Korea	3
Others		21		10		4		33		33		28
Importers 2012	USA	18	USA	23	USA	45	USA	24	USA	53	USA	53
	Japan	14	Germany	17	UK	9	UK	12	Germany	8	Japan	13
	Hong Kong	5	UK	11	Canada	9	UAE	11	Japan	7	South Korea	7
	Germany	5	France	6	Germany	8	Germany	7	UK	4	Germany	4
	UK	4	Spain	6	Japan	3	France	5	South Korea	3	UK	3
	Russia	3	Others EU	18	Spain	3	Spain	4	UAE	2	Spain	3
Others		51		37		22		37		23		18

Source: UN Comtrade, 2014; BGMEA, 2014a.

The USA imported 53 percent of Bangladeshi apparel products in 1993 with a value of US$ 685 million, and although exports there in 2012 valued almost US$ 5 billion, its share of total exports from Bangladesh had declined to 23 percent. However, the US was still the largest market for Bangladesh in 2012. Only 10 percent of total exports in 1993 were shipped to other

countries than the top six, even without counting for the EU as a whole, as is done for 2012. The USA and the EU are the major importers both years, but 37 percent of the exports in 2012 were distributed to other parts of the world, which is second highest after China. The European Union as a whole accounted for 58 percent of all apparel exports, and Bangladesh shipped garment products for US$ 12.5 billion there in the fiscal year 2012-2013 (BGMEA, 2014a).

Cambodia exported 76 percent of its apparel goods to the US in 2000 and only 4 percent were sent to other markets than its top six. The country still relied heavily on the US for its apparel exports in 2012, but to a smaller degree, at 45 percent. Exports to countries outside the top six increased to 22 percent, showing that Cambodia also managed to expand its market. For Indonesia and Vietnam, the share of exports to other markets than their top six declined between the two examined years. Indonesia became more dependent of the US, which imported 53 percent of total in 2012 and 27 percent in 1993. The US also imported 53 percent of Vietnamese apparel exports in 2012, and the US was not even among the top six in 2000. Bangladesh exports most of its apparel products to the USA, Germany, the UK and France. The European Union as a whole account for 58 percent of all exports, and Bangladesh shipped garment products for US$ 12.5 billion there in the fiscal year 2012-2013 (BGMEA, 2014a). Indian exports in both 1993 and 2012 were mainly shipped to the US, the EU and The United Arab Emirates (UAE). The strong economic relations between India and the UAE is due to the Indian Diaspora living in UAE, which amounts to almost two million Indians living and working there. This is the largest expatriate group in the UAE and account for 30 percent of the population (UAE Embassy, 2014).

2.4 Tariffs and preferential trade agreements

In the post-MFA era, world apparel trade flows were no longer restrained by quotas, but the tariffs still played a central role to shape and control the market. Average most favoured nation (MFN) tariffs on imports of apparel in 2012 for the US were 11.6, but varied considerably for different product groups between 2.8 and 32 percent (WTO, 2012a). Tariffs on apparel imports to the EU varied between 0 and 12 percent, with average MFN tariffs at 11.5 percent (WTO, 2012b). These tariffs on apparel products are considerably higher than the average of manufactured products, which was 2.6 percent for the US and 4 percent for

the EU. Only fish and fish products to the EU had higher tariff duties of the manufactures goods, with an average MFN tariffs at 11.8 percent.

An important aspect in calculating the appropriate tariff treatment on imported products is establishing the country of origin (Trebilcock and Howse, 2005). In the apparel industry, goods may be processed, assembled, packaged or finished in a variety of different countries, or shipped via another country before entering the end market. The rules-of-origin (ROO) are used to determine whether a product may be considered as necessarily linked to the country from which it is exported to say that it 'originates' from it. There are no multilateral rules that control the determination of rules of origin, and are generally categorized as either preferential or non-preferential. The former eases market access to particular markets, while the latter restrict access. Most developing countries are classified as preferential countries. One way to establish the originating country is depending on the number of transportation stages in which the specific product has been involved (EC, 2013b). For a product to be from a particular state, it must be substantially transformed there, and the traditional substantial transformation rule states that a good originates in the last country where it emerged from a given process into a new and different article, with a distinctive name, character or use (Weiler et al., 2011). To prevent a product from having multiple countries of origin, the good is a product of the country where it last underwent substantial transformation. However, different countries have different rules for establishing origin.

For apparel, it is common to differentiate the rules-of-origin in single, double and triple transformation (Staritz, 2012). The single transformation is where only the sewing stage has to take place, double transformation means the sewing stage and one input production step has to occur, such as knitting or weaving of fabric, and triple transformation is where, in addition to the latter two, also the spinning of yarn has to take place in the beneficiary country.

Since apparel exports face some of the highest tariffs of manufactured products, preferential market access plays a substantial role for apparel exporting countries and has an important impact on global production and trade patterns. China only have one preferential trade agreement among its largest markets, namely a Closer Economic Partnership Agreement (CEPA) with Hong Kong. A free trade agreement (FTA) with Australia was signed in 2005 (ARIC, 2014), but it has not gone into effect due to concerns for Australia's agriculture industry

(Devonshire-Ellis, 2014). The countries' most important preferential trade agreements are listed in table 2.6, and a complementary figure is available in the appendix.

Table2.6: Preferential trade agreements

	Bilateral	Regional	Others
China	Hong Kong: Closer Economic Partnership Arrangement (2003)		
Bangladesh			GSP EBA
Cambodia	USA: Bilateral Textile Trade Agreement (1999) USA: Bilateral Trade and Investment Framework Agreement (2006)	ASEAN	GSP EBA
India		SAARC	GSP
Indonesia	Japan: Economic Partnership Agreement (2008) USA: Bilateral Trade and Investment Framework Agreement (1996)	ASEAN	GSP
Vietnam	USA: Bilateral Trade Agreement (2001) Japan: FTA (2009) Chile: FTA (2012)	ASEAN SAARC	GSP

Sources: ARIC, 2014; EC, 2013a; ASEAN, 2014a; Staritz and Frederick, 2012

All the countries included in this thesis except China enjoys preferential treatment on their apparel exports to the EU through the Generalized System of Preferences, GSP (USTR, 2014). The GSP scheme provide reduced or zero tariff rates to developing countries over the MFN rates and started early in the 1980s (UNCTAD, 2014). The MFN principle is that all members of the WTO must treat all other members no worse than they treat the imports from their "most favoured" trading partner. Some GSP granting nations also offer extra beneficial tariff rates to the least developed countries (LDCs), a category to which Bangladesh and Cambodia belong. One of these schemes is the "Everything but Arms" (EBA) initiative by the EU, which has granted most products except arms and ammunition from the 49 LDCs full duty-free and quota-free access to the European market since 2001 (EC, 2013a). Most countries' ROO on apparel products are double transformation. However, in 2011, the EU relaxed this policy and the countries qualified for the EBA preferences could enjoy single transformation ROO, meaning that the clothing production stage is enough to be eligible for preferential market access to the EU (Staritz and Frederick, 2012). This was particularly beneficial for Cambodia as it imports all its fabrics.

The GSP scheme has also suspended the tariff preferences for some countries and particular goods in respect of a GSP beneficiary country concerned (EU, 2012). China is suspended tariff

preferences for both textiles and apparels, while India cannot enjoy lower tariff rates on its textile exports. The GSP rate on apparels are slightly lower than the MFN rate, but with the competition from Bangladesh, which benefits from the duty-free treatment, the overall effect of the GSP on India's apparel exports is negative (Hoda and Prakash 2011).

At the regional level, three of the countries analysed in this paper are members of the Association of Southeast Asian Nations (ASEAN), which was established to promote economic growth and cooperation, and welfare of the people in the region (ASEAN, 2014a). Cambodia, Indonesia and Vietnam therefore enjoys preferential trade agreements through this association with Japan, India, South Korea, China, Australia and New Zealand in addition to the other members (ASEAN, 2014b). Another important regional collaboration is the South Asian Association for Regional Cooperation (SAARC), by which Bangladesh and India are among the member states. However, the potential for regional trade in the apparel sector is largely unused (Staritz and Frederick, 2012).

In addition to the agreements through ASEAN and GSP, Cambodia has also benefited from bilateral trade agreements with the US. A textile trade agreement was signed in 1999 that allowed increased clothing exports from Cambodia if it reformed its labour laws with the assistance of the International Labour Organization (ILO, 2009). When the MFA was phased out at the end of 2004, so was the US-Cambodia Bilateral Textile Agreement that was based on the quota system. Nevertheless, the Cambodian government and apparel firms decided to continue the ILO monitoring program. The two countries signed a new agreement, a bilateral Trade and Investment Framework Agreement (TIFA), in 2006, securing the future for Cambodian exports, especially because the US is by far the most important market where 45 percent of apparel shipments were headed to in 2012.

As of 2012, India does not have free trade agreements with any of its principal export markets, but is negotiation one with the UK alone (*Economic Times*, 2013), and one with the EU (ARIC, 2014). In 2006, the India – Gulf Cooperation Council Free Trade Area was signed, which the United Arab Emirates is a part of, but has yet to go into effect.

Indonesia was one of the founders of ASEAN in 1967, but in contrast to some of the other members, Indonesia has not signed any free trade agreements with the US or the EU, which may have affected its competitiveness. Several agreements have been proposed or

negotiated, but most have gone unsigned (ARIC, 2014). However, the US and Indonesia signed a trade and investment framework agreement (TIFA) in 1996 which the two parties both benefits from. The Japanese market's importance for Indonesia may be due to the Japan-Indonesia Economic Partnership Agreement, signed in 2008.

The United States is also the major export market for Vietnamese apparels and the two parties signed the US-Vietnam Bilateral Trade Agreement that went into effect in December 2001, opening up the US market by reducing tariffs from an average on 40 percent to three percent (US Embassy, 2014a). The following year, Vietnam's apparel exports to the US increased 20 times the value in 2001, to US$ 995 million. Another important agreement with the US is the Trans-Pacific Partnership (TPP). The United States, Vietnam and ten other countries are working on a free trade agreement to promote innovation, economic growth and development, and create more jobs. The TPP is bringing together some of the fastest growing economies across the Asia-Pacific, both developing and developed countries, into one trading community, accounting for nearly 30 percent of global GDP (US Embassy, 2014b). Japan is Vietnam's second largest importer of apparels and the two countries signed a free trade agreement in 2009, which accelerated the trade. Through the ASEAN, Vietnam has a free trade agreement with South Korea as well, which was the third largest export market in 2012.

2.5 Backward linkages and government policies

China is involved in the whole textile and apparel value chain, and the sector is vertically integrated in all stages of the fibre-, textile- and apparel production, because of its large supply of raw materials and huge supply of productive labour. China is also the main source of inputs to apparel production for the other countries. Because of its large apparel supply, China meets restrictions rather than preferential treatment like its competitors do, and relies heavily on competitive prices, effective workers and decent infrastructure. The government provided almost US$ 500 million in public funds to China's textile and apparel industry between 1997 and 2000 in the form of grants or tax forgiveness. In addition, large quantities of advanced apparel equipment for US $ 18.9 billion were imported to upgrade the industry from 2000 to 2005 (Stewart, 2007). These actions, together with the overall improvement of the economic situation in China, turned the Chinese apparel industry into the largest in the world.

Local sources in Bangladesh are able to supply about 80 percent of the apparel industry's demand for accessories such as thread, buttons, labels and bags. However, the industry highly relies on imported woven fabric and yarn because the local textile industry does not meet the quality, quantity or variety restrictions (Staritz and Frederick, 2012). The supply chain for knitted apparels, however, are well established, and the suppliers can create 85-90 percent of the fabrics and about 75 percent of the yarn required. To support the knitted industry, a dying and finishing sector has emerged, but the woven sector is not as developed. Cotton is almost completely imported, and the value of cotton imports has increased more rapidly than the value of textile imports due to the differences in the two sectors' developments. Investment costs vary between the knitted and woven industry, and a factory for woven fabric production is about 10 times as expensive as a knit fabric mill (Staritz and Frederick, 2012).

Bangladesh's apparel export sector started in the late 1970s when manufacturers from the NIEs were motivated by available MFA quotas and Bangladesh's huge supply of low-cost labour. Local entrepreneurs followed, and the government introduced two important policies to develop the apparel industry. The first was a system of bonded warehouses where firms could delay tariff payments until they were ready to consume the imported inputs, and if the inputs were used for producing exports, they were not obligated to pay the tariffs at all. The second policy involved deducted charges and interest from the local bank on imported inputs that were used for export products. Thus, the manufacturers saved the financial involvement in purchasing inputs from abroad. International institutions had an important role in funding infrastructure, but also skill development in cooperation with the government or industry associations (Staritz and Frederick, 2012). The government also encouraged the knitted sector with low interest rates and government support to land development, power and infrastructure. Because of larger costs to invest in the woven sector, this was only applied to the knitted segment.

Cambodia's apparel industry has weak domestic linkages and imports most of the inputs for the apparel production. This includes over 90 percent of its textile inputs, and most of the accessory, packaging and presentation materials (Savchenko, 2012). The mass-production garment industry was established when foreign investors from Hong Kong, Taiwan, Malaysia and Singapore put up factories there around 1994, and about 90 percent of Cambodia's apparel plants are still foreign owned today (Natsuda et al., 2009). Cambodia was an attractive

market, because it faced no quota restrictions to the US and the EU because it was not part of the MFA system at the time. The high dependency of Cambodian input imports could be explained by the foreign ownership, which give local apparel firms in Cambodia limited decision power. Cambodia's apparel industry is concentrated in cut-make-trim (CMT) production, which is the first step in the apparel chain, displaying that Cambodia has a huge upgrading potential.

The government in Cambodia has generally supported the development of the apparel sector, starting with approving the establishment of 100 percent foreign-owned factories in 1994 (Savchenko, 2012). The government also improved the business environment and provided favourable policies for foreign investors, e.g. duty-free imports for export sectors, new laws to establish export-processing zones (EPZs), tax holidays and financial incentives (Natsuda et al., 2009). However, most of the policies were oriented to attract foreign direct investment (FDI) rather than upgrading the apparel industry, and the government was not very efficient in implementing the policies (Savchenko, 2012). The government did prepare a strategy in 2005 to face the MFA quota phase out – the Cambodian Garment Industry Development Strategy – where the main tasks was to develop the garment industry, sustain export competitiveness and diversify its exports in niche markets. The government also initiated a few programs to maintain apparel exports and keep jobs to cope with the financial crisis in 2008. These included cuts to export fees on apparel costs by 10 percent and supported diversification to new markets.

India is one of the few nations in the world other than China that has a vertically integrated textile and garment sector, which includes all stages of fiber-, textile- and apparel production (Staritz and Frederick, 2012). This is because of the significant raw material base India holds. Until the 1980s, India's textile and apparel sectors were aimed to the domestic market, but the industries began to be liberalized and then integrated into world markets. Unlike Bangladesh and Cambodia, which integration to the global industry was based on "quota-hopping", India's integration was driven by local firms that restructured and extended their export markets.

The Indian state implied policies to shape the textile and apparel sectors, which included a strict licensing regime where firms were required to get permission to establish or expand

ventures, reservation policies, where apparel production was reserved for small-scale businesses, and the government controlled exports and imports (Staritz and Frederick, 2012).

Indonesia also has a well-established textile industry that involves almost every part of the textile and apparel supply chain, including production of man-made fibers (MMF), and cotton spinning, weaving and knitting, dyeing, printing and finishing and apparel products manufacturing. Indonesia's Ministry of Industry (MOI) committed to help the industry through fiscal incentives for the industry to stay competitive on the global market, and the government is investing in new textile machinery (Thomasson, 2013b).

Vietnam is highly dependent on imported raw materials and inputs, especially from China, which contribute 50 percent of imported materials, including cotton, yarn and fabric. VINATEX is a state-owned and state-controlled company, which control most of Vietnam's textile and garment production and export (Thomasson, 2014). The corporation is aware of the need to develop domestic raw material production and reduce the dependence on imports. The strategy is to increase its raw material imports while still meeting export demand by investing in 57 projects, including cotton farming, yarn spinning, weaving and garment manufacturing in 2014 (Thomasson 2014). Vietnam was not a member of the WTO until 2007, which meant the nation's exports were still restricted by the quotas until that year. The export oriented apparel sector in Vietnam started by the adoption of the "doi-moi" reform in 1986, which was set to reduce the amount of governance interference and move to a more market-based economy (Thoburn, 2009). This led to growth in exports and attraction of FDI, yet, state-owned enterprises (SOEs) still played a critical role in the economy and industrial development, like VINATEX in the apparel industry. The accession to the WTO in 2007 improved market access and cost competitiveness, and Vietnam's apparel exports started to accelerate. Moreover, the apparel sector has also upgraded production processes, capabilities and backward linkages. The government's and some SOEs' investments in modernised equipment increased Vietnam's productivity in the apparel sector during the 1990s and 2000s, which was a strategy to cope with the post-MFA effects. Other government actions involved improved infrastructure, reduction of import tariffs, support of MMF and yarns production and support of product development, design and branding capabilities.

The preferential agreements and government policies to promote exports have all evolved related to how international trade has evolved since its start. The next chapter explains the concepts of international trade and provide related literature on the apparel industry in Asia.

Chapter 3: Theory and related literature

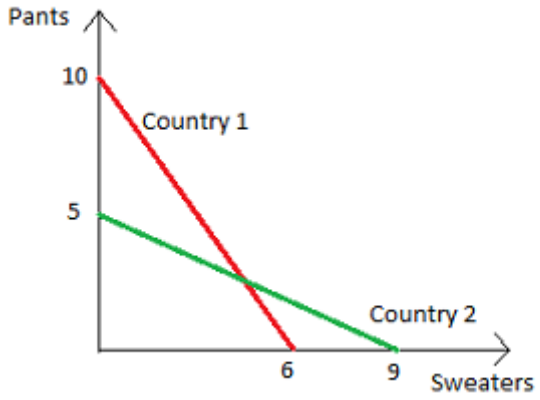
3.1 Trade theory

This chapter contains the evolution of international trade and introduces the global value chain. It also addresses several related studies on the apparel industry in Asia and mainly on how the elimination of the MFA quotas affected the global trade.

3.1.1 Trade history

One of the earliest advocates of the advantages of international trade was Adam Smith (Langdana and Murphy, 2014). In the 18th century, he proposed a theory to explain that nations can benefit from trading with each other because different countries will use different quantities of resources in producing the same goods. Thus, each nation should specialize in the production of the good(s) in which it has an input-cost advantage. Through the process of specialization, global output is maximized, and by trading freely, each nation will obtain a greater quantity of goods than before. The idea was called absolute advantage, and a country is said to have absolute advantage in for example sweaters when it can make one sweater with fewer units of labour than other countries. Another country could have an absolute advantage in producing pants. Thus, under complete specialization without trade, one country would have sweaters but no pants and the other country would have pants but no sweaters. The countries had to trade freely with each other where they produced and exported products in which they had absolute advantage and imported the others.

Figure 3.1: Absolute advantage

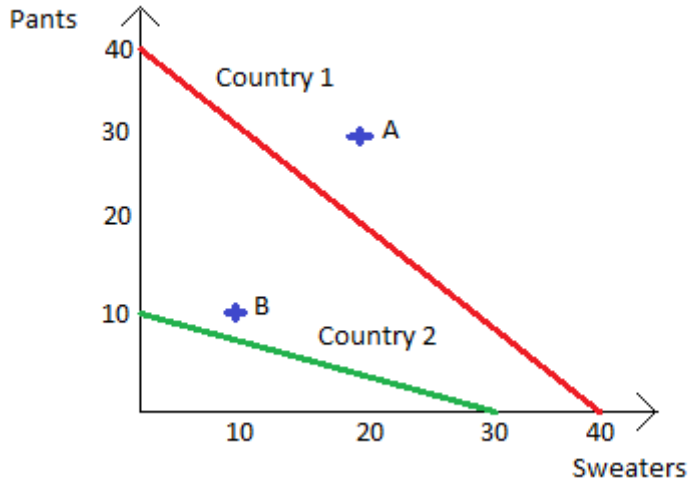


Source: Author's explanation

Absolute advantage is explained in figure 3.1, where country 1 has an absolute advantage in producing pants and country 2 has an absolute advantage in producing sweaters, assuming they have the same amount of inputs. However, there was a problem in the idea if more countries were added to the theory that was neither the most efficient producer of sweaters nor the most efficient producer of pants.

David Ricardo refined Adam Smith's theory in the early 19th century by developing the concept of comparative advantage, where a country only has to have a relative cost advantage to benefit from trade. A country has a comparative advantage in the goods and/or services that it makes or provides more efficiently relative to another country (Langdana and Murphy, 2014). Ricardo argued that the basis for trade between countries was international differences in labour productivity, and his original model had the assumption that labour was the only factor of production. Ricardo theorized that each country exports the commodities that it can produce at lower average labour costs, thus more productively, compared to other commodities. Differences in labour productivity between countries result in a price difference for the same good in different countries. This price difference is the reason countries can benefit from engaging in trade.

Figure 3.2: Comparative advantage



Source: Author's explanation

Figure 3.2 shows the advantages of trade, even though country 1 has absolute advantage in pants and sweaters, they would both benefit from trade. Country 2's opportunity cost is 1 pair of pants against 3 sweaters and would be willing to trade anything less than this. If country 1

initially produced 40 pants and country 2 produced 30 sweaters, and country 2 want to trade 20 sweaters for 10 pants, country 1 would end up in point A, which is better off than before. However, when country 2 give away 20 sweaters and get 10 pants, this country would be better off than before as well in point B.

Another important factor in productivity is capital, which later was added to Ricardo's model. Capital is a measure for all non-human activities, such as plant and equipment, infrastructure and buildings. Nevertheless, the theory still suffered from simplifying assumptions, such as no trade barriers and no transportation costs, which play a vast role in international trade. In the 20th century, international trade theorists tried to extend trade theory beyond explaining why nations trade to explaining why nations trade certain commodities. Several theories have been proposed to explain this composition, and one of them is Porter's (1990) diamond of national competitive advantage. The theory attempts to analyse the reasons for a nation's success in a particular industry (Parrish et al., 2004). Porter postulated four main determinants of national competitive advantage: factor conditions; demand conditions; related and supporting industries; and firm strategy, structure and rivalry. Success occurs where these attributes exist. Moreover, the greater the attribute, the higher chance of success. The factor endowments are a nation's position in factors of production such as skilled labour or infrastructure necessary in a given industry. It consist of basic factors, e.g., natural resources, climate and geographic location, and advanced factors such as skilled labour, research and technology. The demand conditions impacts quality and innovation, while the related and supporting industries creates clusters of supporting industries that are internationally competitive. The determinant of firm strategy, structure and rivalry is the condition of how a nation is governing new companies, and how they are organized and managed. The presence of domestic rivalry improves a company's competitiveness. In addition, two external factors influence the four determinants: chance and government. Porter's theory should predict the pattern of international trade in the real world, where countries should export products from those industries where all four determinants are favourable, while import in those areas where the determinants are not favourable.

Langdana and Murphy (2014) point out that the application of Porter's model on the textile and apparel industry is not as clear-cut as it may seem, because the model only explains why a country becomes the base for a certain industry. However, many studies have been

conducted using this theory: Mann & Byun (2011) for a case on India and Jin (2004) for a case on the East Asian newly industrialized countries.

Porter's theory explains the need for upgrading from comparative advantage to competitive advantage in a particular industry. The term "upgrading" is also an important factor when studying an industry as a commodity chain, which describes the transforming process from a product's primary stage to its final stage in which it is delivered to the end users. While new trade theories, like Porter's Diamond Model, explain trade as competitive advantage in industrial clustering, global value chains (GVC) explain trade in intermediate inputs and services within firms, countries or regions (Sydor, 2011).

3.1.2 The Global Value Chain

The concept to use GVCs to analyse international trade started in the 1990s, with Gereffi (1994) as the forerunner. Gereffi (1994) differentiated the characteristics of a GVC and classified it into two groups: buyer-driven and producer-given GVC. The producer-driven chain include capital and technology intensive production, and is mostly coordinated by the producers to deliver parts and finished goods to the end market. This value chain tend to have high barriers of entry because of the needed technology and capital. The buyer-driven GVC tend to have low entry barriers and the producers are depending on the decisions of buyers concerning design and marketing. Apparels is a typical case in a buyer-driven chain, where the major part of production links are connecting to developing countries. One of the main concepts for a buyer-driven chain is economic upgrading, where firms, countries or regions move to higher-value activities in the GVC in order to increase its benefits. In the apparel value chain, this can be linked to a series of economic roles, whereas apparel firms, countries or regions can upgrade to each stage. The stages are described in chapter 4, but one of the stages is of specific importance. The functional upgrading trajectory represents the main categories of apparel suppliers, by which the firms, countries or regions can upgrade within (Gereffi, 1999). Figure 3.3 describes these categories. It can be expected that each time firms, countries or regions enter a new stage; they demand new knowledge and skills. The evolving countries of the East Asian newly industrialized economies (NIEs), South Korea, Taiwan, Singapore and Hong Kong, are a particular example of functional upgrading through these trajectories, and a

study on the case completed by Gereffi and Memedovic (2003) is included in the literature review.

Figure3.3: Trajectories in functional upgrading

Functional categories	Capabilities	Country example
Assembly (CMT) ↓	The manufacturer is resposible for sewing apparel and may be responsible for cutting the fabric and providing simple trim (buttons, zippers, etc.). The buyer provides product specifications and the fabric. The apparel factory is paid a processing fee rather than a price for the product. (cut-make-trim)	Cambodia
Original Equipment Manufacture (Full package supplier) (OEM) ↓	The manufacturer purchases (or produces) the textile inputs and provides all production services, finishing, and packaging for delivery to the retail outlet. The customer provides the design and often specifies textile suppliers.	Bangladesh Indonesia Vietnam
Original Design Manufacture (ODM) ↓	The manufacturer is involved in the design and product development process, including the approval of samples and the selection, purchase and production of required materials.	China India
Original Brand Manufacture (OBM)	The suppliers develop their own brands and are thus also in charge of branding and marketing.	

Source: Staritz (2012)

3.2 Related literature

Numerous studies have been completed to provide valuable insights into the impacts of the MFA quota elimination. Although the research scope and analysis method vary from each other, these studies generally agree that quota elimination will put forth significant impacts on global apparel trade and that there would be both winners and losers.

Gereffi (1994) is usually the reference point in the global value chain literature. He has conducted several analyses using the GVC framework, and the apparel industry is often used as an example or the object of the study. Gereffi and Memedovic (2003) view apparel as the ideal industry to examine the dynamics of a buyer-driven value chain. They studied prospects for developing countries to enter and upgrade in the global apparel value chain by explaining the transformations in production, trade and corporate strategies that had changed the global

apparel industry. The East Asian NIEs of Hong Kong, Taiwan, the Republic of Korea and China were used as an example on how to move up the apparel chain, from assembly to the full-package production, and to create a permanent advantage in export-oriented development. In the 1960s and 1970s, these countries developed and refined their OEM (full package supplier) capabilities by establishing close relationships with retailers in the US, and then learned by watching to increase their export capability. They became intermediaries between buyers in the US and apparel factories in other developing regions in Asia, to take advantage of lower labour costs and favourable quotas. This is a prime example on how to upgrade in the apparel sector, whereas the East Asian NIEs shifted to higher-value products, e.g. exports of textiles and fibres rather than apparel, or switched to new value chains. The study can be advantageous for this thesis to find evidence of the same upgrading trajectories for Asia's emerging countries today as were found in the already industrialized nations.

Gereffi and Frederick (2010) examined the impacts of the MFA quota phase out in 2005 and the 2008-2009 financial crisis on the changes in supply and demand on the apparel global value chain from 1995-2010, and the two events are highly central in this writing as well. China was considered the big winner after the removal of import quotas because of the export expansion and that the Chinese apparel exporters managed to diversify its exports and gaining market shares in several emerging markets, for instance in Russia. Gereffi and Frederick (2010) further report that other developing countries also gained in the post-MFA era, such as Bangladesh, India, Vietnam and Indonesia. The apparel traders that lost market share were the regional suppliers – Mexico and the Caribbean to the US, and North Africa and Eastern Europe countries to the EU. The effects were most significant for the smaller countries that were privileged by the quota system, which no longer had guaranteed access to the industrialized markets. This study gives indication that China has not crowded out its regional competitors, as they also expanded their exports after the MFA, which is the current study's research question.

The impacts from the global economic crisis was a decrease in demand for apparel products in industrialized markets, which caused a decrease in exporters' value and volume, resulting in massive unemployment, where 30 percent of apparel workers in China and 20 percent in Cambodia lost their jobs, and closing factories. The global market searched for cheaper alternatives in the developing countries to meet the fastidious demand and the most

successful apparel exporters before the crisis, such as China and India, were pushed to focus more on domestic demand. The governments of the effected countries reacted to the financial crisis in various ways, ranging from tax incentives to increasing technology and investments on infrastructure.

Bernhardt (2013) introduced a limited version of the GVC framework, which this thesis has adopted, where he used economic and social measures for upgrading in the apparel value chain. The framework is described in more detail in chapter 4, and the results of his study are presented here. Bernhardt measured economic upgrading from increasing export values and export market shares, and social upgrading from increasing employment and higher wages. A sample of 18 developing countries were studied from Asia, Africa, Central America and the Caribbean form 2000-2010. His findings show that the Asian developing countries have performed a lot better than its competitors on other continents in export values and market shares; thus, China, Bangladesh, Cambodia, India, Indonesia and Vietnam were all categorized as clear economic upgraders. Haiti was the only country outside Asia that also qualified as an economic upgrader. Kenya and the Dominican Republic ended up as economic downgraders, where both apparel export value and market share had decreased. Sri Lanka, as the last Asian country, had increased its export value, but lost some of its market share. The rest of the sample also only fulfilled one of the two factors. In the case of social upgrading, the picture changed somewhat. China and India in addition to Jordan and Nicaragua qualified as social upgraders, while Cambodia, Bangladesh, Indonesia and Vietnam managed to increase employment; their real wages fell during the period. For most countries in the sample, increases in export values went hand-in-hand with increase in apparel employment, and decreases in export values coincided with decline in employment. This study relates to the current study, as the framework were adopted from it and studies the same problems of economic and social upgrading.

The analysis further introduce three methods to define overall upgrading or downgrading in the apparel sector, depending on how much each indicator are weighted. In the first method, all four indicators are given equal weight, with the result that China, India, Vietnam and Bangladesh are defined as overall upgraders, while Cambodia and Indonesia are intermediate cases. The second method put more emphasis on the change in each indicator, resulting that if one indicator decline, the more the other indicator has to increase to yield upgrading as a

result. For countries relevant of the writing paper, the results became the same as in method 1. In the third method, only countries with all four indicators fulfilled were considered overall upgraders, which was only China and India out of the whole sample. Bangladesh, Indonesia, Cambodia and Vietnam ended as intermediate countries.

Beside the GVC model, several other methods have been used to investigate the apparel industry in Asia and especially how the MFA quota phase out and China's economic growth would affect the developing countries. Yang and Zhong (1998) examined the prospects for China's textile and clothing exports and its implications for other textile and clothing exporters. They analysed 10 regions and 10 commodities in a GTAP model, a multi-sector and multi-country model, to project the growth path in the world economy with particular attention to policy changes in the textile and clothing sector. Two scenarios were considered. One with no policy changes where the MFA quotas remained constant to capture the structural change purely from factor endowments. The other scenario included the trade policies in the MFA quota phase out from the Uruguay Round.

The results showed that China's textile and clothing exports tend to grow less rapidly than overall exports both with and without trade liberalization. For the South-East Asian countries, trade liberalization increases the exports, leading to more rapid growth of textile and clothing exports than overall exports. Yang and Zhong (1998) further report that China's diversification and upgrading give the South-East Asian economies greater opportunities for export expansion, as they move in the same direction as when China replaced the NIEs position as the prime supplier of textiles and clothing to the world market. Hence, the growth rate of China's economy will affect the opportunities for export expansion for the other countries. Slower growth means that China competes in the labour-intensive market for a longer period. However, it would also slow down the clothing exports growth, and the other economies would be able to increase their exports. This paper is supplementing the current paper to show what would have been the case if the MFA quotas still existed.

Even though this study was completed before China's WTO accession and MFA quota removal when the fear of China's high export growth related to the coming policy changes started to rise, the authors concluded that the fear is groundless and that the MFA quota removal will encourage textile and clothing exports from the competing countries. Mlachila and Yang (2004) sounded more concerned. If the appropriate policy responses were not put in place

rapidly, countries such as Bangladesh would not be able to compete after the MFA quota phase out, because Bangladesh depended on quota-restrained markets for about 94 percent of its apparel exports. The theories concerning developing countries' performance before, during and after the MFA phase out is certainly enlightening the current paper's enquiries.

Whalley (2006) conducted a case study on Asian developing countries' post-MFA performance. The study was completed only a few months after the quota removal, hence most data were not yet available. The paper relied mostly on other studies and used individual country data for importing and exporting countries. By analysing textile and clothing import values to the US from 2002 to 2005 and to the EU in 2000-2005, the findings were introduced country by country. Findings for China were drawn from an International Labour Organization (ILO) -report from 2005, which compared monthly data from January to April in 2005 to the same months in previous years. The report argue that the growth rate declined month by month over this period because the exporters anticipated that quotas would be abolished and therefore they postponed the shipments until 2005. The reports on India's performance was a fall in clothing exports between January and March 2005 and that India has significant shipments to non-MFA restrained countries and different markets than China, such as the UAE. For Indonesia, imports in the US market rose, but the EU market share fell. The textile sector was holding up well, and the report tells that a US buyer claimed that Indonesian garment producers dominated other suppliers, also China, in price, quality, lead-time and service. Export growth in Bangladesh was high to the EU, but low to the US. This was due to the lack of GSP treatment in the US since domestic content of exports was low and that ROO was a factor in determining the GSP treatment. Cambodia had strong growth rates of exports before the MFA abolition, which continued after the MFA was removed. The growth reflected low cost production and steadily improving quality. For Vietnam, the quotas was still in effect to the US market because Vietnam was not a WTO member at the time. This paper inform and set expectations for what would happen in the future and at the same time give a better picture on the situation at the time of the quota phase out. It is also interesting to see how the situation was before, and compare it to what we know today.

Athukorala (2009) examined China's emerging trade patterns and their implications for East-Asian countries' exports. By estimating a gravity model and conducting several econometric tests, the results for the period 1992-2005 suggested that the competition from China would

not imply proportionate losses in market share for all developing countries. Exports between country "i" and "j" are the dependent variable and explanatory variables are GDP, GDP per capita, distance, relative unit labour cost, real exchange rate, a binary variable indicating the value 1 if the countries share a common border, 0 otherwise, China's exports and a set of dummy variables to capture year-specific effects. The econometric results show that the key explanatory variable, China's exports, is positive and significant in all equations, indicating that China's export expansion has not resulted an absolute export contraction from other countries in third-country markets. However, China has gained market share, and the paper suggests that China's export expansion had a significant dampening effect on export growth of other countries. This paper may suggest that countries included in the writing thesis have been affected negatively by China's increase in exports, because China's gain in market share could have been in favour of other countries.

Lu (2012) conducted a multivariate analysis of variance (MANOVA) to test two hypotheses in order to investigate the impacts of quota elimination on the world clothing trade. The first hypothesis was "Impacts of quota elimination will be related to clothing exporters' economic advancement level. Generally, LDCs will become "losers;" middle-income countries will become "winners" and high-income countries will not be much affected." The second hypothesis was "Impacts of quota elimination will be related to clothing exporters' economic geographic location. In general, Asian exporters will become winners; African countries will become "losers" and impacts on American and European exporters are uncertain." Lu (2012) based his study on trade statistics from 51 clothing exporters from 2000 to 2009 provided by the World Trade Organization (WTO). Major findings in the study was that the exporter's performances had unequal responses to the quota elimination when the geographic location was concerned, but there were no evidence that different economic advancement levels in the countries affected the performance. Further findings included that European countries achieved faster apparel export growth from 2005 to 2009 and gained more market share from 2000 to 2009 than the rest of the world, while North American countries suffered from larger market share losses than world average in the same period. Although China was suggested to be one of the major benefiting countries post-MFA, the paper states that neither China's gains nor other countries' losses should be exaggerated because China's export growth and market share were much more modest than what was found in other studies that only focused on the

US and EU markets. The study also found that the other Asian clothing exporters did not turn out to be worse off even when China's exports accelerated. Findings in this study contribute to the deeper understanding of the impacts of the quota phase out and introduce shed light to other export markets than only the EU and the US.

One common conclusion from most studies is that the fear of China caused by the MFA quota elimination was somewhat exaggerated, and that Asian developing countries have performed better than expected. These findings increase trust in like findings in the current writing. The next chapter will describe the data and methodology used for this thesis, where the methodology section starts by explaining how to use the GVC as a framework.

Chapter 4: Data and methodology

4.1 Data

The major source of data collection is annual time series data obtained from the United Nations Commodity Trade Statistics (UN Comtrade 2014) database using the HS classification system. Trade effects are analysed by looking at commodities in the 2-digit and 6-digit HS chapters. On the 2-digit level, chapter 61 covers all knitted products and 62 covers all woven products and together they demonstrate all apparel commodities. The detailed commodities at the 6-digit level are sub-categories of HS61 and HS62 and the products covered are the top exported commodities in 1993/2000 and 2012. The products are 610342, 610349, 610432, 610462, 610469, 610510, 610910, 610990, 611010, 611020, 611030, 611090, 620113, 620193, 620199, 620211, 620293, 620342, 620442, 620462, 620520, 620590, 620610, 620630, 620640 and 621149. Description of the commodities are available in the appendix.

The values at the 6-digit level do not necessarily add up to the total trade value for a given trade dataset as countries may not report everything due to confidentiality, but the missing data may be included at the more aggregated 2-digit level. Another factor catered for is that the imports reported by one country do not match the exports by its trading partner due to various factors including valuation, differences in inclusions/exclusions of particular commodities, timing, transhipments, measurement or reporting errors etc. The term “partner country” in the case of imports is determined by rules of origin established by each country, therefore in the case of imports this do not necessarily imply any direct trading relationship. Data used in this thesis are only calculated from export values to be comparable, and never mixed with import values unless indicated otherwise.

Some countries do not necessarily report their trade statistics each year, and the dataset used for this thesis has some limitations. The time-period should be from 1993, but both Cambodia and Vietnam only started reporting trade data to the UN Comtrade in 2000. This seems to some extent sufficient, regarding the MFA quota phase out was completed in 2005, and the available data still covers 13 years. Data for Bangladesh are missing after 2007, and figures beyond this year are collected from the Bangladesh Garment Manufacturers and Exporters

Association (BGMEA, 2014a). Most required data are published in their website; however, some values are only issued in Bangladeshi fiscal years (FY), beginning 1 July and ending 30 June. Where comparison is made with a calendar year (CY), e.g. FY2010-2011 is compared to CY2010. Export data in the UN Comtrade is not offered to the EU as a whole, and for that reason, most trade explanations are completed at country specific markets instead of viewing the EU as one market.

Data for income are collected from the World Bank (2014c), while minimum wages are collected from Wage Indicator (2014) and the Worker Rights Consortium (2013). Data for world trade is gathered from the WTO statistics database (WTO, 2014c).

4.2 Methodology

4.2.1 Global Commodity Value Chain

To investigate and answer the questions posed in chapter 1, a parsimonious approach to develop a global commodity chain framework will be used. A commodity value chain refers to the whole range of activities involved in the design, production and marketing of a product (Gereffi and Fernandez-Stark, 2011). A global value chain (GVC) analysis provides a complete view of global industries, both from a top-down perspective, which focuses on lead firms and the organization of international industries, and a bottom-up view, focusing on economic and social upgrading. The GVC methodology explores five main dimensions (Gereffi & Fernandez-Stark 2011):

1. An input-output structure describing the process of transforming raw materials into final products;
2. A geographical consideration;
3. A governance structure explaining how the value chain is controlled;
4. An institutional context in which the value chain is embedded; and
5. Upgrading, i.e., moving along the value chain.

The last element has been added as a result of the upgrading perspective of the other four. The term upgrading is referred to as the shifts between different stages of the value chain. Economic upgrading is defined as ‘firms, countries or regions moving to higher value activities

in the chain to increase the benefits from participating in global production' (Gereffi & Fernandez-Stark, 2011). Different mixes of government policies, institutions, corporate strategies, technologies, and worker skills are associated with upgrading success. The GVC framework uses four types of upgrading (Humphrey & Schmitz, 2002):

1. Process upgrading, which transforms inputs into outputs more efficiently by reorganizing the production system or introducing superior technology;
2. Product upgrading, or moving into more sophisticated product lines;
3. Functional upgrading, which entails acquiring new functions (or abandoning existing functions) to increase the overall skill content of the activities; and
4. Chain or inter-sectorial upgrading, where firms move into new but often related industries.

The concepts of economic and social upgrading are important factors within GVCs because they contribute to more sustainable growth and development. Economic upgrading stimulates innovation and competitiveness among firms and social upgrading promotes employment based on better working conditions and fair wages.

4.2.2 The Global Value Chains in Apparels

The apparel sector is particularly suited for GVC analyses because most products can be traded at each part of the chain (Staritz, 2012). A figure of the apparel supply and value chain is available in the appendix. The apparel and textile GVC can roughly be divided into five stages (Gereffi, 2002):

1. Raw material supply, including natural (e.g. cotton and wool) and synthetic manmade fibres (e.g. polyester, nylon and acrylic);
2. Yarn and fabric production and finishing (textile sector);
3. Apparel production;
4. Export channels established by trade intermediaries; and
5. Marketing networks at the retail level.

A figure of the apparel value chain is in the appendix. The fibres are first produced from raw materials such as cotton, wool, silk, flax and chemicals before they are spun into yarn, which is used to produce woven or knitted fabric. The fabrics are then finished, dyed or printed and cut into pieces to produce apparel, home furnishings and industrial and technical textile

products for the consumers. The apparel industry is an important user of textile products that are sewed to make final apparel articles. In addition to the tangible, production-related steps, there is also a series of intangible activities that add value to apparel products. They include product development, design, logistics, distribution and branding. Each of the five segments in the apparel commodity chain includes different factors such as geographical location, labour skills and conditions, technology and type of enterprises (Gereffi, 2002). These features also affect the distribution of power and profits throughout the commodity chain. The apparel commodity chain is a buyer-driven chain, which is characterized by highly competitive and globally decentralized factory structures with low entry barriers in production. The activities are controlled by a combination of leading firms, intermediaries and supplier firms. One of the major hypotheses of the GVC approach is that development requires linking up with the most significant "lead firms" in an industry (Gereffi, 2002), hence most GVC analysis are examined at the firm level.

4.2.3 The parsimonious approach

This analysis will take another approach, i.e., a bottom-up perspective that focus on economic and social upgrading instead on the lead firms. It will focus on how a selection of developing Asian countries has performed in the global apparel industry in the last 20 years, especially after the MFA quota phase out and during China's economic growth with respect to economic, social and product upgrading. Adopting a limited method of the apparel commodity chain framework, the parsimonious approach, introduced by Bernhardt (2013), the terms economic and social upgrading can be described as follows. A country's apparel sector is alleged to experience economic upgrading when the following two conditions are fulfilled: (1) there is an increase (or at least no decrease) in its world export market share, reflecting international competitiveness of its exports; and (2) there is an increase (or at least no decrease) in the export unit value, implying the production of higher-value products. Social upgrading, by contrast, is said to occur in a given country's apparel sector when the two following conditions are fulfilled: (1) there is an increase (or at least no decrease) in sectorial employment, and (2) there is an increase in sectorial real wages.

To take Bernhardt's (2013) analysis a step further, a deeper research on apparel products is conducted to detect product upgrading. To simplify the term product upgrading in a way Bernhardt (2013) did for economic and social upgrading, product upgrading can be obtained

when there is a move to other products with a higher price, or the price of a product is higher or has increased more than the like product in other countries.

The progress of the two indicators for economic upgrading can be interpreted to reflect the categories of product and functional upgrading from the GVC framework mentioned above. It is essential to look at both export market share and export values as they express complementary information to capture economic upgrading. Moreover, it is important to include the indicators over time to capture the dynamic nature of upgrading as a process. The indicators for social upgrading are included to capture the creation of jobs to employ a higher share of the population, reflecting the potential for the workers to move out of poverty and increase living standards. Real wages are a measure of how much workers benefit from the value created by economic activity in their country's apparel sector.

The parsimonious approach uses export unit values to calculate and identify economic upgrading. This analysis uses annual export values in the apparel sector, HS 61 and HS 62 in the UN Comtrade database and sub-categories of these. To detect product upgrading, it is important to distinguish between the products at a more disaggregated level i.e., the 6-digit level. When calculating commodity prices by dividing export values over the quantity or volume of a certain commodity, the prices might be an indicator for the products quality, and are used to determine product upgrading or downgrading. For a like product coming from different countries, the ones with higher prices are often of relatively higher quality (Li & Song, 2011). Comparing export and price values from the Asian competitors with China's values, one can identify how these countries have performed in comparison to China and detect potential economic and product upgrading. An important issue is also to explain possible reasons for upgrading (or downgrading), regarding policy measures such as multilateral, bilateral and unilateral agreements and government policies.

This analysis takes a quantitative approach and relies entirely on secondary data. It is based on a narrow set of indicators, such as export values, export market shares, prices, wages and employment, to trace upgrading trajectories of a selected range of developing Asian countries, and to examine how and why these have performed in the apparel commodity chain as China has become the lead country of the global industry. To investigate whether the countries have increased apparel export since 1993, global export values in HS-61 and HS-62 are analysed at that time. Examining these values and sub-sector export values at the 6-digit level, one can

also detect whether the countries have increased their market shares in the apparel GVC. These products are sub-categorized down to a 6-digit level in the UN Comtrade database, and are used to analyse product upgrading in the apparel value chain. To detect product upgrading, the types of commodities, in substances such as raw materials and fabric, are compared during the period of study and by calculating price developments in each country. As mentioned, higher prices of a like commodity often reflects higher quality, thus the price calculations are used to detect quality increase within each country and quality differences between the countries. It is important to be aware that price variances may reflect other factors than quality differences. First, exporters can price diverse their exports to the importing countries' ability to pay. Second, the composition within a product category varies across the exporters, and differences in unit values may reflect these differences rather than quality or price. The price differences may also include production costs and transportation costs. The prices are calculated by dividing trade value over trade quantity, and can only be derived at the HS-6 digit level where trade quantity values are available. Li and Song (2011) support this price calculation as a measure for quality.

Social upgrading is not the main issue for this analysis, but is included because price competition in the apparel industry are mainly driven by low-wage advantage resulting in harsh working conditions for the sweatshop workers. The apparel industry is also highly important for the developing countries in terms of employment and its share of foreign capital earnings. Due to a lack of statistical data for the social upgrading indicators, and especially employment, data are mostly collected from other studies and included in this thesis as a supplement to the economic and product upgrading analyses. Social upgrading is detected by looking at the number of workers in the apparel industry and wage increases during the period of the study.

This thesis will use the three trajectories, economic factors, product differences and social factors, to identify if Bangladesh, Cambodia, China, India, Indonesia or Vietnam have experienced upgrading in the apparel sector. This is examined by collecting and analysing data on export values, export market shares, export unit values, prices, wages and employment. The years covered are a 20-year period from 1993 to 2012, with special emphasis on the years during and after the MFA quota phase out and the global financial crisis. Under the assumption

that China has experienced upgrading, the upgrading indicators are used to detect whether and how the other countries have performed compared with China.

Chapter 5: Results

This section presents the results and findings from the parsimonious approach of the GVC analysis. First are the results for economic upgrading, followed by product- and social upgrading.

5.1 Economic upgrading

To succeed in economic upgrading, both the export values and market shares should increase over time. In table 5.1, these values are presented from 1993 to 2012, with average values for the periods pre- and post-MFA.

Table 5.1: Apparel export and world market shares, 1993-2012

Year	China		Bangladesh		Cambodia		India		Indonesia		Vietnam	
	(Values in million $USD, percentage of world share in brackets)											
1993	16 574	(12,9)	1 306	(1,0)	-		2 586	(2,0)	3 391	(2,6)	-	
1994	21 341	(15,2)	1 477	(1,0)	-		3 282	(2,3)	3 078	(2,2)	-	
1995	21 282	(13,4)	1 969	(1,2)	-		3 665	(2,3)	3 242	(2,0)	-	
1996	22 197	(13,4)	2 218	(1,3)	-		3 753	(2,3)	3 454	(2,1)	-	
1997	28 642	(16,1)	2 688	(1,5)	-		3 879	(2,2)	2 785	(1,6)	-	
1998	27 110	(14,6)	3 784	(2,0)	-		4 365	(2,3)	2 518	(1,4)	-	
1999	27 327	(14,8)	-		-		4 795	(2,6)	3 735	(2,0)	-	
2000	32 290	(16,3)	4 120	(2,1)	963	(0,5)	5 465	(2,8)	4 562	(2,3)	1 789	(0,9)
2001	32 408	(16,7)	4 039	(2,1)	1 130	(0,6)	5 044	(2,6)	4 345	(2,2)	1 820	(0,9)
2002	36 566	(17,9)	4 057	(2,0)	1 303	(0,6)	5 499	(2,7)	3 805	(1,9)	2 562	(1,3)
2003	45 757	(19,6)	5 041	(2,2)	1 593	(0,7)	5 916	(2,5)	3 982	(1,7)	3 386	(1,5)
2004	54 783	(21,1)	6 231	(2,4)	1 973	(0,8)	6 415	(2,5)	4 290	(1,7)	4 136	(1,6)
2005	65 902	(23,7)	6 846	(2,5)	2 202	(0,8)	8 201	(3,0)	4 900	(1,8)	4 558	(1,6)
2006	88 621	(28,7)	8 252	(2,7)	2 634	(0,9)	9 015	(2,9)	5 534	(1,8)	5 417	(1,8)
2007	108 881	(31,4)	9 323	(2,7)	2 657	(0,8)	9 373	(2,7)	5 631	(1,6)	7 204	(2,1)
2008	113 368	(31,2)	11 877	(3,3)	3 008	(0,8)	10 265	(2,8)	6 016	(1,7)	8 500	(2,3)
2009	100 479	(31,8)	11 892	(3,8)	2 436	(0,8)	11 312	(3,6)	5 661	(1,8)	8 329	(2,6)
2010	121 072	(34,3)	14 855	(4,2)	3 033	(0,9)	10 604	(3,0)	6 501	(1,8)	10 119	(2,9)
2011	143 238	(34,4)	19 214	(4,6)	3 983	(1,0)	13 745	(3,3)	7 691	(1,8)	12 820	(3,1)
2012	148 270	(35,1)	19 788	(4,7)	4 278	(1,0)	12 896	(3,1)	7 184	(1,7)	14 079	(3,3)
Percentage change												
1993-2004	231 %	64 %	377 %	137 %	-	-	148 %	23 %	27 %	-37 %	-	-
Yearly	11 %	5 %	15 %	8 %	-	-	9 %	2 %	2 %	-4 %	-	-
2000-2004	70 %	29 %	51 %	15 %	105 %	56 %	17 %	-11 %	-6 %	-28 %	131 %	76 %
Yearly	14 %	7 %	11 %	4 %	20 %	12 %	4 %	-3 %	-2 %	-8 %	23 %	15 %
2004-2012	171 %	66 %	218 %	95 %	117 %	33 %	101 %	24 %	67 %	3 %	240 %	109 %
Yearly	13 %	7 %	16 %	9 %	10 %	4 %	9 %	3 %	7 %	0 %	17 %	10 %
2000-2012	359 %	173 %	380 %	125 %	344 %	108 %	136 %	10 %	57 %	-26 %	687 %	268 %
Yearly	14 %	7 %	14 %	7 %	13 %	6 %	7 %	1 %	4 %	-3 %	19 %	11 %
1993-2012	795 %	115 %	1416 %	362 %	-	-	399 %	52 %	112 %	-35 %	-	-
Yearly	12 %	5 %	15 %	8 %	-	-	9 %	2 %	4 %	-2 %	-	-

Sources: UN Comtrade, 2014; Bangladesh after 2007: BGMEA, 2014a; World: WTO, 2014b.

China had a yearly growth on apparel exports of 12 percent per year from 1993-2012, and experienced a positive development (i.e. increased values) in 16 of the 19 examined years. The market share of world total apparel exports increased from 13 percent in 1993 to 35 percent in 2012, which is a yearly growth of 5 percent per year. Only three of the 19 years had a drop in world market share. The impact of the MFA quota phase out is not that visible, as the growth of export values increased more from 2000 to 2004 than after 2004. From 1993, Chinese apparel exports grew by 11 percent before the final stage of quota removal and 13 percent after 2004. The increase in world market share has been around 7 percent since 2000. Bangladesh had a strong growth after 2004, at 16 percent per year; still, the growth before the quota phase out was large as well, counting 15 percent per year since 1993. In the last years of the quota, from 2000 to 2004, Bangladesh had a slower growth than the rest of the studied period, with a growth at 11 percent per year. Capturing new market shares also improved after 2004 and Bangladesh gained 9 percent more of the world market per year since then. Export values of Bangladeshi apparel products increased 17 of the 19 years, and market share increased in 16 of the years.

Cambodia increased its apparel exports from 2000 to 2004 by 20 percent per year. After the removal of quota restrictions, the growth slowed and valued 10 percent per year from 2004 to 2012. Cambodia's market share increased to 12 percent up to 2004, after that the gains were still growing, but diminishing. The export values give the impression that beside Bangladesh, India and Indonesia are the countries that gained most from the import quota removal. They all performed better after 2004 than before. Like Bangladesh, India performed worse between 2000 and 2004, when the average yearly increase in export values were 4 percent and its market share dropped 3 percent per year. Then from 1993 to 2004, the growth in export value was 9 percent and 2 percent in gaining market share. From 2004, the increase in apparel exports was 9 percent per year, and market share increased yearly by 3 percent. The country with the weakest performance among the country sample was Indonesia, which had a decrease in world market share. From 1993 to 2012, Indonesia lost 35 percent of its cut of the market. The worst period was from 2000 to 2004, when export values decreased by 6 percent and marked share decreased by 28 percent. Indonesia experienced several events that had negative effect on the apparel sector these years. First, the country was specially affected by the Asian Financial Crisis in 1997; there was the terrorist bombs in 2002 and the

tsunami in 2004. After these events, in the post-MFA quota period, Indonesia managed to keep its market share at around 1.75 percent of the world market.

Between 2000 and 2012, when data for all countries are available and can be compared, Vietnam had the strongest growth in apparel export value at 687 percent. The greatest period was before 2004, when export value increased by 23 percent per year. Vietnam was also the best country to capture new markets, and the market share rose by 11 percent per year between 2000 and 2012 to claim about 3% of the share of world exports. One explanation for Vietnam's strong growth is that the nation's manufacturing and exporting capabilities are attracting importers as well as apparel producers that are moving their production from other countries to Vietnam. This occurs despite that wages in Vietnam are higher than in some of the regional countries (Thomasson, 2011).

Economic upgrading factors have been present for all sample countries; however, both export values and market shares must increase over time. Depending on where one should draw the line, regarding how many years the countries experienced a drop in one of the factors, Indonesia is the only country standing out with a decline in market share between 1993 and 2012. All remaining countries had an upward trend in both apparel export values and market shares throughout the period.

The two events that had the greatest effect on apparel exports during the period, namely the end of MFA quotas and the global financial crisis are evident for all countries. Although it was expected that only China and India would benefit from the removal of quota restrictions, all countries increased their export values in 2005 and the three following years up to the financial crisis. When the crisis hit the apparel sector in 2009, because of lower demand from Western markets, the export value from China, Cambodia, Indonesia and Vietnam fell. India experienced the effects from the crisis in 2010, while Bangladesh appears to be the only country that did not suffer a decline in exports because of the economic downturn.

5.2 Product upgrading

To examine product upgrading in the global apparel value chain, commodities at the HS-6 digit level are analysed to look at differences from 1993 until 2012, regarding changes in exported products. To observe product differences, prices are the easiest observable factor and can only be examined at the HS-4 digit or HS-6 digit level because the exported trade quantities

are only given at these levels and not at the HS-2 digit level. The top exported commodities from each country in 1993 or 2000 and 2012 are presented first, and further research on whether there has been a product upgrading comes next.

5.2.1 Export baskets

Table 5.2 show the top exported products in 1993 (2000 for Cambodia and Vietnam) and 2012. For most exporters, the commodities among the top five in 1993 or 2000 are no longer among the top five in 2012. For China, none of the top five in 1993 are still among the top five in 2012. While four of the top five in 2012 were products made of cotton, only two of the top five in 1993 were made of this fabric, and the other products were made of silk, wool or animal hair, or other textile materials. This suggests a product upgrading in terms of fabric. Except Cambodia, all countries export more products made of cotton in 2012 than before, and particularly India where all top products are made of cotton. China and India are the largest and second largest cotton producers in the world (Project Cotton 2014); thus, they have an advantage from a large supply of raw materials. China's most exported commodity in 2012, HS-611030 – Pullovers, cardigans etc., are made of manmade fibres - which have increased in importance after the global financial crisis in 2008 when retailers were looking to cut costs as cotton prices were rising (*Wall Street Journal*, 2014). These fibres were first used in cheap discount apparels, but now it is more common in all kinds of garments.

China's apparel exports consisted of 70 percent woven products and 30 percent knitted products in 1993, however the knitted apparels have become more important and accounted for 59 percent in 2012. The top exported commodities in the two years highlights this change, where three of the five in 1993 are woven products, while only one of five products in 2012 are woven. The trend that knitted products are becoming more important coincides for all countries, and in 2012, the exports from Bangladesh, Indonesia and Vietnam consisted of nearly half-and-half of knitted and woven fabrics. In 1993, knitted products consisted of 17- and 34 percent of exports from Bangladesh and Indonesia, respectively. Vietnam had only woven products among the top five in 2000, when the knitted share counted 14 percent. By 2012, the top three items were knitted wares. Cambodia's exports stands out from the others because 87 percent of its apparel exports in 2000 were knitted products and the share rose to 95 percent in 2012. The growth of knitted products was particularly prompted by preferential market access to the EU (Staritz and Frederick, 2012).

Table 5.2: Top exported product groups, 1993/2000 and 2012

Exporter	Year	Rank	Commodity	Description	Fabric	Export value Million $USD
China	1993	1	610910	T-shirts, singlets, vests	Knitted cotton	924
		2	620342	Men's trousers & shorts	Woven cotton	798
		3	620610	Women's blouses & shirts	Woven silk	742
		4	611010	Pullovers, cardigans etc	Knitted wool or hair	691
		5	620590	Men's shirts	Woven other materials	556
	2012	1	611030	Pullovers, cardigans etc	Knitted manmade fibres	9 975
		2	611020	Pullovers, cardigans etc	Knitted cotton	7 671
		3	620462	Women's trousers & shorts	Woven cotton	7 439
		4	610432	Women's jackets & blazers	Knitted cotton	6 029
		5	610462	Women's trousers & shorts	Knitted cotton	4 795
Bangladesh	1993	1	620590	Men's shirts	Woven other materials	191
		2	620199	Men's anoraks etc.	Woven other materials	175
		3	620520	Men's shirts	Woven cotton	174
		4	610910	T-shirts, singlets, vests	Knitted cotton	77
		5	620630	Women's blouses & shirts	Woven cotton	66
	FY 2010-2011	1	610910	T-shirts, singlets, vests	Knitted cotton	4 430
		2	620342	Men's trousers & shorts	Woven cotton	3 298
		3	611090	Jerseys, pullovers, cardigans	Knitted other materials	1 551
		4	620462	Women's trousers & shorts	Woven cotton	1 200
		5	620520	Men's shirts	Woven cotton	1 025
Cambodia	2000	1	611090	Jerseys, pullovers, cardigans	Knitted other materials	168
		2	610342	Men's trousers & shorts	Knitted cotton	105
		3	611020	Pullovers, cardigans etc	Knitted cotton	95
		4	610462	Women's trousers & shorts	Knitted cotton	47
		5	610349	Men's trousers & shorts	Knitted other materials	40
	2012	1	611090	Pullovers, cardigans etc.	Knitted other materials	671
		2	610469	Women's trousers & shorts	Knitted other materials	591
		3	610349	Men's trousers & shorts	Knitted other materials	402
		4	610910	T-shirts, singlets, vests	Knitted cotton	367
		5	610990	T-shirts, singlets, vests	Knitted other materials	220
India	1993	1	620520	Men's shirts	Woven cotton	415
		2	620630	Women's blouses & shirts	Woven cotton	371
		3	610510	Men's shirts	Knitted cotton	258
		4	620442	Women's dresses	Woven cotton	107
		5	620640	Women's blouses & shirts	Woven manmade fibres	96
	2012	1	610910	T-shirts, singlets, vests	Knitted cotton	1 649
		2	620520	Men's shirts	Woven cotton	825
		3	620630	Women's blouses & shirts	Woven cotton	822
		4	620442	Women's dresses	Woven cotton	711
		5	620342	Men's trousers & shorts	Woven cotton	469
Indonesia	1993	1	620193	Men's anoraks etc.	Woven manmade fibres	220
		2	611030	Pullovers, cardigans etc	Knitted manmade fibres	185
		3	620640	Women's blouses & shirts	Woven manmade fibres	141
		4	620520	Men's shirts	Woven cotton	139
		5	620342	Men's trousers & shorts	Woven cotton	114
	2012	1	611020	Pullovers, cardigans etc	Knitted cotton	528
		2	610910	T-shirts, singlets, vests	Knitted cotton	409
		3	620520	Men's shirts	Woven cotton	369
		4	620462	Women's trousers & shorts	Woven cotton	325
		5	620640	Women's blouses & shirts	Woven manmade fibres	291

Vietnam	2000	1	620343	Men's trousers & shorts	Woven synthetic fibres	248
		2	620113	Men's overcoats	Woven manmade fibres	169
		3	620211	Women's overcoats etc.	Woven wool or hair	125
		4	621149	Women's other garments	Woven other materials	125
		5	620293	Women's anoraks etc.	Woven manmade fibres	109
	2012	1	611020	Pullovers, cardigans etc	Knitted cotton	929
		2	610910	T-shirts, singlets, vests	Knitted cotton	751
		3	611030	Pullovers, cardigans etc	Knitted manmade fibres	581
		4	620462	Women's trousers & shorts	Woven cotton	498
		5	620342	Men's trousers & shorts	Woven cotton	496

Source: UN Comtrade, 2014; Bangladesh FY2010-2011: BGMEA, 2014a

The top five exported commodities in both 2000 and 2012 from Cambodia were all knitted products, and it appears that textile materials other than cotton have become more important for Cambodian apparels. The specialization in knitted products may be due to the difference in investment costs between the knitted and woven sector, where a factory for woven fabric production is about 10 times as expensive as a knit fabric mill (Staritz and Frederick, 2012). In 2012, four of the top five products were made of other materials. Both Cambodia and Vietnam export most of pullovers and sweaters in 2012, though in different fabrics. The importance of pullovers/sweaters for Cambodia and Vietnam, which import most their fabric, is that these products fulfil the criteria for double transformation of the ROO on imports to the EU (Staritz and Frederick, 2012).

Cambodia specializes in a few items, and the top five product categories accounted for 47 percent and 53 percent of total apparel exports in 2000 and 2012, respectively. Only Bangladesh has a higher degree of specialization, where the top five items accounted for 52 percent of total apparel exports in 1993 and 60 percent in 2012. Vietnam, China and Indonesia has a wider spectre of products, and in 2012, their top five products accounted for 23-, 24- and 27 percent respectively. India's top five exported items valued 48 percent of total apparel exports in 1993; however, the concentration was lower in 2012, and the top five items that year accounted for 35 percent.

India still exports mostly woven products, nevertheless the share of knitted wares increased from 29 percent in 1993 to 42 percent in 2012. In the most recent year, the most exported apparel commodity at the 6-digit level was HS-610910 – knitted t-shirts, singlets and vests made of cotton. Cotton products dominate the top five exported commodities in 2012, reflecting India's strong domestic cotton-based textile industry.

Although the share of knitted and woven products has become almost equal in global exports, it differs vastly among the importing countries. Especially from Bangladesh, where exports to the USA and South Africa still consist mostly of woven products with a share of 77 and 53 percent, respectively. The other markets imports more knitted products, where Australia, Brazil and Germany have the largest shares with 69, 67 and 59 percent, respectively. One reason, although only concerning the EU market, was preferential market access for knitted products in that market. Vietnam, by contrast, exports 83 percent of its top commodity, HS-611020 – knitted pullovers, cardigans etc. of cotton, to the US.

5.2.2 Price Scenario

Recalling the terms for product upgrading, it can be obtained when there is a move to other products with a higher price, or the price of a product has increased more than the like product in other countries. Table 5.3 shows the average prices for the periods 1993-2004 and 2005-2012 or the most suitable periods according to the available data for each country. Included are also the average prices for the top five commodities in the periods to highlight the price-level at the time and the increase in price-level between the periods. It is important to be aware that price variances can reflect other factors than quality differences. First, exporters can price diverse their exports to the importing countries' ability to pay. Second, the composition within a product category varies across the exporters, and differences in unit values may reflect these differences rather than quality or price. The price differences may also include production costs and transportation costs.

China appears to focus on cheaper goods in 2012 than in 1993, because products exported in 2012 had a lower average value in both periods examined. This product mix at a lower price level may suggest there has not been a graduation in the value chain. The top product categories in 1993 were men's wear, t-shirts, and silk blouses, while in 2012; the top categories were pullovers and women's clothes. The average prices from 1993-2004 for the top five exported products in 2012 are lower than for four of the top five from 1993. Looking at the average prices from 2005-2012, the most exported products in 2012 still had a lower price than most of the top commodities in 1993, with an average value of US$ 7.15 for the 1993 commodities and US$ 4.23 for the 2012 commodities. The price differences may suggest that cotton products are cheaper than silk, animal hair and the other materials that were used in the top 1993 categories.

Table 5.3: Average commodity prices in $USD

	Top commodities 1993						Top commodities 2012					
	China											
Period	610910	620342	620610	611010	620590	Average	611030	611020	620462	610432	610462	Average
1993-2004	1,22	3,22	7,57	5,36	3,59	4,19	2,71	2,48	2,68	2,19	1,50	2,31
2005-2012	2,04	5,50	13,38	-	7,66	7,15	4,43	4,34	5,08	3,75	3,57	4,23
Change	67 %	71 %	77 %	-	113 %	71 %	64 %	75 %	90 %	71 %	137 %	83 %
	Bangladesh											
	620590	620199	620520	610910	620630	Average	610910	620342	611090	620462	620520	Average
1993-2004	3,15	5,54	3,36	1,31	3,52	3,38	1,31	3,69	3,96	3,91	3,36	3,25
2005-2007	3,31	9,57	3,07	1,12	3,25	4,06	1,12	2,97	3,99	3,49	3,07	2,93
Change	5 %	73 %	-9 %	-15 %	-8 %	20 %	-15 %	-19 %	1 %	-11 %	-9 %	-10 %
FY2010-2011	4,02	-	4,86	1,65	-	3,51	1,65	6,61	4,91	5,20	4,86	4,65
Change	28 %	-	45 %	26 %	-	4 %	26 %	79 %	24 %	33 %	45 %	43 %
	Cambodia											
	611090	610342	611020	610462	610349	Average	611090	610469	610349	610910	610990	Average
2000-2004	6,48	3,16	5,49	3,27	3,14	4,31	6,48	3,71	3,14	2,66	3,08	3,81
2005-2012	17,36	6,58	10,50	5,59	5,68	9,14	17,36	7,79	5,68	4,60	6,84	8,45
Change	168 %	108 %	91 %	71 %	81 %	112 %	168 %	110 %	81 %	73 %	122 %	122 %
	India											
	620520	620630	610510	620442	620640	Average	610910	620520	620630	620442	620342	Average
1993-2004	4,77	4,15	3,68	6,24	4,43	4,66	3,25	4,77	4,15	6,24	4,01	4,49
2005-2012	7,78	5,87	5,49	7,62	6,25	6,60	3,41	7,78	5,87	7,62	8,59	6,66
Change	63 %	41 %	49 %	22 %	41 %	42 %	5 %	63 %	41 %	22 %	114 %	48 %
	Indonesia											
	620193	611030	620640	620520	620342	Average	611020	610910	620520	620462	620640	Average
2000-2004	13,97	5,66	4,45	5,35	5,12	6,91	5,49	2,66	5,35	5,11	4,45	4,61
2005-2011	34,31	11,56	9,75	12,75	15,04	16,68	10,25	4,48	12,75	14,05	9,75	10,25
Change	146 %	104 %	119 %	138 %	194 %	141 %	87 %	68 %	138 %	175 %	119 %	122 %
	Vietnam											
	620342	620113	620211	621149	620293	Average	611020	610910	611030	620462	620342	Average
2000-2004	5,12	12,86	35,26	50,87	13,11	23,44	5,70	2,66	5,66	5,38	5,12	4,90
2005-2011	15,04	40,66	59,87	67,65	29,65	42,57	10,25	4,48	11,56	14,05	15,04	11,08
Change	194 %	216 %	70 %	33 %	126 %	82 %	80 %	68 %	104 %	161 %	194 %	126 %

Source: UN Comtrade 2014; BKMEA, 2011

Unlike China, where all prices increased between the periods, Bangladeshi prices mainly decreased. The most recent available prices for Bangladeshi products are from 2005-2007, and because of inflation, the prices are anticipated to have increased after that. However, the Apparel Export Statistics from FY2010-2011 reports that while its competing countries, like China and Vietnam, have readjusted their prices with the raising input costs, Bangladesh has yet to make any significant changes (BKMEA, 2011). The prices from FY2010-2011 are from the same report, and are an average calculation between exports to the US, the EU and Japan that year, to give an impression on how the prices have evolved after 2007. The prices for the top five products from 1993 increased by 20 percent between the periods, while the 2012 commodities decreased by 10 percent, on average. There is no significant price differences in

the most exported products from Bangladesh in 1993 and 2012, except that the most expensive good, HS-620199 – Men's anoraks etc. is no longer among the top five in 2012. The higher price for this commodity is presumably because of materials that are more expensive are needed to make anoraks than for example t-shirts, and the forsaking of this product is rather an indicator of product downgrading than upgrading.

Cambodia's top exported commodity were the same in 2000 as in 2012, HS-611090 – knitted pullovers etc. of other materials. This product is also the most expensive of the top five products during the 12-year period with an average price in 2005-2012 of US$ 17.36 per unit. The other products are mainly in the same price range, but the second most expensive product in 2000, HS-611020 knitted pullovers etc. of cotton was replaced by a cheaper product, HS-610910 – knitted cotton t-shirts etc. in 2012, displaying Cambodia's concentration in basic products. The average increase in prices for the top commodities in 2000 was 112 percent and 122 percent for the top commodities in 2012.

Looking at the prices for the different goods exported in 1993/2000 and 2012, India is the only country that managed to export products in 2012 at a higher average price between 2005 and 2012 than the price of the top exported products in 1993. The average price for the 1993-products was US$ 6.60 in the 2005-2012 period and for the 2012-products, the average price was US$ 6.66. The other countries moved to lower-priced products, hence possibly products of poorer quality and in this thesis viewed as product downgrading. The prices on Indian apparel products have all increased during the periods and are mostly in the same price range. The top exported goods in 1993 had prices on average in the 2005-2012 period between US$ 5.49 for knitted men's shirts of cotton, and US$ 7.78 for woven men's shirts of cotton. The top goods in 2012 had prices from US$ 3.41 for knitted cotton t-shirts to US$ 8.59 for woven men's trousers and shorts of cotton, showing that Indian exporters both export cheaper and more expensive products than before, although the export basket still contains mostly woven cotton shirts. The prices rose on average 42 percent for the top-1993 products and 48 percent for the top-2012 commodities. Of all the countries' top exported commodities in 2012, Vietnam had the largest price increase, 126%, between the periods 2000-2004 and 2004-2012.

Indonesia and Vietnam appear to export apparel products of a higher quality than the other countries using prices as a proxy for quality. Indonesian prices for the top exported wares in 2000 ranged from US$ 9.75/unit to US$ 34.31/unit, on average, between 2005 and 2011. The

top exported products in 2012 ranged from US$ 4.48 to US$ 14.05 in the same period. The increase of the average prices were 141 percent for the top commodities in 2000 and 121 percent for the top-2012 products. Vietnamese exports in 2000 consisted of even more expensive goods than the Indonesian exports. The average price of the exported commodities was US$ 42.57 in 2005-2011. These products were mostly overcoats and anoraks, which is considered more of a luxury product than for example cotton t-shirts. However, the top exported commodities in 2012 did not consist of any overcoats at all, but of pullovers, t-shirts and trousers mostly made of cotton, and the prices ranged from US$ 4.48 to US$ 15.04.

5.2.3 Price comparison between the countries

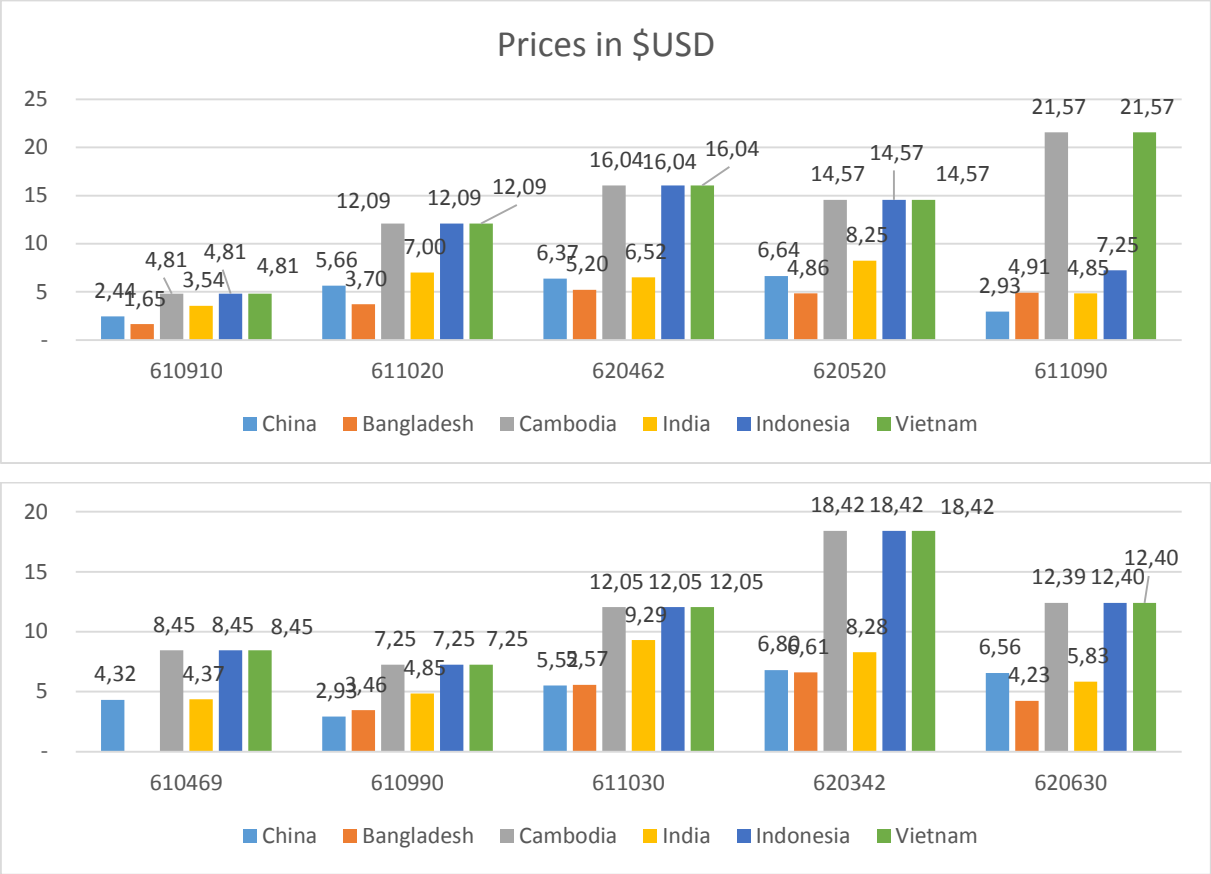
The other aspect of product upgrading is to look at differences in prices for the same product exported from the selected countries. The HS-6 digit products in figure 5.1 are selected because they appear in several of the top five exported commodities for the countries. The prices for Bangladeshi products are compiled from BKMEA's Apparel Export Statistics for FY2010-2011 and the figures are an average of prices to the US, the EU and Japan. The other values are calculated using export values over export quantity from UN Comtrade.

Figure 5.1 illustrate that Bangladesh offered the cheapest price in seven of the ten products, while China offered the cheapest price in two products and India in one. Overall, Bangladesh seems to operate with the cheapest prices, China second and India third cheapest. The different positions with regard to unit prices can show product upgrading and specialization in products with different unit values, but it can also show declining cost competitiveness (Staritz and Frederick, 2012). Cambodia, Indonesia and Vietnam mainly exported the products for the same price to the world market. Only HS-611090 was exported at a different and lower price from Indonesia. The like prices are higher than for the other countries, and could imply they export apparels with a higher quality than their competitors do. Identical prices for the same good from different export markets are consistent with the law of one price for homogenous goods (*The Global Economy*, 2014).

India's apparel export unit values are higher than from Bangladesh and China, and could be related to India's more sophisticated and higher-value export basket, but the high prices can also be explained by relatively high costs for power, transportation, taxes and labour (Staritz and Frederick, 2012). China and India have longer history of apparel production and exports

than the other countries, implying that production costs are lower and they have an advantage of better infrastructure.

Figure 5.1: Prices to world market, 2011



Sources: UN Comtrade 2014 and BKMEA 2011.

To identify how the prices have evolved over time, a closer look at two of the most exported commodities are added. One product made of knitted cotton, HS-610910 – t-shirts, singlets and vests, and one made of woven cotton, HS-620462 – Women's trousers and shorts. Table 5.4 show that Cambodia, Indonesia and Vietnam exports the commodities for the same price each year to the world market, which is significantly higher than their competitors' prices. China started with the cheapest price in 1993, but faced competition from Bangladesh in 1997 for HS-610910 and in 2005 for HS-620462. Bangladesh had a lower price on both products in 2007 than in 1993, and the table reveals that the prices increased before 2000, but then fell again, which could be related to China's entry to the WTO in 2001 (Staritz and Frederick, 2012). The continued decline is largely due to the increasing importance of knitted apparel exports, which resulted in falling unit values (Staritz and Frederick, 2012). Unlike Bangladesh, both China and India had a stable and steady increase in prices during the period. So did also

Cambodia, India and Vietnam's prices for HS-610910, but for HS-620462, the prices made a big jump in 2007.

Table 5.4: Prices in $USD for HS-610910 and HS-620462, 1993-2012

Year	HS-610910						HS-620462					
	China	Bangla-desh	Cambodia	India	Indonesia	Vietnam	China	Bangla-desh	Cambodia	India	Indonesia	Vietnam
1993	0,78	1,27	-	2,36	-	-	2,49	3,97	-	3,23	-	-
1994	1,01	1,33	-	2,86	-	-	2,97	4,00	-	3,52	-	-
1995	1,19	1,49	-	3,05	-	-	2,58	4,06	-	3,20	-	-
1996	1,28	1,49	-	3,05	-	-	2,37	3,80	-	3,19	-	-
1997	1,52	1,43	-	3,77	-	-	2,48	4,26	-	3,53	-	-
1998	1,26	1,34	-	3,26	-	-	2,43	4,87	-	3,88	-	-
1999	1,19	-	-	3,53	-	-	2,38	-	-	3,70	-	-
2000	1,23	1,23	2,18	3,25	2,18	2,18	2,56	4,20	4,02	4,00	4,02	-
2001	1,22	0,98	2,24	3,39	2,24	2,24	2,67	3,79	4,43	4,03	4,43	4,43
2002	1,21	0,91	2,50	3,30	2,50	2,50	2,85	3,26	4,68	4,62	4,68	4,68
2003	1,27	1,21	2,39	3,64	2,39	2,39	3,13	3,35	4,83	4,99	4,83	4,83
2004	1,45	1,74	3,98	3,51	3,98	3,98	3,25	3,41	7,59	5,57	7,59	7,59
2005	1,53	1,14	3,98	2,90	3,98	3,98	3,63	2,60	7,59	5,04	7,59	7,59
2006	1,82	0,99	3,98	3,05	3,98	3,98	4,06	4,10	7,59	5,67	7,59	7,59
2007	2,00	1,22	3,49	3,46	3,49	3,49	4,38	3,76	13,84	5,90	13,84	13,84
2008	2,04	-	4,79	3,34	4,79	4,79	5,17	-	18,91	5,75	18,91	18,91
2009	1,93	-	5,27	2,89	5,27	5,27	5,21	-	18,62	5,68	18,62	18,62
2010	2,09	-	5,01	5,01	5,01	5,01	5,32	-	15,77	15,77	15,77	15,77
2011	2,44	1,65	4,81	3,54	4,81	4,81	6,37	5,20	16,04	6,52	16,04	16,04
2012	2,47	-	5,45	3,11	-	-	6,50	-	16,36	6,40	-	-

Source: UN Comtrade 2014.

Cambodia, Indonesia and Vietnam offer the same price to all their export markets. The other countries, however, are price differentiating among the markets. Looking at the most important markets for the three of them, including the US, Japan, Hong Kong and Germany for China; the US, Germany and the UK for Bangladesh and the US, the UK and the UAE for India, they all operate with the most expensive prices to the US. China offer the cheapest price to Hong Kong, while India and Bangladesh ships the cheapest goods to the UK. This may be due to the preferential treatment India and Bangladesh get in the EU through the GSP, and China has a Closer Economic Partnership Agreement (CEPA) with Hong Kong.

A theory contradicting the findings that Cambodia, Indonesia and Vietnam operate with the highest prices, is that the more developed a country is, the higher quality the country's export products tends to be (Henn, et al., 2013). As China has had a remarkable economic development, this theory would suggest that China should export higher quality products than the other countries. The top three commodities exported from China in 2012 are also among the top commodities for some of the other countries; hence, they cannot be viewed as higher

quality products. The latter two of China's top commodities are also low-cost products. In the apparel industry, low production costs and transportation costs are main factors for success, so these factors may be more competitive than the degree of quality, and China still offer the same commodities at a lower price than most of its competitors.

As discussed above, the price differences may have various explanations and one cannot conclude that the price differences in the apparel industry are only a signal of quality differences. However, to the extent of this thesis and available data, these indicators for product upgrading are to some extent sufficient.

5.3 Social upgrading

Social upgrading is measured by factors such as labour and wages. The major advantage for a labour-intensive industry like textiles and apparels is low wages. When the Chinese economy started to accelerate, the labour costs also increased, resulting that labour-intensive products faced higher production costs. Moreover, the wage increase are expected to keep rising, which could harm the country's low-cost manufacturing advantage (Rochan, 2014) and production of these products to be moved to other countries with cheaper labour.

Table 5.5: Gross National Income in Purchasing Power Parity, current $USD

Country	1993	1998	2001	2005	2008	2012
China	1 180	1 960	2 570	4 090	6 200	9 040
Indonesia	1 870	2 110	2 230	2 990	3 730	4 730
India	990	1 360	1 620	2 220	2 870	3 910
Vietnam	900	1 390	1 690	2 310	2 890	3 620
Cambodia	-	760	980	1 440	1 930	2 330
Bangladesh	630	790	930	1 200	1 570	2 030

Source: World Bank, 2014c.

China's income has grown from US$ 1,180 in 1993 to US$ 9,040 in 2012. Of the countries included in this analysis, only wages in Indonesia were higher than China's until 1999, but by 2012, wages in China has become almost twice as high as in Indonesia. Although these values indicate the wage differences in the countries, income for garment factory workers is much lower than average.

5.3.1 Wages in the apparel industry

The Worker Rights Consortium (2013) reported wages and working conditions in 15 of the top 21 countries in terms of apparel exports to the United States in 2012. The study reports that in China, India, Indonesia and Vietnam, real wages for garment workers grew from 2001 to 2011 by an average of 55.2 percent for the whole period or slightly less than 6 percent per year. The wage gains were highest in China, and rose in real terms by 129 percent during that period. The wage increase in India was much more modest than the other three countries, with a yearly increase of 1.3 percent in real wages, or in straight-time wages, Indian garment workers earned US$ 94 per month in 2011. Vietnam had a significant minimum-wage climb in 2011, but prevailing straight-time wages was only US$ 111 per month that year. Indonesian garment workers earned US$ 142 per month.

In Bangladesh and Cambodia, real wages actually decreased between 2001 and 2011, the same paper reports. The minimum wages in Bangladesh increased in 2010, but despite that, real wages fell by 2.37 percent during the 10-year period. In Cambodia, the International Labour Organization has had a project since 2001, called Better Factories Cambodia, to improve working conditions in the country's export garment factories. (ILO, 2008) However, the loss of purchasing power was 19.1 percent from 2001 to 2011, and straight-time wages in 2011 was US$ 70 per month for garment workers in Cambodia. Bangladesh had the lowest monthly wages of the main apparel exporters at US$ 50 per month.

According to Wage Indicator (2014), both Cambodia and Bangladesh has a special minimum wage for garment workers. In Bangladesh, the average minimum wage for 2010-2014 was US$ 68 per month and in Cambodia, a garment worker earned at least US$ 70 plus a cost of living allowance of US$ 5. In India, the lowest minimum wage was $2.18 per day, which is US$ 65.4 with 30 days of work. Indonesia had the lowest wages sited in West Java, where most of the garment production are located (GBG Indonesia, 2013), and wages are from 850,000 rupiah per month, about US$ 72.8 (Using the exchange rate for 23 April 2014). According to the Wage Indicator, China's lowest wages are RMB 830 in the poorest areas, which equals US$ 133 per month. Without perfect coinciding data and lack of thereof, the data presented above are summarized in table 5.6 to give a picture of the wages in the apparel sector.

Table 5.6: Wages in the apparel sector

Country	Worker Rights Consortium		Wage Indicator	Berhardt (2013)			
	Wage per month	Increase	Wage per month	Annual wages, hourly labour costs in brackets			Increase
	2011	2001-2011	2010-2014	2000	2004/2005	2008/2009	2000-2009
China	-	129 %	133,00	-	1 402,00	3 661,00	191,46 %
Bangladesh	50,00	-2,37 %	68,00	(0,35)	(0,23)	(0,22)	-43,59 %
Cambodia	70,00	↓	75,00	753,00	705,00	834,00	10,77 %
India	94,00	↑	65,40	777,00	1 032,00	1 642,00	111,36 %
Indonesia	142,00	↑	72,80	752,00	1 127,00	-	76,85 %
Vietnam	111,00	↑	-	-	(0,28)	(0,38)	-

Source: Worker Rights Consortium, 2013; Wage Indicator, 2014.

Included in table 5.6 are also some of Bernhardt's (2013) figures on wages. For Bangladesh and Vietnam, labour costs per hour were used as a proxy for wages, and the other values are annual wages for one of the indicating years. The outcome seems to confirm the other studies; China had the most remarkable increase which nearly tripled its wages from 2000-2009, India and Indonesia are intermediate cases and Vietnam, Cambodia and in particular Bangladesh have the lowest wages for the sweatshop workers.

5.3.2 Employment in the apparel industry

The other indicator for social upgrading is an increase in employment. Data for sectorial employment are not as easy to attain as for the economic and product upgrading indicators either. The statistics available differ to include the informal sector, which is a huge part of apparel employment. An example is India, where 90 percent of total textile and apparel employment are in the informal sector (Frederick & Staritz 2011). Figures of employment can also differ between only the apparel sector and the apparel and textile sector together. Moreover, the time span coverage are not always the same for all countries. For these reasons, employment data in table 5.7 are assembled from a similar analysis conducted by Bernhardt (2013), and the comments are filled with supporting data. The data from his analysis obviously also suffer from lack of available statistics; thus it should be interpreted with some caution.

Table 5.7: Employment in the apparel sector, 2000-2009

Country	2000	2004	2005	2008	2009	Percentage change		
						2000-2004	2004-2009	2000-2009
Bangladesh	1 600 000	2 000 000	2 000 000	2 800 000	3 100 000	25 %	55 %	94 %
Cambodia	168 824	269 846	283 906	324 871	281 855	60 %	4 %	67 %
China	2 156 300	3 202 600	3 460 600	4 587 000	4 493 100	49 %	40 %	108 %
India	329 401	447 466	538 615	622 913	-	36 %	39 %	89 %
Indonesia	479 155	438 045	451 938	495 192	464 465	-9 %	6 %	-3 %
Vietnam	231 948	498 226	511 278	758 274	-	115 %	52 %	227 %

Source: Bernhardt, 2013.

Although the data in table 5.7 do not include all years intended for this analysis, they cover the two main events affecting the apparel value chain between 1993 and 2012, namely the MFA quota phase out and the global financial crisis. From the table, it is evident that all countries increased its amount of workers during the whole period and in the two sub-periods except Indonesia. The 2000-2004 period demonstrate the time before the MFA quota phase out, and Indonesian apparel exports decreased during that period from US$ 4.56 billion in 2000 to US$ 4.23 billion in 2012. One of Bernhardt (2013) findings is that employment goes hand-in-hand with export performance, understandable as declining demand for the products cause lower need for workers. Similar are the effects from the economic crisis that hit apparel exports in 2009. Many workers lost their job due to decreasing demand in western markets, which is presented by a decrease in employment in 2009 in Cambodia, China and Indonesia. Only Bangladesh managed to increase its labour force that year.

Employment statistics in table 5.7 may possibly only cover the formal sector of employment. Supporting the previous example of India, there are 35 million people in India directly or indirectly employed in the apparel and textile industry, which is the second largest employment provider after agriculture, with 18 percent of industrial employment (Pelot, 2008). In the cases of Bangladesh and, in particular, Vietnam, the rapid rates of employment expansion reflect the expanding demand for labour that goes together with the increasing integration of these two countries into international apparel value chains.

Frederick and Staritz (2011) report that employment in the apparel industry between 2004 and 2008 grew by 40 percent in Bangladesh, 20 percent in Cambodia, 48 percent in India and 52 percent in Vietnam. With exception of India, whose employment grew 40 percent according to table 5.7, these values support the data in the table. For the other countries in the same period, China's employment grew 43 percent and Indonesia's grew 13 percent.

Preuss (2013) account the labour forces in 2012 to be 4 million in Bangladesh, over 10 million in China and 1.5 million in Vietnam, indicating that employment has rebounded after the crisis in 2009.

Productivity is also a main factor regarding wages and employment. Cambodian apparel workers are less productive than other apparel workers in the region are. By comparison, Cambodian sweatshop workers produce 30 to 40 shirts per hour; Vietnamese workers produce 60 to 70 shirts per hour, while Chinese workers are the most productive, producing 100 to 120 shirts per hour (Thomasson, 2013a). A reason for the low labour productivity in Cambodia is the lack of skills of the workers and the managers. The few training centres are mostly focused on teaching women to sew and reducing injuries rather than improving productivity and upgrading to broader and higher value-added activities (Staritz and Frederick, 2012). Most skilled managers in Cambodia are foreigners, and the transmission of knowledge is a challenge due to language and culture differences (Stariz and Frederick, 2012).

5.4 Overall upgrading?

The apparel industry is highly controlled by developed countries' demand. While orders from the mass market of the US are large and price is the most important factor, orders from the EU are smaller and the demand are of more variation when it comes to quality, fashion and lead times (Lopez-Acevedo and Robertson, 2012). The developing countries in this thesis are competing in the market of low-cost apparels, where prices are the main factor. Low prices are depending on low wages, low transportation costs and high labour productivity, and not necessarily the best quality as this thesis use as an upgrading factor. Other than China, that may follow the upgrading tracks of the NIEs, the sample countries are currently competing in being the cheapest supplier of apparel goods, rather than to upgrade within the apparel value chain.

Bangladesh, Cambodia, India, Indonesia and Vietnam have all had a great advantage of the GSP tariff preferences. Because China is not granted the same tariff reductions, this may be the main reason why the regional countries have managed to compete and increase apparel exports. Yet, China offer higher labour productivity and efficiency than others, which is why prices can stay on the same level or lower than its regional countries, despite their higher wages.

To sum up the upgrading factors, they are collected in a matrix where the results are easier to observe.

Table 5.8: Upgrading conclusions

Upgrading factor	China	Bangladesh	Cambodia	India	Indonesia	Vietnam
Economic	✓	✓	✓	✓	✕	✓
Product	✕	✕	✓	✕	✓	✓
Social	✓	✕	✕	✓	✕	✕

Source: Author's conclusions from the findings.

The results show than none of the sample countries have managed to succeed in all three upgrading factors between 1993 and 2012. As Indonesia did not manage to increase its export market share during the whole period, it is not seen as an economic upgrader. The countries that succeeded in product upgrading are the countries with highest prices and highest increase in prices, which was Cambodia, Indonesia and Vietnam. Only China and India had growth in both employment and real wages in the apparel sector, while Bangladesh, Cambodia, Indonesia and Vietnam had increases in employment, but not in real wages. With evidence of harsh working conditions in the sweatshop industry, e.g. factory collapses and employers fainting, there is easy to conclude that social upgrading are not present in these countries.

The terms for product upgrading may not be as important in the low-cost apparel sector as in other sectors, and lower prices could indicate a higher degree of competitiveness rather than poorer quality on products. If economic and social upgrading are viewed as the most important factors, then China and India were the big winners during the period of study, Cambodia and Vietnam second best, Bangladesh third and Indonesia had least success in upgrading in the apparel sector.

Chapter 6: Conclusions

6.1 Concluding comments

This study of the apparel export industry in a sample of Asian developing countries has covered the two main events that the industry has gone through in newer times. That is, the removal of import quotas by the MFA in 2005 and the global financial crisis in 2009. To investigate how regional competing countries have accomplished to compete with China, a parsimonious approach of a GVC analysis was adopted by Bernhardt (2013). The objective was to study whether the countries had succeeded in economic-, product- and/or social upgrading.

While the expectations for apparel trade post the MFA quota phase out was a victory for China and to some extent India, all countries included in this study increased their apparel export values after 2004. China had by far the largest increase in export values in absolute terms with more than US$ 93 billion since 2004 to 2012, but both Bangladesh and Vietnam had a stronger year-on-year growth than China with 16 percent and 17 percent respectively compared to China's growth at 13 percent. The parsimonious approach describes different conditions that have to be fulfilled to succeed in economic, product and social upgrading. Increasing export values is one of the conditions for economic upgrading, which was accomplished in all countries. The other factor for economic upgrading is growth in export market share. All countries except Indonesia has increased their market shares during the whole period from 1993 or 2000 to 2012 as well as in most of the years seen separately. Indonesia had a decrease in world market share most of the years, and although the share stabilized after 2004, the world frontier was lower in 2012 with 1.7 percent than in 1993 when the share was 2.6 percent. Both conditions must be fulfilled to succeed in economic upgrading; henceforth all countries except Indonesia are rated as economic upgraders.

To succeed in product upgrading regarding the restrains of this thesis, the conditions that have to be fulfilled are a move to higher priced commodities and/or the price of the products is higher or has increased more than like products in the competing countries. The price calculations are a measure for quality, where a higher price means better quality. It appears that all countries except India focused on cheaper products in 2012 than in 1993/2000 according to the analyses of average prices throughout the period for the top five

commodities in 1993 and 2012. For all countries' top exported commodities in 2012, Vietnam had the largest price increase between the periods 2000-2004 and 2004-2012. Indonesia had the second largest price increase and Cambodia the third, and these three countries export most of their products at the same prices, so the price increase are the same when comparing the same products. The prices for Cambodian, Indonesian and Vietnamese products are significantly higher than products exported from China, Bangladesh and India, so in the terms for product upgrading, these countries have succeeded most. Prices on products exported from Bangladesh had the worst development. Up to 2007, most commodities were sold at a lower price than in 1993, and in an apparel statistical report from FY2010-2011 it was reported that Bangladesh has not readjusted its prices in response to rising input costs (BKMEA, 2011). On the other hand, if the prices from this report are taken into account, the prices appears to have risen since 2007. It must be included again that the price differences may reflect other aspects than only quality differences. Most likely, the differences are due to production costs and transformation costs or variations in the composition within a product category across the exporters.

The last measure for upgrading in this thesis is social upgrading, which is said to occur with increasing employment and increasing real wages. Labour demand increased in all countries except in Indonesia between 2000 and 2009, and Vietnam had the most rapid rate of employment expansion at 227 percent that period. Indonesian apparel employment decreased prior 2004, but the workers seem to have benefited from the MFA quota phase out, and the work force increased again after 2004. The global financial crisis in 2009 had a large impact on employment in the apparel sector and many workers were laid off.

Low wages are the main competitive advantage in the textile and apparel sector and consequently the wages did not increase considerably from 2001 to 2011. In Cambodia and Bangladesh, real wages actually decreased, and only China and India managed to increase the apparel workers' incomes significantly. Wages in the other countries also increased, but the workers are still too under-paid and the working conditions are too poor to be viewed as social upgrading.

The three factors for upgrading, economic, product and social, all play a great role when explaining the evolvement in the apparel industry. Since apparel is a very labour-intensive business, the competition has been primarily been driven by wage differences among the

countries, however, most countries in this analysis also implemented proactive policies specific to the apparel industry. Along with the specifically low wages in these countries, preferential trade agreements played a huge role in the post-MFA period.

The case for niche products was not visible for any of the countries. Cambodia is the country that has specialized the most, exporting almost exclusively knitted items. However, this seems to be the case because the knitted technology is cheaper than the woven technology, and not a certain decision to stand out from the other exporters. All exporting countries in the study export mainly low-cost products and compete in the market with the same apparel wares.

Ultimately, all countries would categorize as upgraders in the global apparel value chain because of the large increases and market shares the countries have accomplished through 1993-2012. This also answers the main research question, whether China is crowding its regional competing countries or if it has become less of a competitor as the country has industrialized. China and India seem to be the winners of this study, but the regional countries have also had remarkable results in the international apparel chain during the period of study. Although China keeps expanding export values and market share, it appears that it is not at the expense of the regional competitors. Further, even with decreasing importance for apparel exports because China's industry has moved to higher value chains, shown by the increasing importance in exports of high-tech products, the country still expands in the apparel industry as well.

6.2 Limitations of the study

The first and most important limitation of the study is that many of the countries' trade quantity values are estimations; hence, the results that showed the same prices from Indonesia, Cambodia and Vietnam could be a result from how UN Comtrade estimated trade quantity instead of the case where the countries actually operate with the same prices.

This study could have been more fulfilling if countries from other parts of the world were included, and not only six of the largest apparel exporters as of 2012. The differences would be seen at a clearer manner if countries that lost market shares and experienced declining export values because of the MFA were examined as well.

Further, more top commodities from the years between 1993/2000 and 2012 should have been included so changes in product specialization would be clearer. It differed vastly among the countries how large part of the export basket was included in the top five exported products. For China's exports in 1993, 22 percent of the total export values were from the top five exported commodities. However, for most countries, the export value for the top five commodities were around half of total export value that year.

Another problem with this study are the availability of data. Cambodia and Vietnam started reporting data to UN Comtrade in 2000 and Bangladesh stopped reporting data in 2007. This has made the comparison of the countries more difficult, however the main events, the MFA quota phase out ending in 2004 and the financial crisis in 2008/2009 were covered for Cambodia and Vietnam, and most useful data for Bangladesh was available in other sources. The lack of data for other commodities than the top exported ones from Bangladesh may have caused skewed selection of analysed products.

A question to be asked concerning the results of the study is why production of apparel products are moved to Cambodia and Vietnam when they operate with a higher price than China, Bangladesh and India. In this study, higher price are used as a measure for quality, but as China and India have longer history and more skilled workers in the apparel value chain, this may not make sense. Many companies say they are moving production out of China to, among others, Vietnam because labour is cheaper (The Economist, 2012). Nevertheless, China's advantages are better productivity and sophisticated supply chains, leading to lower prices despite higher labour costs.

6.3 Suggestions for further research

One suggestion for further research is to take into consideration a larger part of the GVC, where the firm level is included. The interesting part in that case would be to see how many plants or firms that move production to other countries, and study firm size, FDI inflows, and ownerships of the plants.

Another interesting aspect would be to study the post-MFA economic structure and welfare. Changes in the apparel sector may lead to reallocation to other sectors and the study could include multi-sectorial changes in employment and wage opportunities.

A more thorough research on how the domestic policies affected the apparel trade in the short and long run could also supplement the current thesis, since it only highlights the different policies, and not examine and compare them to figure which had greatest effects and how they affected the workers.

Moreover, data for wages in the apparel sector are scarce, and a field research in the largest apparel exporting countries with respect to workers' income would add an important aspect in the apparel value chain.

Further research could also include a larger country sample and more commodities. If all commodities at the 6-digit level were analysed, one could find the overall average prices for the countries. This thesis only used top five commodities in two years as a sample for the whole range of commodities, and the price differences among the countries would be more valid and descriptive if more commodities were added.

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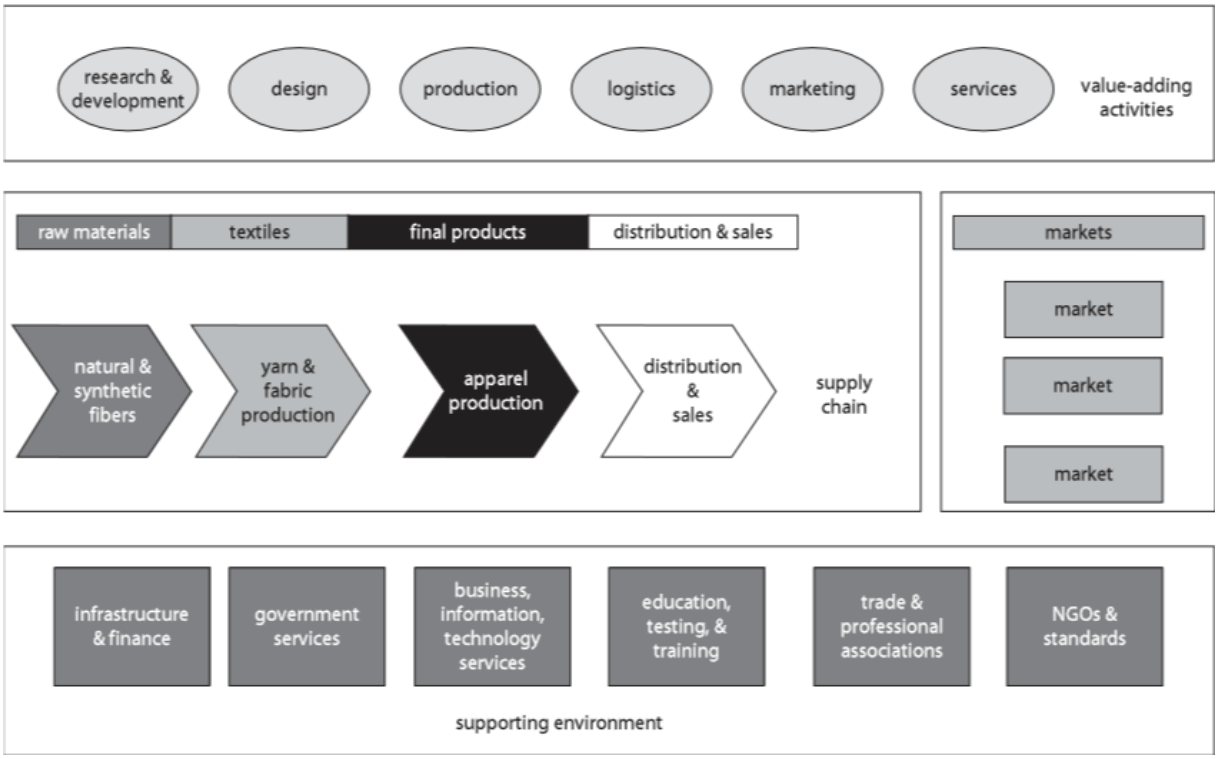
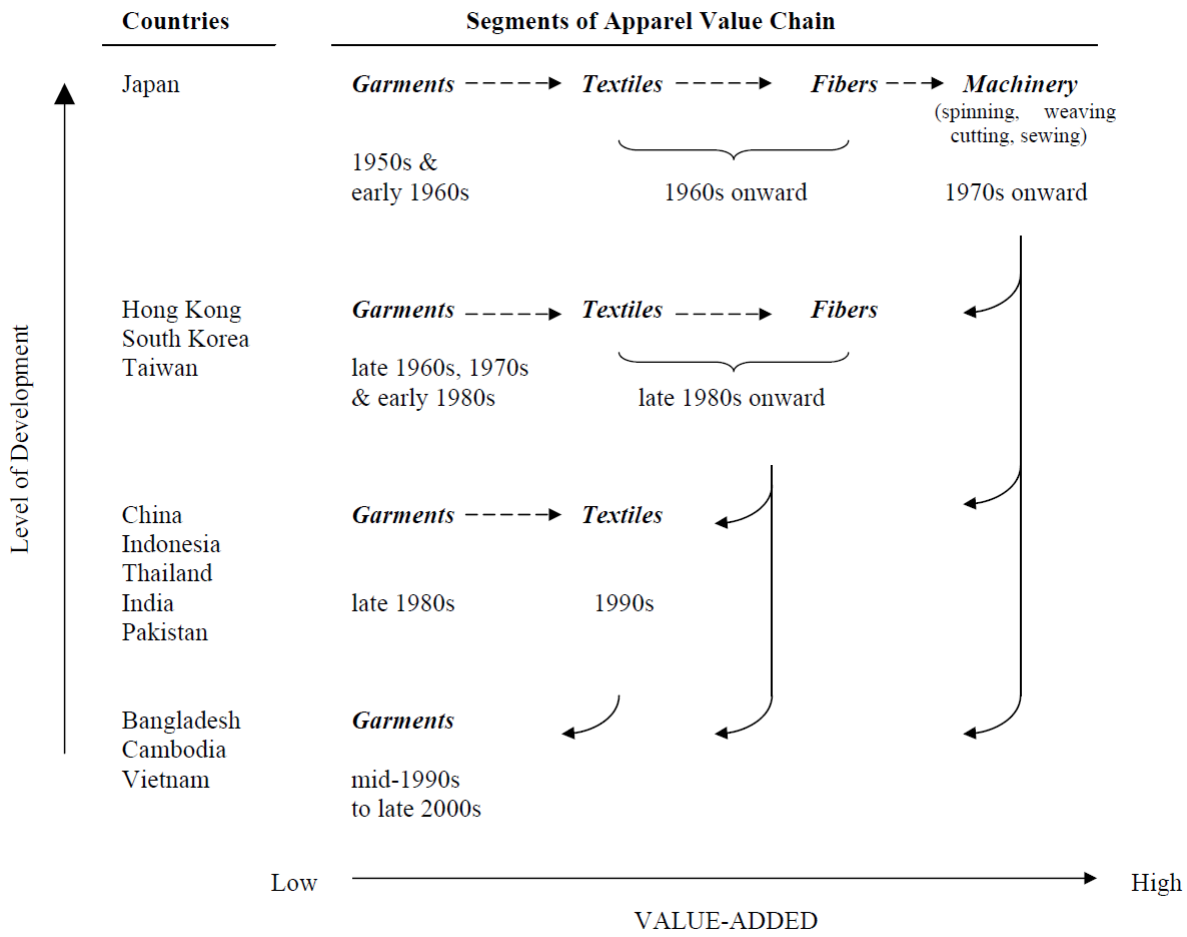
Appendix

Appendix 1: Apparel Supply and Value Chain



Source: Frederick and Staritz (2011)

Appendix 2: Examples of upgrading in the apparel value chain



Source: Gereffi and Frederick, 2010

Appendix 3: Preferential programs

Granting Country	*Program and start date*	*Benefit*	*Rules of origin*	*Beneficiary countries*
EU	GSP (1971)	20% MFN duty reduction	Double transformation	GSP-eligible countries not covered by other agreements
EU	Euro-Mediterranean Partnership (1995)	Depends on specific bilateral agreements	Double transformation	Mediterranean countries: Algeria; Egypt, Arab Rep.; Israel; Jordan; Lebanon; Morocco; Palestinian Authority; Syria; Tunisia; Turkey
EU	GSP-EBA (2001)	Duty- and quota-free	Double transformation[a]	LDCs
EU	GSP+ (2005)	Duty-free	Double transformation	Vulnerable developing countries; conditional on implementation of core human rights, good governance, and protection of the environment conventions
EU	EPAs (2008–09)	Duty-free	Single transformation	ACP countries that signed an (interim) EPA
United States	GSP (1976)	Duty-free	Does not include textile and apparel	GSP-eligible countries
United States	NAFTA (1994)	Duty-free	NAFTA yarn-forward	Canada, Mexico
United States	AGOA (2000)	Duty- and quota-free	AGOA/United States yarn-forward for most products; assembly only for lesser developed countries	Selected Sub-Saharan African countries
United States	DR-CAFTA (2006)	Duty-free	DR-CAFTA/United States yarn-forward with some exceptions	Central America (except Panama) and Dominican Republic
Japan	GSP (1971)	Rates vary from duty-free to 50% of MFN rate	Triple transformation[b]; several of the product lines have ceilings open for utilization by all preference-receiving countries on an equal footing	LDCs
Canada	GSP (2003)	Duty-free	Allow use of fabrics from Canadian GSP beneficiary countries	LDCs

Source: Authors.

Note: GSP = Generalized System of Preferences; GSP+ = GSP that offers preferential market access to vulnerable developing countries; MFN = most favored nation; EBA = Everything but Arms; LDCs = least developed countries; EPA = economic partnership agreement; ACP = African, Caribbean, and the Pacific; NAFTA = North American Free Trade Agreement; yarn-forward = yarn should be produced in NAFTA country; AGOA = Africa Growth and Opportunity Act; DR-CAFTA = Dominican Republic–Central America Free Trade Agreement.

a. The European Union (EU) revised its rules of origin (ROO) from double to single transformation for LDCs, which came into effect on January 1, 2011.

b. Bangladesh has enjoyed double transformation ROO for knit products—Harmonized Commodity Description and Coding System (HS) 61—since April 2011.

Source: Lopez-Acevedo and Robertson, 2012

Appendix 4: Description of product groups

Product-group	Name and description
610342	**Name**: Mens, boys trousers & shorts, of cotton, knit **Description**: Trousers, bib and brace overalls, breeches and shorts :-- Of cotton
610349	**Name**: Mens, boys trousers & shorts, of material nes, knit **Description**: Trousers, bib and brace overalls, breeches and shorts :-- Of other textile materials
610432	**Name**: Womens, girls jackets & blazers, of cotton, knit **Description**: Jackets and blazers :-- Of cotton
610462	**Name**: Womens, girls trousers & shorts, of cotton, knit **Description**: Trousers, bib and brace overalls, breeches and shorts :-- Of cotton
610469	**Name**: Womens, girls trousers & shorts, material nes, knit **Description**: Trousers, bib and brace overalls, breeches and shorts :-- Of other textile materials
610510	**Name**: Mens, boys shirts, of cotton, knit **Description**: Of cotton
610910	**Name**: T-shirts, singlets and other vests, of cotton, knit **Description**: Of cotton
610990	**Name**: T-shirts, singlets etc, of material nes, knit **Description**: Of other textile materials
611010	**Name**: Pullovers, cardigans etc of wool or hair, knit **Description**: Of wool or fine animal hair
611020	**Name**: Pullovers, cardigans etc of cotton, knit **Description**: Of cotton
611030	**Name**: Pullovers, cardigans etc of manmade fibres, knit **Description**: Of man-made fibres
611090	**Name**: Pullovers, cardigans etc of material nes knit **Description**: Of other textile materials
620113	**Name**: Mens, boys overcoats of manmade fibres, not knit **Description**: Overcoats, raincoats, car-coats, capes, cloaks and similar articles :-- Of man-made fibres
620193	**Name**: Mens, boys anoraks etc, of manmade fibres, not knit **Description**: Other :-- Of man-made fibres
620199	**Name**: Mens, boys anoraks etc, of material nes, not knit **Description**: Other :-- Of other textile materials
620211	**Name**: Womens, girls overcoats etc of wool or hair not knit **Description**: Overcoats, raincoats, car-coats, capes, cloaks and similar articles :-- Of wool or fine animal hair
620293	**Name**: Womens, girls anoraks etc of manmade fibres, not knit **Description**: Other :-- Of man-made fibres
620342	**Name**: Mens, boys trousers & shorts, of cotton, not knit **Description**: Trousers, bib and brace overalls, breeches and shorts :-- Of cotton
620442	**Name**: Womens, girls dresses, of cotton, not knit **Description**: Dresses :-- Of cotton
620462	**Name**: Womens, girls trousers & shorts, of cotton, not knit **Description**: Trousers, bib and brace overalls, breeches and shorts :-- Of cotton
620520	**Name**: Mens, boys shirts, of cotton, not knit **Description**: Of cotton
620590	**Name**: Mens, boys shirts, of material nes, not knit **Description**: Of other textile materials

620610	**Name**: Womens, girls blouses & shirts, of silk, not knit **Description**: Of silk or silk waste
620630	**Name**: Womens, girls blouses & shirts, of cotton, not knit **Description**: Of cotton
620640	**Name**: Womens, girls blouses, shirts, manmade fibre, not knit **Description**: Of man-made fibres
621149	**Name**: Womens, girls garments nes, material nes, not knit **Description**: Other garments, women's or girls' :-- Of other textile materials

Source: UN Comtrade

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