

# Apparel in South Asia

Based on the “Stitches to Riches” report

Extended Version of the Industry Case Study Done for:

## South Asia’s Turn

Policies to Boost Competitiveness and Create the Next Export Powerhouse

Gladys Lopez-Acevedo and Raymond Robertson

**October 5, 2016**

Trade and Competitiveness Global Practice

South Asia Region

THE WORLKBANK GROUP



---

## **Table of Contents**

Executive Summary

1. Motivation and Approach
2. Performance Analysis
3. Drivers of Competitiveness
4. Constraints on Competitiveness
5. Policy Recommendations

References

## **Acknowledgements**

The “Stitches to Riches” report, on which this summary is based, was written by a team led by Gladys Lopez-Acevedo (Lead Economist, World Bank) and Raymond Robertson (Professor, Texas A&M) comprising (in alphabetic order) Ritika D’Souza (Consultant, World Bank), Stacey Frederick (Consultant, World Bank), Atisha Kumar (Consultant, World Bank), and Yevgeniya Savchenko (Economist, World Bank). Substantive analytical contributions were made by Diego Cardozo, Benjamin Goldman, Jyotinder Kaur, Amir Sadeghi and Cornelia Staritz.

The report benefitted from insightful advice of our peer reviewers, David Gould (Lead Economist, World Bank), Sanjay Kathuria (Lead Economist, World Bank), Vincent Palmade (Lead Economist, World Bank), and Binayak Sen (Research Director, Bangladesh Institute of Development Studies). The report also benefitted from the comments and contributions received from Vincent Arthur Floreani (Analyst, IFC), Bilgehan Gokcen (Consultant, World Bank), Markus Kitzmuller (Economist, World Bank), Yue Li (Senior Economist, World Bank), Denis Medvedev (Senior Economist, World Bank); Anna O’Donnell (Social Development Specialist, World Bank), and Ayesha Raheem. This report was sponsored by the Office of the Chief Economist South Asia of the World Bank under the leadership of Martin Rama (Chief Economist).

## Executive Summary – “It is necessary to import in order to export”

Apparel is the largest labor-intensive manufacturing industry in South Asia, and is a major employer of women. Although South Asia’s apparel sector benefits from many of the same favorable conditions as East Asia’s, performance in South Asian apparel remains well below that of East Asia. For example, South Asia accounts for 12 percent of global exports, compared with 43 percent for China alone. South Asia has the opportunity to significantly boost employment in apparel, capitalizing on lower wages than in East Asia, especially in China. However, increasing apparel exports to global markets will require meeting ever more stringent buyers’ conditions in terms of cost, quality, lead time, reliability and social/environmental compliance.

The objective of this study is to identify the policy changes necessary for South Asia to capitalize on this opportunity. We review the apparel sectors in Bangladesh, India, Pakistan and Sri Lanka, and compare them with Vietnam and China. The report uses quantitative data (analysis based on a gravity model, enterprise and buyer surveys) and qualitative information (interviews with leading firms) to identify changes in policies that would enable South Asia to meet the requirements of global buyers.

Low productivity and poor trade logistics make it difficult for South Asia’s apparel sector to compete in global markets, despite a cost advantage due to lower wages than other major exporters. Leading firms exhibit that world class operational performance can be achieved in South Asia by investing in training and technology. These firms overcame constraints in the external environment by achieving economies of scale, and in the case of India and Pakistan, by integrating vertically to avoid barriers to sourcing high-quality inputs on the global market.

Problematic duty drawback schemes in India and Pakistan make it difficult and time consuming for exporters to import textiles, imposing delays that are unacceptable to global buyers and increasing exporters’ concentration in lower quality, cotton-based apparel. This is the main reason for the markedly inferior export performance in India and Pakistan compared to Bangladesh (which has a very effective system of bonded warehouses to facilitate duty free import of textiles) and Sri Lanka (which has no import duties on textiles) – see table 1 below.

**Table 1: Apparel exports per capita (US\$, 2012)**

Sri Lanka	Vietnam	Bangladesh	China	Pakistan	India
216	171	147	108	23	10

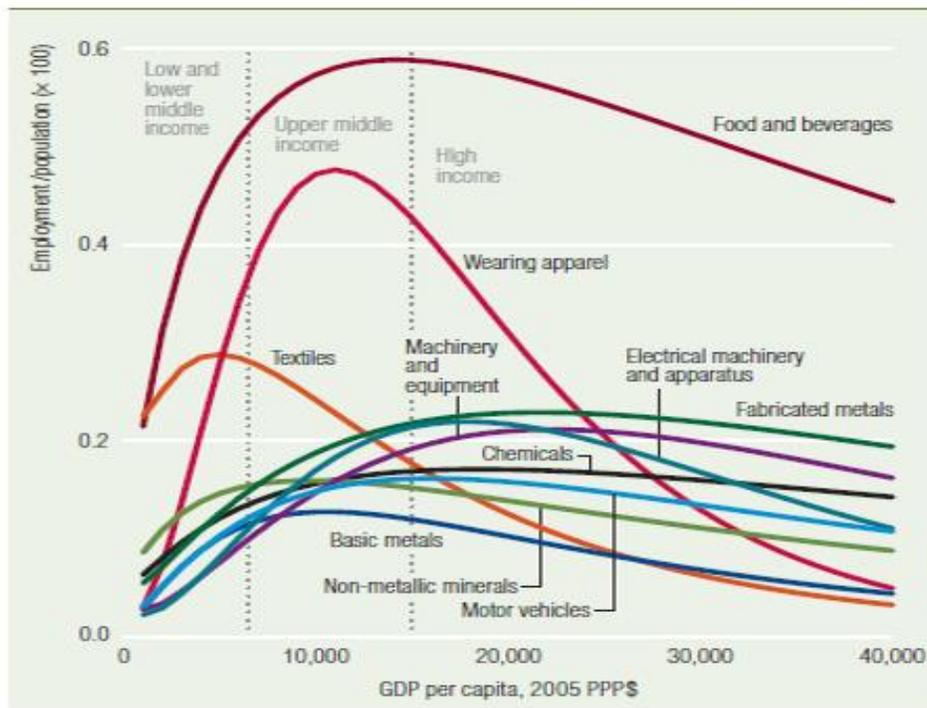
Sri Lanka should continue to improve its trade logistics to become the main regional hub for apparel. Bangladesh should expand its system of bonded warehouses beyond apparel to include other labor intensive industries such as footwear, where growth has been constrained by a lack of easy access to imported inputs. Bangladesh should also free up much-needed industrial land by resolving the dispute surrounding the 3,000 acre Korean Export Processing Zone in Chittagong. All countries should promote “Plug and Play” industrial zones with ready to use industrial buildings (to help SMEs grow out from substandard buildings in cities) and facilities to promote women labor force participation, as female workers would be the main beneficiaries of growth in apparel production.

# 1. Motivation and Approach

## a. Motivation

The apparel sector is one of the most important employers in developing countries (figure 1). Export-oriented apparel production—which has long been a key industry in South Asia—has the potential to generate ‘good’ jobs that contribute to rising living standards and poverty reduction. In particular, increased apparel exports tend to boost female employment in the formal sector, and provide workers higher wages than they can earn in agriculture or other informal sectors (Lopez Acevedo and Robertson, 2012). Women employed in the formal sector tend to have fewer children, which reduces population growth and improves children’s health status, while women are more likely than men to dedicate their income to the health and education of children (The World Bank, 2015). Increasing decent jobs for women is critical for South Asia, where close to one million individuals enter the workforce each month. Currently, only about 30 percent of working-age women participate in the labor force, although female labor force participation rates vary considerably across the region (60 percent in Bangladesh, 40 percent in Sri Lanka, 30 percent in India, and 25 percent in Pakistan).

**Figure.1: Share of employment by industry along the development path**



*Source:* UNIDO (2013).

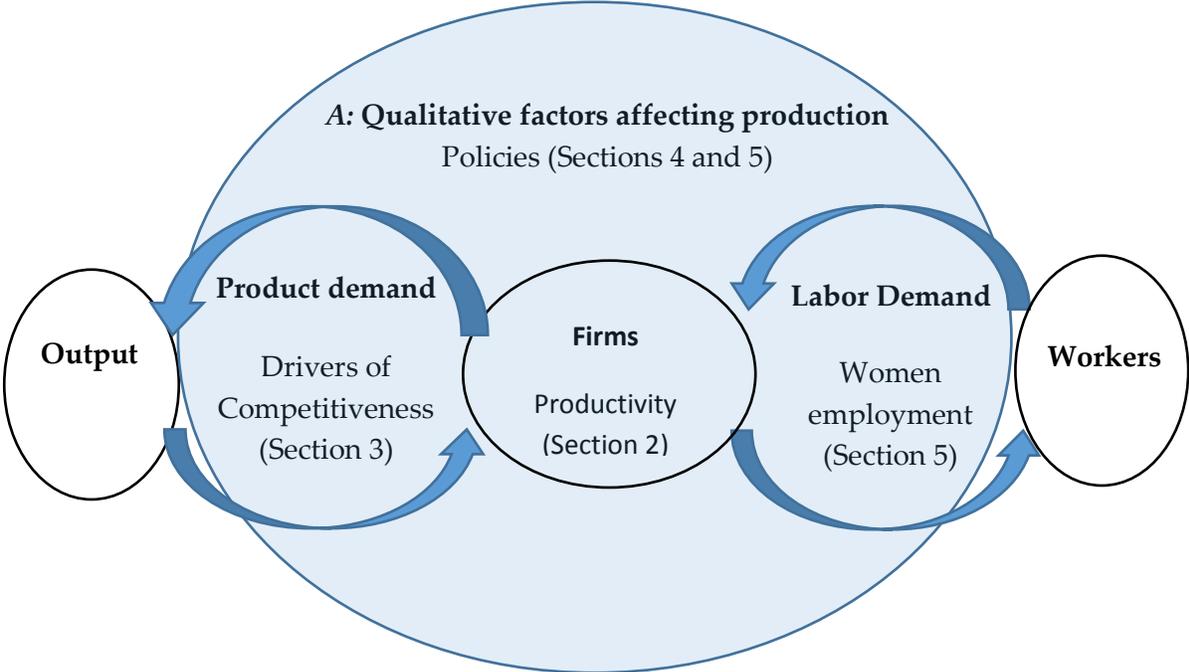
Rising wages in China may improve South Asia’s competitive position in the global apparel market. China accounted for 41 percent of global apparel exports in 2012 (up from 25 percent in

2000), compared to only 12 percent for South Asia. However, China is moving up the value chain into higher-value goods, and out of apparel. A 2013 survey of leading global buyers in the sector found that 72 percent of respondents planned to decrease their share of sourcing from China over the next five years. To seize this opportunity, South Asia will need to compete not only on cost but also on quality, lead time and social/environmental compliance, which are increasingly important for buyers.

b. Approach

This study focuses on the apparel sectors in Bangladesh, India, Pakistan and Sri Lanka. It draws on the experiences of selected East Asian countries, particularly Vietnam and China, as comparators. The analysis centers on the drivers of productivity for a typical firm, the impact of global market trends on the demand for products, and how policies in South Asia influence the capacity and incentives of firms to meet this demand.

**Figure 2: Overarching analytical framework**



The study is based on a combination of qualitative surveys, quantitative data and interviews. Product demand is assessed based on a global buyers’ survey that identifies key factors shaping buyers’ preferences, and thus firms’ competitiveness, in both South Asia and East Asian countries. The impact of policies on the capacity and incentives of firms to meet this demand is analyzed using a series of databases, including the World Integrated Trade Solutions (WITS), Commodity Trade (COMTRADE), Office of Textiles and Apparel (OTEXA), United Nations Conference on Trade and Development (UNCTAD), Trade Analysis and Information System (TRAINS), World Development Indicators (WDI), International Finance Statistics (IFS), Labor Force and Household Surveys, World Bank Enterprise Surveys (with information on

productivity) and national-level firm data. Interviews were conducted of major players in the global apparel value chain, including buyers, leading firms and apparel exporter associations in South Asia, as well as unions/workers' groups, sector experts, policy makers and international organizations such as the International Labor Organization (ILO).

## **2. Performance Analysis**

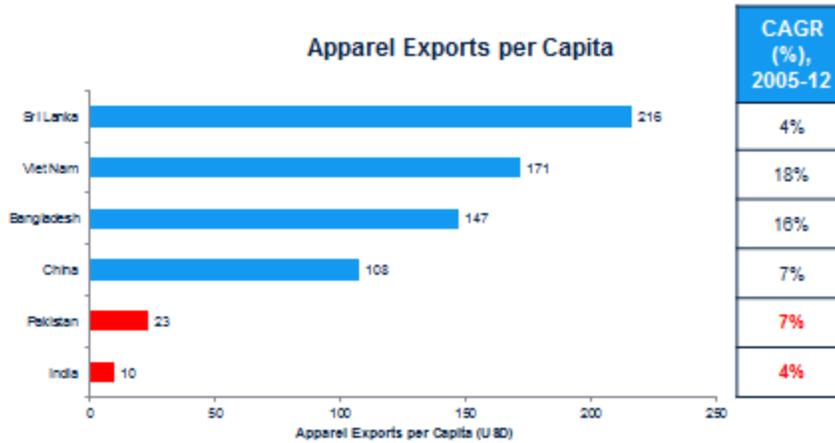
The performance of apparel sectors in India and Pakistan is poor. Per capita exports amount to one-tenth the level in Bangladesh, Sri Lanka, Vietnam and China. The two countries' apparel sectors have a narrow product range, as restrictions on the import of man-made textiles increases apparel producers' reliance on natural fibers. And performance in quality, lead times, reliability, and social compliance is below average. While wages in India and Pakistan are relatively low, this does not compensate for lower productivity than their competitors.

### **a. Output and trade**

The apparel industry is one of the largest export sectors in the world, due to the size of global demand and the structure of production. Global value added (\$355 billion in 2012) is managed by lead firms that undertake higher value-added activities such as design, branding, and retail, but outsource most manufacturing to a global network of suppliers. While the United States and EU-15<sup>i</sup> together accounted for 63 percent of apparel imports, the labor-intensive nature of production means that apparel manufacturing firms are usually located in developing countries. In 2012, exports represented 68 percent of the industry, and developing countries constituted 14 of the top 15 apparel exporters (UN COMTRADE).

Despite possessing a large workforce and ready supply of some raw materials (cotton/textiles), South Asia's share of the global apparel market was only 12.3 percent in 2012, compared with 43 percent for China. While Sri Lanka and Bangladesh perform at levels comparable to East Asian countries in per capita terms, Pakistan and India have historically exported at levels that are an order of magnitude lower, and recent growth rates are insufficient to catch up (Figure 3).

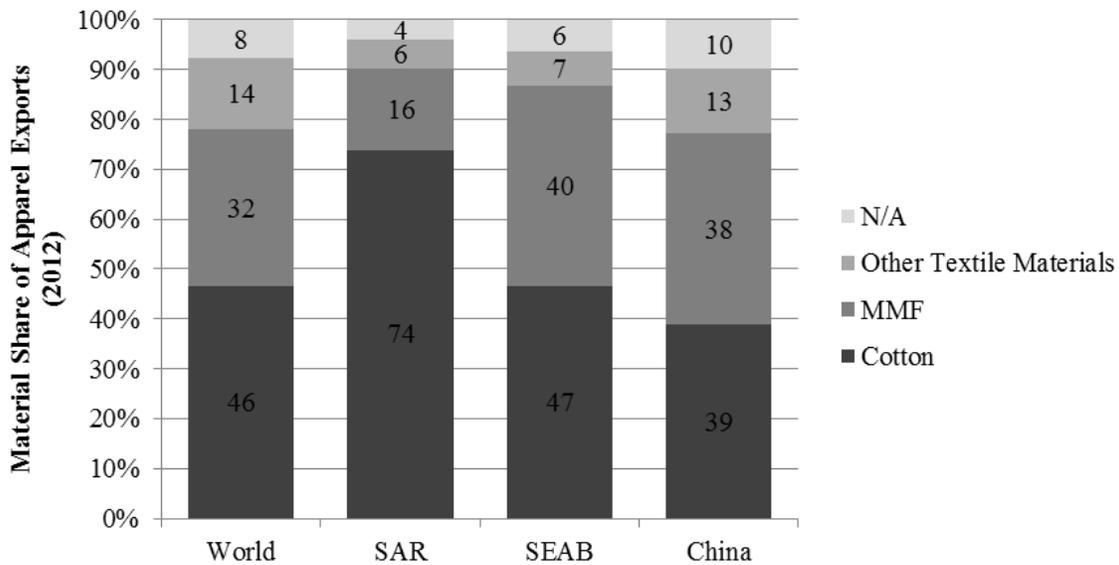
**Figure 3: India and Pakistan far behind in apparel exports**



Source: Exports data are from the UN COMTRADE database. Population figures are from World Development Indicators, World Bank.  
 Note: Total Apparel Exports are a sum of HS 61 and 62. Exports are based on world imports from partner countries; data retrieved on 3/6/14.

The main reason for this poor performance in India and Pakistan, and thus in the region, is an excessive concentration in cotton fibers, largely due to the difficulties involved in importing man-made fibers (see Figure 4 and discussion in section 4).

**Figure 4: SAR, unlike its competitors, focuses heavily on cotton**  
 (Composition of Apparel Exports by Region and Fiber Type, 2012)



Source: UNSD (2014c).

Note: Exports represented by world imports; classifications created by author. SAR = South Asia Countries. SEAB = Southeast Asian Benchmark Countries (Cambodia, Indonesia and Vietnam). MMF = Man-made fiber.

Export unit values for most apparel products are low in South Asia (Table 2). Bangladesh exhibits low unit values but high volumes. India has slightly higher values but low volumes while Pakistan has both low unit values and low volumes. Sri Lanka, similar to China, manages to combine high unit values with high volumes (on a per capita basis).

**Table 2: World unit value cost comparison, 2013**

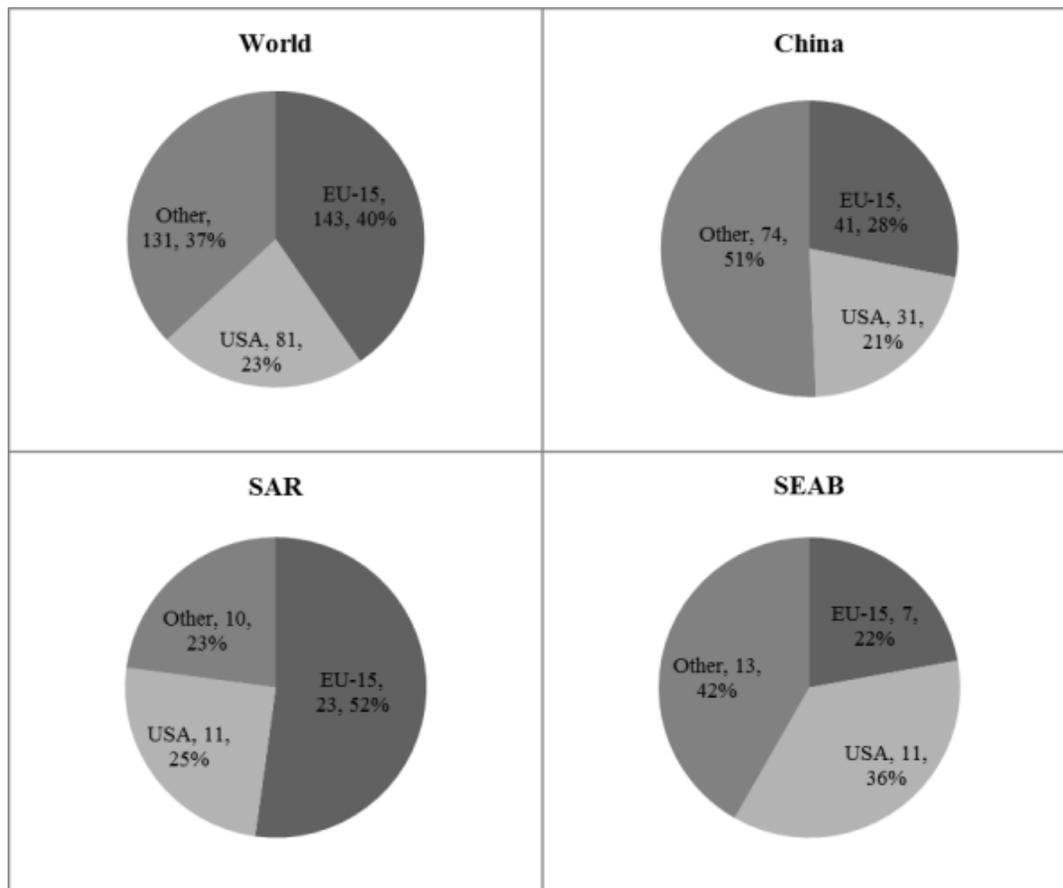
Export Rank/ Indicator/ Country	World Unit Values (based on Number of Items, 2013)						World Export Rank, by Product Category, by Value (2013)					
	Trousers (1)	Sweaters/ Sweatshirts (2)	Knit Shirts (3)	Coats (4)	Woven Shirts (6)	Dresses & Skirts (7)	Trousers (1)	Sweaters/ Sweatshirts (2)	Knit Shirts (3)	Coats (4)	Woven Shirts (6)	Dresses & Skirts (7)
1 China	\$6.5	\$7.7	\$4.1	\$17.4	\$7.2	\$8.5	1	1	1	1	1	1
3 Bangladesh	\$6.3	\$6.2	\$2.9	\$13.3	\$6.2	\$5.0	3	3	3	4	4	9
6 India	\$6.9	\$5.2	\$3.8	\$16.0	\$7.8	\$8.6	11	8	5	13	3	3
11 Pakistan	\$8.2	\$4.8	\$2.8	\$7.8	\$6.7	\$6.1	9	11	14	14	29	33
10 Sri Lanka	\$7.5	\$6.3	\$4.6	\$16.7	\$9.2	\$8.4	13	17	15	24	10	12
5 Vietnam	\$7.0	\$4.6	\$4.6	\$20.5	\$7.2	\$6.8	5	4	6	3	7	5
8 Cambodia	\$6.3	\$5.5	\$3.9	\$10.9	\$6.2	\$5.3	7	6	9	8	11	10
7 Indonesia	\$6.0	\$4.6	\$4.2	\$16.9	\$7.6	\$6.9	6	7	8	5	6	6
World	\$7.8	\$7.0	\$3.9	\$19.8	\$8.3	\$9.7						

*Source:* UNSD (2015); unit values based on number of items; unit values include cotton and MMF products. Numbers in parentheses after product categories indicate the product categories rank in 2013 in global apparel exports.

The region is also less diversified than East Asia in terms of end markets (Figure 5). Diversifying end markets increases growth prospects and reduces the risk of any shocks to destination economies. This may be especially important as the top two markets (the United States and the EU-15) are mature and experiencing a slowdown in demand. The EU and US markets account for 77 percent of the region's exports, compared to 58 percent for the SEAB countries (Cambodia, Indonesia and Vietnam) and 49 percent for China (UNSD, 2014a). Within the region, Sri Lanka's apparel exports are the most diversified, which is especially positive given its greater focus on niche products, followed by Bangladesh.<sup>ii</sup> Pakistan's level of diversification is about average for the region, while India is heavily concentrated in a few economies.

**Figure 5: China's exports are the most diversified by end market**

(share of exports by value and region, 2012)



Source: UNSD (2014a).

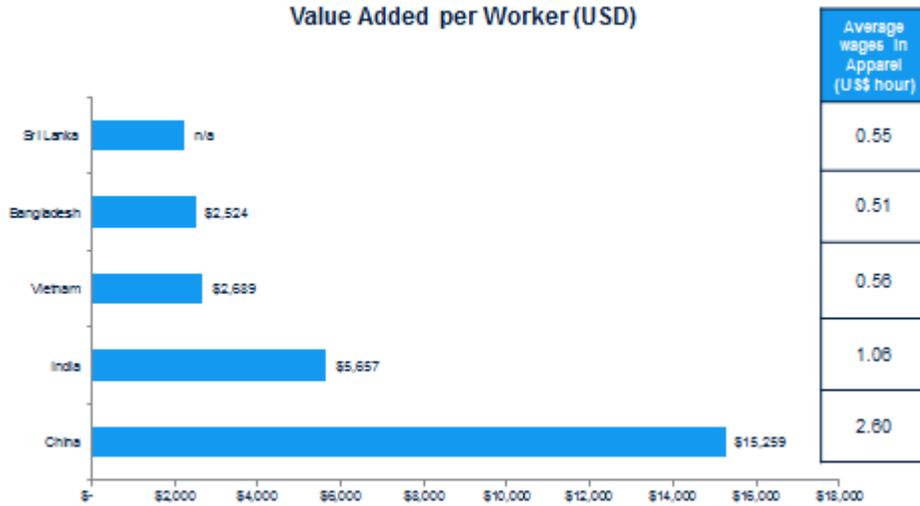
Note: Numbers in figure above reflect export values in billions for 2012 followed by share

## b. Productivity and cost

Wages in the South Asian apparel sector are well below that of China, but the difference in productivity levels is much greater (Figure 6). Labor accounts for only one-fifth of the total cost of apparel production. Raw materials and other inputs to production, over which each apparel supplier has limited influence, make up two-thirds of total costs (rent and utilities account for most of the balance). Fabrics are the most expensive input in apparel production, and the quality of textiles is directly related to the quality of the final product. However, textile production is more capital-, skill-, and scale-intensive than apparel production, which can pose a challenge to establishing domestic suppliers in South Asia (Staritz & Frederick, 2014). Furthermore, the global apparel industry is quickly diversifying across a broad range of textiles (man-made fibers in particular) in which the most efficient producers are located overseas. Thus, efficient import regimes, characterized by rapid clearance through customs and low duties (or effective duty drawback systems) are critical for export competitiveness. Sri Lanka and Bangladesh have

achieved considerable progress in improving their import regimes, while India and Pakistan have not reformed their regimes.

**Figure 6: Low wage advantage lost to low labor productivity**



Source: World Bank Enterprise Surveys

Productivity is higher among exporters than non-exporters largely because exposure to global good practices fuels operational improvements (discussed in the next section). For example, value added per worker is \$8,900 among Indian apparel exporters, compared with \$3,800 for non-exporters. In Sri Lanka, large, export-oriented firms have high productivity levels and sophisticated production processes (National Stakeholders, 2014; Wijayasiri & Dissanayake, 2008), as well as a more highly-skilled labor force, than in most other Asian countries (National Stakeholders, 2014). The high level of skills can be attributed to a good general education system, as well as education and training facilities for the apparel sector at different levels, including university degrees in technical areas and design.

China’s experience shows that increases in productivity, driven by improvements in firm/cluster performance, can maintain competitive apparel prices in the face of rising wage levels. Despite significant increases in wages, the average price of Chinese apparel exported to the United States in Fall 2013 was lower than in either 2012 or 2008 (Flanagan, 2014a). And Chinese apparel manufacturers rank well above South Asian firms in dimensions of service other than price, such as quality, lead time and reliability, and social compliance and sustainability, factors that are important to global buyers (Table 3).

**Table 3: South Asia less competitive than Southeast Asia in non-cost areas**

(Country Comparison: Non-Cost Related Factors Impacting Performance)

Country	Buyers' Perceptions of:		
	Quality	Lead Time & Reliability	Social Compliance & Sustainability
China	● 1	● 1	▲ 3
Bangladesh	● 5	● 5	● 6
India	● 6	● 6	● 5
Vietnam	● 2	● 2	● 2
Cambodia	▲ 4	▲ 4	▲ 4
Indonesia	▲ 3	▲ 3	● 1

Source: Based on data from (Birnbaum, 2013).

Notes: Based on buyers' and stakeholders' surveys conducted for this study. Countries were ranked from 1-6 on each factor, with 1 being the best and 6 being the worst. Ranks for quality and lead time/reliability are the same. Green indicates the top two countries, where the factor is not a constraint on competitiveness; yellow is for the middle two countries and indicates some problems; red is used for the bottom two ranking countries and indicates that factor is an important constraint.

**Quality:** Besides being cost-competitive, suppliers must also be able to consistently offer quality products. Quality is influenced by the raw materials used, the skill level of the sewing machine operator, and the thoroughness of the quality control team. Based on combined results from the buyer surveys and interviews, countries can be placed in three groups according to the quality of apparel production, in order of strongest to weakest: (1) China, Vietnam, and Sri Lanka; (2) Indonesia, Cambodia, and Bangladesh; and (3) India and Pakistan.

**Lead time and reliability:** Lead time<sup>iii</sup> and reliability are greatly affected by the efficiency and availability of transportation networks and customs procedures. Based on survey and interview results (Birnbaum, 2013; Global Apparel Buyers, 2014), the countries can be placed in three groups, in order of strongest to weakest: (1) China, Vietnam, and Indonesia; (2) Sri Lanka and Cambodia; and (3) Bangladesh, India, and Pakistan. China has consistently had the shortest lead times throughout the last decade (Muzzini & Aparicio, 2013; World Bank, 2005, 2013b). Factories in China are cited as having the best productivity levels, technology, speed, and production capacity, supported by well-established industrial clusters and infrastructure systems (Frederick & Gereffi, 2011).

**Social compliance and sustainability:** These criteria have become central to buyers' sourcing decisions in response to pressure from corporate social responsibility (CSR) campaigns by NGOs, compliance-conscious consumers and, more recently, the increased number of safety incidents in apparel factories. Non-compliant countries risk damaging their country brand. In Cambodia, government brutality that led to the death of four workers induced major buyers to cut back orders or threaten to leave (Barrie, 2014). In Bangladesh, concerns over factory safety and the associated adverse publicity have deterred some buyers (Birnbaum, 2014a).

Although environmental concerns and sustainability are more of a concern for the textile industry, they also pose issues for apparel, particularly in the areas of dyeing and finishing. Countries were ranked according to the result of surveys on both social compliance and sustainability (from Birnbaum 2013), which generated similar results as the data from our global buyer's survey. The countries can be placed into the following categories, in order of strongest to weakest: (1) Sri Lanka, Indonesia, Vietnam, and China; (2) Cambodia; and (3) India, Bangladesh, and Pakistan.

The most important labor-related issue in all four South Asian countries concerns the rights of workers. A lack of freedom of association and collective bargaining, and thus unionization, contributes to low wages, long work hours, a large share of contract and informal employment (particularly in Bangladesh and Pakistan), and poor building and occupational health and safety standards (National Stakeholders, 2014). In addition, the limited capacity of organizations responsible for labor inspections impairs monitoring of the enforcement levels.

### **3. Drivers of Competitiveness**

The achievements of the lead apparel firms in South Asia demonstrate the region's considerable potential to innovate and raise productivity.

#### **a. Factor utilization**

Apparel is a labor intensive industry with low barriers to entry, and most successful firms in South and East Asia started very small and grew quickly out of retained earnings following intense competition with their peers. For example, US Apparel of Pakistan, now employing more than 15,000 workers, started with a handful of stitching machines in 1974; Orient Craft from India employs 35,000 workers, started with one 200 square meter factory in 1976. The keys to success remain to be low labor costs and high labor productivity, efficient use of materials and high quality of manufacturing. High labor productivity was achieved through training and performance incentives, for example incentives to reduce absenteeism. Companies often relied on foreign experts (for example, Bangladesh benefited from Sri Lankan expertise) to develop technical and managerial skills, or benefited from training abroad (for example, a generation of Bangladeshi entrepreneurs were trained in South Korea by Daewoo in the 1980s). Orient Craft of India, like most Chinese apparel manufacturers, helped reduce costs and motivate workers by setting up housing close to the factory, which reduced the time and money involved in commuting and facilitated the employment of migrant workers including female workers. Although the returns to scale are relatively low in apparel, larger players enjoy economies of scale in purchasing, environmental compliance, research and development, marketing, administration and training. Smaller players can compensate by operating as part of a cluster of firms (discussed further below).

#### **b. Technology adoption and innovation**

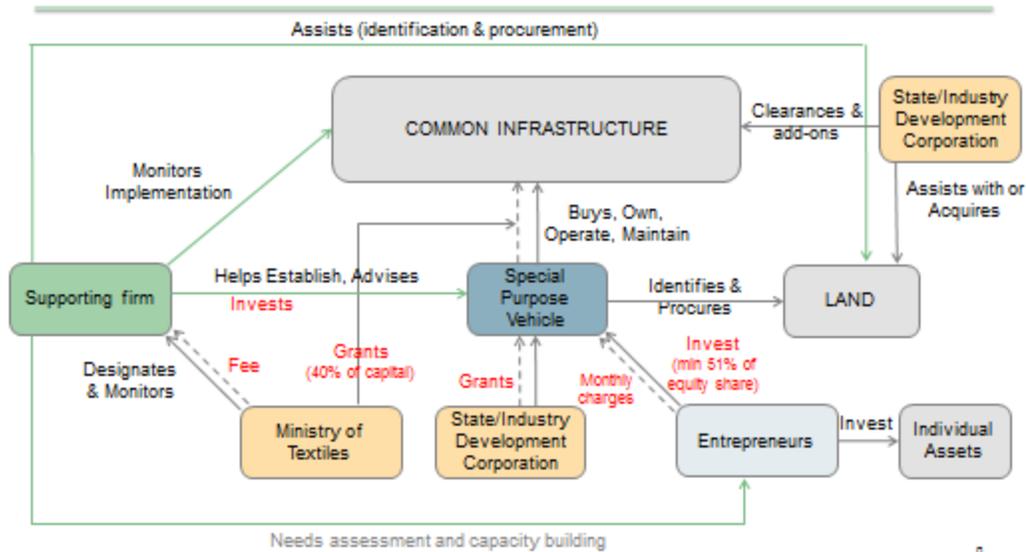
Computerized cutting machines are essential in reducing material waste, and also are used for grading and marking (e.g. Pacific Jeans of Bangladesh). Skills are often acquired through the machine suppliers (e.g. Orient Craft) and innovation generated in partnership with buyers. For

example, Pacific Jeans of Bangladesh and MAS of Sri Lanka developed their new products in partnership with leading brands from the United States, the EU and Japan. Technology is also used to increase compliance with environmental standards (a must to sell to leading brands). For example, Pacific Jeans recycles its waste water through a very efficient effluent treatment plant. MAS of Sri Lanka has been developing innovative, high performance sport gears by investing heavily in research and development, as well as by importing world class textiles from around the world. US Apparel of Pakistan, which had difficulties in finding high performing textiles, developed its own textile production. As a caveat, this is not a perfect solution to problems in obtaining textiles, as it narrows the range of products the firm can offer, and is not feasible for the many smaller apparel manufacturers in Pakistan.

c. Agglomeration economies

Smaller apparel manufacturers can compensate for their size disadvantage by operating in clusters. This allows them to achieve economies of scale in marketing and thus attract large buyers. For example, Chinese buyers can find all they need in one trip to the Sialkot cluster in Pakistan. Clustering can help reduce transportation costs involved in obtaining inputs and selling outputs, as well as commuting costs for workers. Clustering can enable smaller players to comply with environmental standards by locating around a combined effluent treatment plant, like in Gujarat and Tamil Nadu. Clustering can also facilitate small and medium enterprises (SMEs') access to ready-to-use industrial facilities, reliable utilities, good transport infrastructure, security, training, housing and administrative facilities, as in the Chinese Plug and Play industrial zones. A major challenge facing South Asian SMEs in labor intensive industries is how to improve performance and compliance with social and environmental standards by moving from informal clusters in dense urban centers (e.g. Dhaka) to formal industrial areas in the suburbs. The Indian government's Scheme for Integrated Textiles Parks (SITP) has helped clusters of SMEs overcome the coordination and financing issues involved (Saleman, Jordan, 2013). Figure 7 highlights the scheme.

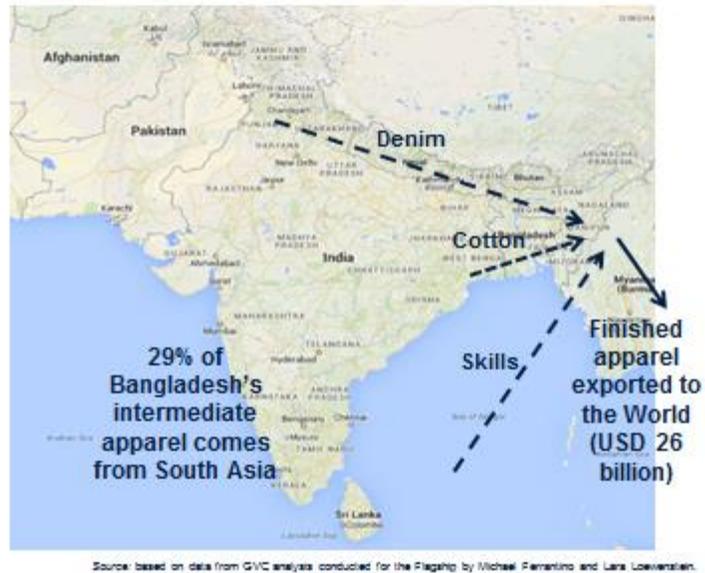
**Figure 7: India's Scheme for Integrated Textiles Parks (SITP)**



d. Linking to Global Value Chains

Catering to demanding customers drives exporters to achieve manufacturing excellence and move up the value chain by increasingly absorbing the functions of design, branding and retailing, starting with their home market. The leading firms in South Asia (e.g. Pacific Jeans, MAS, Orient Craft and US Apparel) have emulated the transition achieved by leading apparel firms in China and Turkey. As discussed in the previous sections, linking to global value chains requires access to the best possible inputs at the best possible price through seamless, efficient and predictable import procedures. For example, imported inputs for Sri Lankan exporters clear customs in a matter of hours while it takes weeks in India and Pakistan. The South Asian value chain is increasingly a source of competitiveness, especially for Bangladesh which imports its cotton from India, its denim from Pakistan and its technical experts from Sri Lanka (Figure 8).

Figure 8: Regional Value Chain Key to Bangladesh's Success



#### 4. Constraints on Competitiveness

The main set of constraints facing South Asian apparel production involves trade policies and inadequate logistics, which greatly affect cost, quality and lead times. The second most important constraint concerns access to land, which limits participation by large foreign investors (who have a choice of countries to go to) and the ability of SMEs to move out of cramped city centers. Finally, the employment of women is limited by policies preventing overnight/overtime shifts and a lack of facilities to ensure their safety and well-being.

##### a. Poor trade logistics – especially for imported textiles to India and Pakistan

The capacity to import easily and cost-effectively textiles from around the world is increasingly important to succeed in the fast-moving apparel industry. High import tariffs on cotton and man-made fibers (Table 4), combined with ineffective duty drawback mechanisms, have been the main reason for poor performance by apparel firms in India and Pakistan. These policies have skewed exports toward cotton garments, which are heavily concentrated in the global spring/summer season, thus reducing capacity utilization (apparel factories in both countries operate only 6.5 months annually, while the global average is 9 months--Jordan et al., 2014).

Importing textiles into India is problematic. Most manmade fiber imports are subject to a customs duty of 10 percent,<sup>1</sup> in the mid-teens for imports from Korea, China and other principal

<sup>1</sup> CBEC, "Custom Tariffs 2012-2013," <http://www.cbec.gov.in/customs/cst2012-13/cst1213-idx.htm>.

producers due to anti-dumping measures. Furthermore, excise duties on the production of manmade fibers are 12 percent, while natural fibers (cotton, wool and flax) are exempt.<sup>2</sup> Total duty and tax rates for some fabrics reach about 30 percent.<sup>3</sup> Exporters can be competitive in global markets only if they are exempt from these taxes on inputs. However, the provision of exemptions is prone with difficulties. The categorization of different inputs is subject to interpretation and negotiation, creating risks for firms importing critical inputs for the production of garments with tight production schedules. When duties are paid up-front and exporters apply for a drawback, problems arise because the drawback is calculated on the cost of materials less the amount of duty paid—and no drawback on trim items is permitted. Administrative procedures are quite rigid. For example, one firm described how it might obtain pre-clearance to import synthetic fabric listed at a certain weight, but since fabric production is inherently unpredictable, the actual consignment could contain a few items at a slightly different weight. Rather than accepting minor differences from the original application, customs officers would hold up the consignment on the grounds of applying a different tariff rate, or on suspicion of tariff violation (which carries very heavy fines). In the meantime, the firm would be unable to complete production, even if these fabrics were only a small share of inputs (Jordan, Kamphuis, 2014). Similarly, in the advance license scheme no duty is paid on imports used in export products, but compliance with procedures is extremely difficult and any error results in heavy fines (Birnbaum, 2013; National Stakeholders, 2014).

Import barriers also affect the textiles industry which can only source purified terephthalic acid (PTA), which is essential to the production of polyester or synthetic fibers, from two Indian firms (one of them owns 79 percent of production capacity) (Jordan et al., 2014).

**Table 4: South Asia has higher import tariffs than Southeast Asia**

(In percent)

Product category	Bangladesh	India	Pakistan	Sri Lanka	Cambodia	China	Indonesia	Vietnam
<b>Yarn</b>								
Cotton (5203–5207)	5–10	10	5–25	0	0	5–6 (2)	5	5
MMF (5401–5406/ 5501–5511)	5–25	10 (1)	0–10	0	0	5	0–5	0–5
<b>Woven fabric</b>								
Cotton (5208–5212)	25	10 (1)	15–25	0	7	10–14	10–15	12
MMF (5407– 5408/5512–5516)	25	10–12.5 (1)	15	0–15	7	10–18	10–15	12
Knit Fabric (60)	25	10 (1)	20–25	0	7	10–12	10	12
MFN Avg. Applied Duties (2014) Textiles	19.4	12.2	16.6	3.5	5.5	9.6	9.2	9.6
		12.9				8.5		

Source: OTEXA (2014); WTO (2014).

Notes: Certain products are also subject to specific rupees per unit duty rates. Tariff rate quotas allow for imports of cotton and wool in limited quantities at reduced duties, ranging from 1 percent to 9 percent. Imports exceeding set quota levels are assessed at a much higher rate of duty.

<sup>2</sup> Central Board of Excise and Customs (CBEC), “Central Excise Tariff 2012-2013,” [http://www.cbec.gov.in/excise/cxt2012-13/cxt\\_1213-idx.htm](http://www.cbec.gov.in/excise/cxt2012-13/cxt_1213-idx.htm).

<sup>3</sup> E.g., polyester staple plain weave and polyester filament. Birnbaum, “Benchmark Study India,” p. 101.

The situation in Pakistan is also problematic, even for exporters. Although the duty and tax remission for export program (DTRE) in Pakistan provides for post-export remission of duties and taxes on inputs, it does not work in practice. It can take some two to four months for textile imports, which imposes delays and uncertainties in production that are not acceptable to global buyers (Nabi & Hamid, 2013). As a result, the Pakistani apparel industry is dominated by the production of low value, cotton-based garments, using poor quality textiles sourced domestically. The following is an extract from an expert evaluation of the duty drawback system in Pakistan<sup>4</sup>:

“The present system of suspension of duties and taxes is governed by several Statutory Rule Orders (SROs) issued under Customs Rules 2001 for ‘DTRE and Manufacturing Bond Licensing’ and ‘DTRE Approval’. The approval process involves multiple, parallel and overlapping regimes; plethora of steps at each stage of which concerned officials have wide discretions; the system itself is not clear and with no standard operating procedures; intermediaries falsify the supporting documentation which maximizes the economic rent. The system involves physical verifications of business premises; calculation of ‘input wastages’ through physical checking by the Input Output Co-efficient Organization (IOCO); drawing of samples of imported input goods and output goods meant for exports at the time of import and export – an archaic procedure; suspension or cancellation of DTRE by the Regulatory Collector as he may deem fit; extensive documentation requirements, and centralization of authority and approvals.

The system complexities have led to extensive delays in processing of applications for DTRE, Manufacturing Bonds Licensing, and payment of DTRE claims resulting in the firms being unable to: timely import the quality inputs and meet their export orders; receive their blocked funds as well as pay the economic rent to the concerned officials rendering these enterprises (and the export sector as a whole) non-competitive - hence, there is need for fundamental changes in the present system of duty suspension schemes.”

The apparel export associations of India and Pakistan have prioritized the reform of the import regime for textiles. These issues are placed at the top of their “wish lists” to the government. The first proposal submitted by India’s Apparel Export Promotion Council (AEPC) during an inter-ministerial workshop held in April 2013 reads as follow:

“Enlargement of the garment export basket by manufacturing garments (knitted and woven) from fabrics which are not widely available in India – Issuance of duty credit scrip (offsetting custom duties) on import of specialty fabrics at the rate of 5% for the export performance in the year 2012- 13 and in the entire 12<sup>th</sup> five year plan.”

In contrast, Sri Lanka has eliminated all import tariffs on textiles. Bangladesh has high tariffs on apparel inputs, but a system of more than 2000 bonded warehouses has achieved rapid, duty-free import of textiles for exporters (including SMEs), which has been critical to the country’s success in apparel. Nevertheless, import restrictions continue to hamper the growth of other labor intensive industries. Not being able to import easily duty free inputs was the main complaint of Apex, Bangladesh’s leading footwear exporter. As a result, and despite its labor cost advantage, Bangladesh has only 0.1 percent of the world market share in footwear

---

<sup>4</sup> Evaluation completed by Ahmad Khan (former Member of the Federal Board of Revenue of Pakistan) as part of technical assistance provided by the World Bank to the Government of Punjab, Pakistan (July, 2014)

(compared to 5.2 percent for apparel). Apparel in Bangladesh, which accounts for 80 percent of the country's export, is thus the exception which confirms the rule!

Table 5 shows that Sri Lankan customs performs at East Asian levels, while Bangladesh does not fare much better than Pakistan and India outside the apparel sector (the measurement is based on the import of a container of auto parts – HS 8708):

**Table 5 (Hours to process an imported container through customs, Doing Business 2016)**

Sri Lanka	China	Vietnam	Pakistan	Bangladesh	India
130	158	170	294	327	350

b. Difficulties in finding well located and well serviced industrial sites

Easy access to conveniently-located and well-serviced industrial land is critical to attract large foreign investors who have a choice of country.

The situation is particularly problematic in Bangladesh, which does not have any large lots available in its conveniently located and well serviced industrial zones. As a result, large foreign investors have shifted investment to other countries (quote from The Financial Express, 16<sup>th</sup> of November, 2014):

"We had been receiving lots of big investment proposals from the world's leading electronics, automobiles, garment, footwear and other technical products makers till 2012. The flow of such proposals now is lower than before," a director of BoI told the FE, preferring anonymity. He said the big investors like Samsung, KANANN Group, Velbon Corporation 3G Group were hammering them to manage plots in EPZs or to buy lands within the proximity of Dhaka-to-Chittagong belt. They failed to manage. "Persuasion of the industrial giants to manage industrial plots in Bangladesh has nowadays slowed down. So far as our information, at least five of those big investors have now got enlisted with the investment authorities of Myanmar and Vietnam and some other with others".

Access to conveniently located and well serviced industrial land is also becoming important for small domestic investors who are under increased pressure to comply with higher labor and environmental standards and are also looking to secure access to a reliable power source. Relocating informal apparel clusters from city centers to industrial zones is beneficial, but poses difficult financing and coordination issues at least initially (Box 1).

### Box 1: Relocating to a Bangladeshi industrial zone

Over the past few decades, the sporadic rise of ready-made garment factories in Bangladesh has taken place without adherence to a global compliance regime. Policy makers are debating ways to improve the situation, including encouraging firms to relocate to an industrial zone. A recent World Bank study suggests that the relocation should pay off over time. The study was conducted through interviews with medium-sized firms in Dhaka city that employ 500–2,000 workers (about 90 percent of them were women). The study found that relocation involved the costs of buying land or renting factor premises; moving or buying equipment; transporting inventory, raw materials and equipment; halting and shifting production; rebranding, logistics of a new address, and printing business cards and letterheads; and financing relocation expenses for workers or severance packages. These costs have to be compared to the potential benefits, including access to improved infrastructure and adequate transportation facilities, good connections to ports, clustering of businesses to improve the ease of access for buyers, and improved access to necessary facilities (such as bonded warehouses, wet/dry facilities, banks, and services).

#### c. Constraints on female employment

Although women make up a significant share of employment in apparel in most countries around the world, this is not the case in India and Pakistan where female employment in manufacturing is very limited (Table 6):

**Table 6: Proportion of female workers among full time production workers**

China	Sri Lanka	Vietnam	Bangladesh	India	Pakistan
38%	31%	28%	21%	11%	1%

Source: World Bank Enterprise Surveys

The constraints to female employment in India and Pakistan include labor policies which restrict night work by women as well as limits on flexible hours which affect women disproportionately. Other constraints include the lack of physical facilities to ensure the security and well-being of female workers. Such facilities include gender-specific toilets, day care facilities and safe transportation.

Bangladesh has developed women-friendly industrial zones, including the provision of grievance mechanisms and counseling services - 63 percent of the workforce in Bangladesh's export processing zones consist of women. Sri Lanka offered fiscal incentives (the 200 Garment Factories Program) to encourage apparel factories to locate in rural areas, which greatly facilitated the employment of women. Female employment in Sri Lanka and Bangladesh was also greatly enabled by significant progress in women's education which is the critical first step towards economic empowerment.

d. Other constraints

With the exception of the policies restricting flexible/night work time which restrict women employment as discussed above, labor regulations were not found to be a major issue to apparel employment in South Asia. Minimum wages remain low, and firms have found ways to motivate workers through incentive schemes. It is interesting to note that Sri Lanka, which shares many of India’s “infamous” labor regulations, still manages to have the strongest export performance of all countries considered in this chapter in per capita terms (including China).

Limited access to finance does not affect apparel due to its labor intensive nature—the cost of machines represents less than 5 percent of production cost. As discussed earlier, successful firms were able to grow very fast through retained earnings.

Table 7 summarizes the main constraints for each of the four studied South Asian countries:

**Table 7: Main Constraints by Country**

	<i>India</i>	<i>Pakistan</i>	<i>Banqladesh</i>	<i>Sri Lanka</i>
Access to imported inputs	XX	XX	✓	✓
Access to serviced industrial land	X	X	XX	✓
Access to women employees	X	X	✓	✓
Access to skills	✓	✓	✓	✓
Access to finance	✓	✓	✓	✓

Legend:

✓	Not a Constraint	X	Constraint	XX	Major Constraint
---	------------------	---	------------	----	------------------

## 5. Policy Recommendations

### *Facilitating imports for exporters*

Gradually eliminating duties on textile imports, as was done successfully in Sri Lanka, will help facilitate imports for exporters. In the interim, India and Pakistan should reform their duty drawback systems. One possibility is to rely on bonded warehouses, whereby exporters can import raw materials and inputs—which are kept in the bonded warehouse—without paying duties and taxes. This is the scheme Bangladesh used with great success in the apparel industry, which it should expand to other labor intensive manufacturing industries, such as footwear. The duty drawback scheme should rely as much as possible on technology and risk-based inspections to limit the scope for interpretation and the risk of abuse by those looking to illegally benefit

from the system which has been a legitimate concern of the textiles industry and fiscal authorities.

Regional, bilateral, and multilateral trade agreements could also be used to reduce import tariffs. These agreements are less preferable than unilateral reductions in tariffs and duties, because they may lead to trade diversion (that is, when trade is diverted from a more efficient producer to a less efficient one). But they may be easier to achieve politically than unilateral reductions.

South Asia is one of the least integrated of global regions—intra-regional trade accounted for less than 10 percent of total trade in 2012. Political tensions, particularly between India and Pakistan, have slowed implementation of the South Asian Free Trade Area (SAFTA). In contrast, Southeast Asian competitors are part of the Association of Southeast Asian Nations (ASEAN), which was formed in 1967. ASEAN has negotiated zero or reduced tariffs with other key textile suppliers and apparel end markets, including China, Japan, Australia, and Republic of Korea.

Liberalizing the import regime also would attract more foreign direct investment (FDI) to India and Pakistan, which receive lower FDI flows than Bangladesh and Sri Lanka. Historically, US investors played a key role in the initial setup of the apparel industry in Sri Lanka through joint ventures with local entrepreneurs. In Bangladesh, investors from Sri Lanka and Korea helped improve access to capital and technology.

### *Facilitating access to land for FDI and SME clusters*

Clustering strategies with industrial parks can reduce lead times by co-locating multiple steps in the chain and providing one-stop resources for common procedures. Clustering can also help provide infrastructure and facilitate compliance with stringent labor and environmental standards. We discuss in turn below the efforts pursued by India, Pakistan, Sri Lanka and Bangladesh to facilitate access to land and how they could be strengthened:

- India has tried to provide better infrastructure through industrial parks, although only a small share of firms benefit from these initiatives (Saleman & Jordan, 2013). In 2005, the government announced the Scheme for Integrated Textile Parks (SITP) to consolidate individual units in clusters and provide state-of-the-art infrastructure to local and international manufacturers. SITP was created by merging two schemes initiated in 2002 (the Scheme for Apparel Parks for Exports Scheme and the Textile Center Infrastructure Development Scheme). There are now 27 operational parks, and 13 more have been approved (TEXMIN, 2015). Investments in the EPZs have an export focus (Aggarwal, 2007, 2010). Going forward, the government should cooperate with the private sector to develop more facilities to promote female employment within the zones – e.g. child-care centers, local housing and safe transportation.
- Pakistan is pursuing a similar approach with the support of Textile and Garment Cities (launched in 2004) to provide key infrastructure and common facilities, but the long-awaited clusters have only recently begun to emerge (Flanagan, 2014b and MINTEX, 2012). Thus far, only two garment cities (one each in Faisalabad and Lahore) are operational. The Karachi Garment City and Pakistan Textile City are still contending with numerous problems (litigation, non-supply of gas, water, electricity, and lack of funding), but Karachi is slated to be developed on a fast track basis (GoP, 2015).

Provincial Governments are now taking the lead to promote improved industrial zones in partnership with the private sector – e.g. the Apparel Park next to Lahore. As in India, facilities should be provided to encourage the employment of women, who hold only 13 percent of the jobs in Punjab’s large industrial zones.

- Sri Lanka is promoting industrial relocation of the apparel industry to handle labor shortages. The 200 Garment Factories program has shown that from a social standpoint, female workers benefit from working in factories located close to their villages. Sri Lanka recently tried to tap into the more remote and war-torn areas in the North and East with incentives for apparel investments – the success of this program will also depend on improvement of the road infrastructure (National Stakeholders, 2014).
- Bangladesh is now promoting private industrial zones and several should become operational over the next few years. In order to release the acute shortage of available industrial land in the short term, the government should quickly resolve the dispute with the Korean Export Processing Zone which has stranded 3,000 acres of vacant industrial land next to the Chittagong port. Bangladesh is also trying to move unsafe production units to formal clusters, in response to the Rana Plaza disaster (World Bank, 2013b). Recent interviews with Bangladeshi firms show that relocating ready-made-garment factories to an EPZ can benefit firms in many ways, including on the social front (see Box 2). For example, male workers in Bangladesh are attracted to EPZs due to the contract security (Zohir 2001a), and EPZs have been found to attract additional female workers (Zohir 2001b) – female employment in the BEPZA zones stands at 63 percent.

All South Asian countries should learn from the Chinese experience where strategically located cluster development programs have been a key feature in developing the apparel industry, with apparel concentrated in the coastal regions. China has developed more than 1000 industrial zones following a gradual process of experimentation and decentralization, fueled by competition between provinces and local governments and led by private sector zone developers. One very successful model is the “Plug and Play” industrial zone, which provides ready built standardized factory buildings where SMEs can move in overnight by simply “plugging” their machines and paying rent. This model considerably reduces the moving costs facing SMEs, and encourages the employment of migrant workers and women through daycare facilities and affordable housing next to the factories. “Plug and Play” zones have been instrumental in enabling China’s SMEs to grow and employ more than 150 million migrant workers, of which 60 percent are women<sup>5</sup>.

### *Promoting female employment and compliance with social and environmental standards*

South Asian countries should put in place labor policies which promote flexible work time and women employment, while guaranteeing fundamental workers’ rights. Buyers are under growing pressure to ensure compliance with labor standards, with increasing focus on adequate health and safety conditions following the Rana Plaza and Tazreen factory fire incidents in Bangladesh. Recently, Bangladesh passed a labor law that allows employees to form labor unions without

---

<sup>5</sup> Fostering Women’s Economic Empowerment Through Special Economic Zones (page 103), World Bank 2011

approval by the factory owner. In 2014, there were more than 120 registered garment trade unions, compared to only three in 2012-13.<sup>iv</sup> Greater internal pressure from labor unions should improve monitoring of compliance with health and safety standards.

### **Box.2: Bangladesh takes steps to boost compliance**

Wages and working conditions have long been a source of concern in Bangladesh's apparel sector. Strikes and labor unrest were frequent following the Rana Plaza disaster in April 2013—the single worst incident in the history of the apparel industry, which killed around 1,200 people—and other incidents such as the fire at Tazreen Fashions in November 2012. In response to these incidents, the industry, in collaboration with the government, foreign buyers, and development partners, has agreed to several policy measures to improve factory safety and social compliance.

One recent initiative is the Accord, signed by mostly European apparel buyers along with two global trade unions. This is a legally binding agreement between buyers and unions, in which companies commit to conducting independent inspections and developing stronger worker-management committees in factories. It also includes financial obligations by buyers to help suppliers pay for safety upgrades (Anner, Bair, & Blasi, 2013; Gifford & Ansett, 2014). Another recent initiative is the essentially voluntary Alliance for Bangladesh Worker Safety, largely backed by North American buyers. Together, these two initiatives cover nearly half of the country's total factories (1,600 factories for the Accord, and 600 for the Alliance).

These initiatives are a positive step, but they have also been criticized for focusing primarily on large firms and on fire and building safety, rather than other major labor issues. To cover the remaining firms, the government and representatives from local employers' and workers' organizations have signed an integrated National Tripartite Plan of Action (NTPA) under the guidance of the International Labor Organization. A "Better Work" program for the ready-made garment industry has also been announced. Achieving success in these programs will be challenging, as major changes in firm operations and substantial funds will be required. It is estimated that about half of the country's apparel factories—mostly small and medium-sized firms that depend on subcontracting from large factories—will have difficulty adopting international standards and may be forced to close (ADB, 2014).

In recent years, South Asian countries—with Sri Lanka at the forefront—have ratified a number of ILO conventions on labor conditions, such as workers' safety. Interviews with firms in Sri Lanka highlight the importance they place on safety and enforcing the no child labor policy. However, compliance is poor in some cases across South Asia, despite formal adoption of labor standards and international conventions. Studies of the ILO's Better Work program find that the highest rates of noncompliance across countries globally involve paid leave, social security, employee benefits and inaccurate payments (ILO, 2014). Policies to improve monitoring and penalizing noncompliance could improve the situation. On that front also, the promotion of plug and play industrial zones would considerably reduce the social and environment compliance cost for SMEs as well as facilitate monitoring.

The box below summarizes the main recommendations by country:

### Box.3: Main recommendations by country

#### **Bangladesh**

- Reduce import barriers, including tariffs, to ease access to inputs for exporters in other labor intensive industries (e.g. footwear), leveraging the successful bonded warehouse scheme in the apparel industry
- Resolve the dispute with the Korean Export Processing Zone to unlock 3,000 acres of prime industrial land in Chittagong
- Promote Plug and Play industrial zones for SME clusters, which will help SMEs comply with social and environmental standards

#### **India**

- Reduce tariffs and import barriers to ease access to man-made fibers for exporters
- Promote Plug and Play industrial zones for SME clusters, leveraging the successful SITP model
- Ease restrictions on flexible working arrangements, promote facilities to increase the security and well-being of female workers as well as continue to invest in the education of women as the first critical step towards their economic empowerment

#### **Pakistan**

- Reduce tariffs and imports barriers to ease access to man-made fibers for exporters
- Promote Plug and Play industrial zones for SME clusters, which will help SMEs comply with social and environmental standards
- Ease restrictions on flexible working arrangements, promote facilities to increase the security and well-being of female workers as well as continue to invest in the education of women as the first critical step towards their economic empowerment

#### **Sri Lanka**

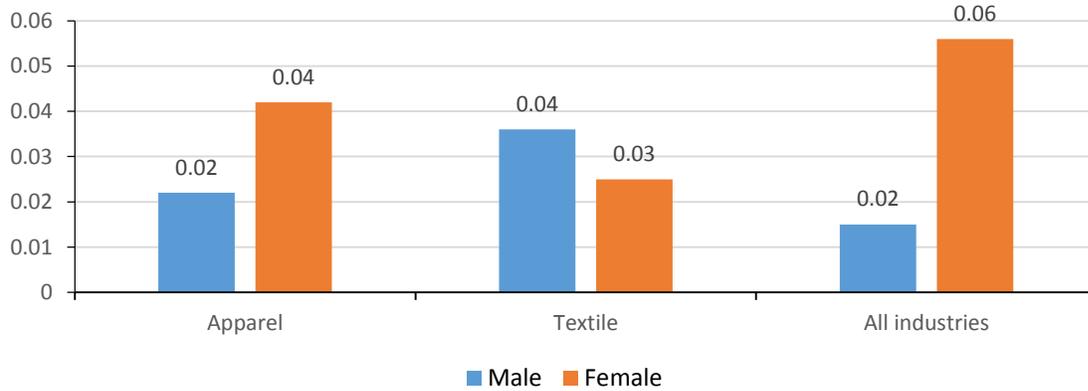
- Continue to improve transport infrastructure to promote development of the industry in the North and East of the country
- Continue to improve trade logistics to position the country as a regional apparel and textile trade destination for quality apparel

### *Implementing these recommendations could have a major social impact by increasing female employment*

Boosting growth in the apparel sector will help South Asia create millions of better jobs, particularly for women. The impact on employment of increases in output in textiles and apparel, which are labor-intensive industries, is greater than in other industrial sectors. In Bangladesh, growth in the apparel sector leads to more rapid female than male employment: a one percent increase in foreign sales is associated with a 0.04 percent increase in female employment, compared to a 0.02 percent increase in male employment (figure 8).<sup>v</sup>

**Figure 8: Export growth in Bangladesh has a greater impact on female than male employment**

(percentage change in employment with respect to a 1 percent change in exports by gender, percent)



Source: Calculations based on Bangladesh Establishment Surveys.

Note: Annex 4E provides detailed regression results.

Further, since apparel is a relatively low-skilled industry, these employment opportunities should benefit in particular low skilled women employed in very low paid jobs in rural areas. In effect, our analysis shows that in Bangladesh and Sri Lanka, where the labor market for women is well functioning, low-skilled women are more likely to increase their labor force participation compared to high-skilled women in response to an increase in wages (figure 9).

**Figure 9: Higher wages could especially draw low-skilled women into the labor force**

(Marginal change in female labor participation with respect to an increase in wage by skill type, 2012 or closest year)



Source: Calculations based on household and labor force surveys of various years.

## References

- ADB. 2014. Quarterly Economic Update: Bangladesh, March 2014.
- AEPC. 2013a. Background Note *Interministerial Workshop on the Apparel Sector: Apparel Export Promotion Council (AEPC)*.
- AEPC. 2013b. Disha, The Journey So Far. *Apparel India*, 1(5).
- Aggarwal, A. 2005. Performance of Export Processing Zones: A comparative analysis of India, Sri Lanka and Bangladesh *Indian Council for Research on International Economic Relations (ICRIER) Working Paper 155*.
- Ahmed, F., Greenleaf, A., & Sacks, A. 2014. The Paradox of Export Growth in Areas of Weak Governance: The Case of the Ready Made Garment Sector in Bangladesh. *World Development*, 56.
- Anner, M., Bair, J., & Blasi, J. 2013. Toward Joint Liability in Global Supply Chains: Addressing the Root Causes of Labor Violations in International Subcontracting Networks. *Comparative Labor Law & Policy Journal*, 35(1), 1–43.
- Aggarwal, A. 2007. Impact of special economic zones on employment, poverty and human development. MPRA Paper No. 20902.
- — —. 2010. Economic impacts of SEZs: Theoretical approaches and analysis of newly notified SEZs in India. MPRA Paper No. 20902.
- Barrie, L. 2014, August 14. Analysis: US apparel imports show continuing China competitiveness. *just-style.com*. Retrieved from [http://www.just-style.com/analysis/us-apparel-imports-show-continuing-china-competitiveness\\_id122560.aspx](http://www.just-style.com/analysis/us-apparel-imports-show-continuing-china-competitiveness_id122560.aspx)
- BBS. 2013a. *Cottage Industry Survey 2011*. Bangladesh Bureau of Statistics (BBS).
- BBS. 2013b. *Survey of Manufacturing Industries (SMI) 2012*. Retrieved from: <http://www.bbs.gov.bd/WebTestApplication/userfiles/Image/LatestReports/SMI-%202012.pdf>
- BBS. (Various). *Bangladesh Household Income and Expenditure Survey (HIES)*.
- BEPZA. 2013. Annual Report 2010-2011. from [http://www.epzbangladesh.org.bd/web\\_admin/web\\_tender\\_files/BEPZA\\_2010-2011.pdf](http://www.epzbangladesh.org.bd/web_admin/web_tender_files/BEPZA_2010-2011.pdf)
- Besley, T., & Burgess, R. 2004. Can Labor Regulation Hinder Economic Performance? Evidence from India. *Quarterly Journal of Economics*.
- Bhaskaran, R., Nathan, D., Phillips, N., & Upendranadh, C. 2010. Home-based child labour in Delhi's garment production: Contemporary forms of unfree labour in global production. *Indian Journal of Labour Economics*, 53(4), 607–624.

- Birnbaum, D. 2013. Competitiveness of India's Apparel Export: Apparel Export Promotion Council (APEC).
- Birnbaum, D. 2014a, April 16. Bangladesh industry development moving backwards. *just-style.com*. Retrieved from [http://www.just-style.com/comment/bangladesh-industry-development-moving-backwards\\_id121251.aspx](http://www.just-style.com/comment/bangladesh-industry-development-moving-backwards_id121251.aspx)
- Birnbaum, D. 2014b, June 8. Comment: Bangladesh's garment trend lines look pretty poor. *just-style.com*.
- Birnbaum, D. 2014c. DRAFT: Bihar Apparel Industry Development Project: Final Report I. Bangkok, Thailand: Prepared for the World Bank.
- Clothesource. 2008. The great apparel sourcing issues of 2008—and how to deal with them *Just-Style Management Briefing (March)*. United Kingdom: Aroq Limited.
- Daher, M., & Chmielewski, J. 2013. Private Label Sourcing Strategies to differentiate and defend: Insights from the 2012-2013 Private Label Sourcing Survey: Deloitte Consulting LLP.
- DCS Sri Lanka. (Various). *Sri Lanka Labor Force Survey (LFS)*. Retrieved from: <http://www.statistics.gov.lk/page.asp?page=Labour%20Force>
- Donaldson, T. 2014. 2014: Global Sourcing to be More Costly as Worldwide Minimum Wages Continue to Rise. *Sourcing Journal*. Retrieved from: <https://www.sourcingjournalonline.com/minimum-wages-steadily-rising-low-cost-sourcing-countries-td/>
- DTIS Volume 2: Thematic Studies.
- Emerging Textiles. 2014. Labour costs in apparel manufacturing countries (monthly report). Retrieved from: [www.emergingtextiles.com/?q=art&s=140129-labour-costs](http://www.emergingtextiles.com/?q=art&s=140129-labour-costs)
- Euromonitor/Passport. 2014. World Apparel Market Statistics: 1999-2013. Retrieved March 24, 2014, from Euromonitor International
- FBIC. 2007. Apparel Production and Cluster Development in China *China Industry Series Issue 10*. Hong Kong: Fung Business Intelligence Center (FBIC), formerly the Li & Fung Research Centre.
- FBS. (Various). *Pakistan Labor Force Survey (LFS)*. Retrieved from: <http://www.pbs.gov.pk/labour-force-publications>
- Flanagan, M. 2014a, February 19. The Flanarant: Can you choose your productivity philosophy? *just-style.com*.
- Flanagan, M. 2014b, June 9. The Flanarant: Garment growth unlikely under India's Modi. *just-style.com*. Retrieved from [http://www.just-style.com/comment/garment-growth-unlikely-under-indias-modi\\_id121934.aspx](http://www.just-style.com/comment/garment-growth-unlikely-under-indias-modi_id121934.aspx)

- Frederick, S. 2015. Chapter 2: Benchmarking South Asia in the Global Apparel Industry *Tailor Made*. Washington, D.C.: World Bank.
- Frederick, S., & Gereffi, G. 2011. Upgrading and Restructuring in the Global Apparel Value Chain: Why China and Asia are Outperforming Mexico and Central America. *International Journal of Technological Learning, Innovation and Development*, 4(1/2/3), 67–95.
- Frederick, S., & Staritz, C. 2012. Developments in the Global Apparel Industry after the MFA Phaseout. In G. Lopez-Acevedo & R. Robertson (Eds.), *Sewing Success? Employment, Wages and Poverty following the End of the Multi-fibre Arrangement* (pp. 41–86). Washington, D.C.: The World Bank.
- FWF. 2012. India Country Study: Fair Wear Foundation (FWF).
- Gereffi, G. 1994. The Organization of Buyer-Driven Global Commodity Chains: How U.S. Retailers Shape Overseas Production Networks. In G. Gereffi & M. Korzeniewicz (Eds.), *Commodity Chains and Global Capitalism* (pp. 95–122). West Port, CT: Praeger.
- Gereffi, G. 1999. International trade and industrial upgrading in the apparel commodity chain. *Journal of International Economics*, 48, 37–70.
- Gereffi, G., & Frederick, S. 2010. The Global Apparel Value Chain, Trade and the Economic Crisis: Challenges and Opportunities for Developing Countries *World Bank Policy Research Working Paper 5281*. Washington, D.C.
- Gereffi, G., & Memedovic, O. 2003. The Global Apparel Value Chain: What Prospects for Upgrading by Developing Countries. Vienna, Austria: United National Industrial Development Organization (UNIDO).
- Gifford, J., & Ansett, S. 2014, April 2. 10 things that have changed since the Bangladesh factory collapse. *The Guardian*. Retrieved from <http://www.theguardian.com/sustainable-business/bangladesh-factory-collapse-10-things-changed>
- Global Apparel Buyers. 2014. *Interviews with Global Apparel Buyers/Interviewer: S. Frederick*.
- GoP. 2015. Textiles Policy 2014-19 (pp. 22): Government of Pakistan (GoP), Ministry of Textiles.
- Goto, K. 2014. Vietnam: Upgrading from the export to the domestic market. In T. Fukunishi & T. Yamagata (Eds.), *The garment industry in low-income countries: An entry point of industrialization*: Palgrave-Macmillan.
- GSO Vietnam. 2014. Statistical Yearbook of Vietnam 2013. Hanoi: General Statistics Office (GSO) Vietnam.
- Haider, M. 2007. Competitiveness of the Bangladesh ready-made garment industry in major international markets. *Asia-Pacific Trade and Investment Review*, 3(1), 3–27.
- Hamdani, K. 2009. Foreign Direct Investment Prospects for Pakistan. Islamabad: Pakistan Institute of Development Economics.

- Hirway, I. 2008. *Trade and Gender Inequalities in Labour Market: Case of Textile and Garment Industry in India*. Paper presented at the International Seminar on Moving Towards Gender Sensitization of Trade Policy, organized by UNCTAD, New Delhi, India.  
[http://s3.amazonaws.com/zanran\\_storage/www.unctadindia.org/ContentPages/452292790.pdf](http://s3.amazonaws.com/zanran_storage/www.unctadindia.org/ContentPages/452292790.pdf)
- ILO. 2010a. ILO Better Work Vietnam Fact Sheet.
- ILO. 2010b. Women Continue to Face Discrimination in the World of Work [Press release]. Retrieved from [http://www.ilo.org/islamabad/info/public/pr/lang--en/WCMS\\_150228/index.htm](http://www.ilo.org/islamabad/info/public/pr/lang--en/WCMS_150228/index.htm)
- ILO. 2013a. Bangladesh Country Report: Trade and Employment. ILO Country Office for Bangladesh, Dhaka: International Labour Organization (ILO).
- ILO. 2013b. Joint Action Plan to Promote Workplace Safety and Health launched in Karachi  
*Press release: 04 October 2013.*
- ILO. 2014. Wages and Working Hours in the Textiles, Clothing, Leather and Footwear Industries. Issue Paper for discussion at the Global Dialogue Forum on Wages and Working Hours in the Textiles, Clothing, Leather and Footwear Industries (September 23-25, 2014). Geneva, Switzerland: International Labor Organization (ILO).
- India MOSPI. 2013. Economic Characteristics of Unincorporated Non-agricultural Enterprises (Excluding Construction) in India *National Sample Survey (NSS)* (pp. 2584). New Delhi, India: Ministry of Statistics and Programme Implementation (MOSPI), National Sample Survey Office (NSSO).
- India MOSPI. 2014. Annual Survey of Industries 2011-2012 Volume I: Government of India, Ministry of Statistics and Programme Implementation (MOSPI), Central Statistics Office (CSO).
- India MOSPI. (Various). *National Sample Survey (NSS): Employment and Unemployment Situation in India*. Retrieved from: <http://www.data.gov.in/dataset-group-name/national-sample-survey>
- ITC. (Various). *Investment Map*. Retrieved from: [www.investmentmap.org](http://www.investmentmap.org)
- JAAF. 2011. Sri Lanka upgrades infrastructure for garment exports. Retrieved from: <http://www.jaafsl.com/news/515-sri-lanka-upgrades-infrastructure-for-garment-exports>
- Jordan, L. S., Kamphuis, B., & Setia, S. P. 2014. A New Agenda: Improving the Competitiveness of the Textiles and Apparel Value Chain in India.
- Kathuria, Sanjay and M.M. Malouche. 2016. Toward new sources of competitiveness in Bangladesh: a Bangladesh diagnostic trade integration study. Washington, D.C.: World Bank.

- Kelegama, S., & Wijayasiri, J. 2004. Overview of the garment industry in Sri Lanka *Ready-made garment industry in Sri Lanka: facing the global challenge*. Colombo, Sri Lanka: Institute of Policy Studies.
- KSA-AM. 2007–2013. Excellence in Global Sourcing Survey *Annual Apparel Research Study & Analysis*: Kurt Salmon Associates (KSA), Apparel Magazine (AM).
- Lu, S. 2014. 2014 U.S. Fashion Industry Benchmarking Study: Department of Textiles, Fashion Merchandising and Design, University of Rhode Island.
- McKinsey & Company. 2011. Bangladesh's ready-made garments landscape: the challenge of growth *Apparel, Fashion & Luxury Practice*.
- McKinsey & Company. 2013. The Global Sourcing Map—balancing cost, compliance, and capacity: McKinsey's Apparel CPO Survey 2013 *Apparel, Fashion & Luxury Practice*.
- MINTEX. 2012. Yearbook 2010-11 and 2011-12. Islamabad: Government of Pakistan, Ministry of Textile Industry (MINTEX).
- Muzzini, E., & Aparicio, G. 2013. *Bangladesh: The Path to Middle-Income Status from an Urban Perspective* Retrieved from <http://elibrary.worldbank.org/doi/book/10.1596/978-0-8213-9859-3>
- Nabi, I., & Hamid, N. 2013. Garments as a Driver of Economic Growth: Insights from Pakistan Case Studies.
- Nathan Associates. 2005. Survey of U.S. Apparel Buyers: Sourcing from Sub-Saharan Africa in the Post-quota Era. University of Sussex.
- National Stakeholders. 2014. *Interviews with National Industry Stakeholders/Interviewer: C. Staritz*.
- Natsuda, K., Goto, K., & Thoburn, J. 2009. Challenges to the Cambodian Garment Industry in the Global Garment Value Chain *RCAPS Working Paper No. 09-3*.
- NBS. 2007. *China's Annual Survey of Industrial Firms (ASIF) (1998–2008)*.
- NCAER. 2009. Assessing the Prospects for India's Textile and Clothing Sector. New Delhi, India: National Council of Applied Economic Research (NCAER).
- OTEXA. 2014. Market Reports/Tariffs: Textiles, Apparel, Footwear and Travel Goods. Washington, DC: U.S. International Trade Administration (ITA), Office of Textiles and Apparel (OTEXA).
- Raihan, S., & Razzaque, M. A. 2007. A Review of the Evolution of Trade and Industrial Policies in Bangladesh. In A. Razzaque & S. Raihan (Eds.), *Trade and Industrial Policy Environment in Bangladesh with Special Emphasis on Some Non-Traditional Export Sectors (Chapter 2)*. Pathak Samabesh, Dhaka.
- Rama, M. 2014. *Breaking Barriers to Regional Integration in South Asia*. ADB - Manila.

- Saheed, H. 2009. Prospects for the Textile and Garment Industry in Pakistan. *Textile Outlook International*(142), 55–102.
- Saheed, H. 2010. Prospects for the Textile and Clothing Industry in Sri Lanka. *Textile Outlook International*(147), 79–119.
- Saheed, H. 2012a. Prospects for the Textile and Clothing Industry in India. *Textile Outlook International*(156), 86–127.
- Saheed, H. 2012b. Prospects for the Textile and Clothing Industry in Indonesia. *Textile Outlook International*(155), 70–109.
- Saheed, H. 2012c. Prospects for the Textile and Clothing Industry in Vietnam. *Textile Outlook International*(159), 71–110.
- Saheed, H. 2013. Prospects for the Textile and Clothing Industry in Cambodia. *Textile Outlook International*(161), 119–158.
- Saheed, H. 2014. Prospects for the Textile and Clothing Industry in China. *Textile Outlook International*(168), 79–133.
- Sahoo, P., Nataraj, G., & Dash, R. K. 2014. Foreign Direct Investment in South Asia: Policy, Impact, Determinants and Challenges.
- Saleman, Y., & Jordan, L. S. 2013. *The Implementation of Industrial Parks: Some Lessons Learned in India*. Washington, D.C.: World Bank.
- Sandhu, K. Y. 2011. *Challenges to Pakistan's Value Added Industry*. Paper presented at the Third International Conference on Textile and Clothing, Institute of Textile and Industrial Science, Lahore. <http://umt.edu.pk/ictc2011/Presentation.html>
- Sri Lanka DCS. 2014. Annual Survey of Industries 2012. Colombo: Sri Lanka Department of Census and Statistics (DCS).
- Staritz, C. 2011. *Making the Cut? Low-Income Countries and the Global Clothing Value Chain in a Post-Quota and Post-Crisis World*: Washington, D.C.: World Bank.
- Staritz, C., & Frederick, S. 2014. Chapter 7: Sector Case Study - Apparel. In T. Farole & D. Winkler (Eds.), *Making Foreign Direct Investment Work for Sub-Saharan Africa: Local Spillovers and Competitiveness in Global Value Chains* (pp. 209-244). Washington, D.C.: World Bank.
- Statistics Indonesia. 2000–2011. Annual Manufacturing Survey (establishments with 20+ workers). Retrieved September 29, 2014, from Badan Pusat Statistik (BPS) [http://www.bps.go.id/eng/menutab.php?kat=2&tabel=1&id\\_subyek=09](http://www.bps.go.id/eng/menutab.php?kat=2&tabel=1&id_subyek=09)
- Sunday Observer. 2013, May 5. Apparel industry will overcome challenges. *Sunday Observer*. Retrieved from <http://www.sundayobserver.lk/2013/05/05/fin26.asp>

- Tewari, M. 2008. Deepening intra-regional trade and investment in South Asia-the case of the textile and clothing industry: India Council for Research on International Economic Relations (ICRIER).
- Tewari, M. 2009. The Textiles and Clothing Industry *Study on Intraregional Trade and Investment in South Asia* (pp. 40–69). Mandaluyong City, Philippines: Asian Development Bank (ADB).
- Tewari, M., & Singh, M. 2010. Benchmarking the International Competitiveness of the Indian Garment and Textile Industry. New Delhi.
- TEXMIN. 2015. Annual Report 2014/15 (pp. 203). New Delhi: Ministry of Textiles, Government of India (TEXMIN).
- UNCTAD. 2014. Skill Development in the Bangladesh Garments Industry: the Role of TNCs. New York and Geneva: United Nations.
- UNCTADSTAT. 1970–2012. *Inward and Outward Foreign Direct Investment Flows, Annual, 1970–2012*. Retrieved from: <http://unctadstat.unctad.org/TableViewer/tableView.aspx>
- UNIDO. 2013. Industrial Statistics Database: INDSTAT4 (2013 edition). Retrieved May 6, 2014, from Unido Nations Industrial Development Organization (UNIDO) <http://www.unido.org/en/resources/statistics/statistical-databases/indstat4-2013-edition.html>
- UNSD. 2014a. World Apparel (HS1992 61+62) Imports (1990–2012) Retrieved March 3–6, 2014, from United Nations Statistics Division (UNSD).
- UNSD. 2014b. World Apparel Imports (1992–2012) by Product Categories. Retrieved May 13-15, 2014, from United Nations Statistics Division (UNSD).
- UNSD. 2014c. World Apparel Imports (2000, 2005, 2009, 2012), HS (six-digits). Retrieved June 20, 2014, from United Nations Statistics Division (UNSD).
- UNSD. 2014d. World Fabric and Yarn/Thread Exports (1990–2012) by Product Categories. Retrieved April 1, 2014, from United Nations Statistics Division (UNSD).
- UNSD. 2014e. World Total and Apparel (HS1992) Imports (All Years) Retrieved August 11, 2014, from United Nations Statistics Division (UNSD).
- UNSD. 2015. World Apparel Imports (2013)(HS92). Retrieved January, 14 2015, from United Nations Statistics Division (UNSD).
- WDI. 2014. *World Development Indicators (WDI), Population (Total) in 2013*.
- Wijayasiri, J., & Dissanayake, J. 2008. Case study 3: The ending of the multi-fiber agreement and innovation in Sri Lankan textile and clothing industry. Paris, France: OECD.

- World Bank. 2005. End of MFA quotas: key issues and strategic options for Bangladesh readymade garment industry *Bangladesh Development Series Paper 2*. Dhaka, Bangladesh: The World Bank.
- World Bank. 2012. *World Bank Enterprise Survey: China*.
- World Bank. 2013a. Beyond Low Wage Labor: Strengthening Bangladesh's Competitiveness: Volume 2: Thematic Studies *Bangladesh Diagnostic Trade Integration Study (DTIS)*: The World Bank.
- World Bank. 2013b. Volume 3: Sector Studies, Chapter 13: Value Chain Analysis for Polo Shirts *Bangladesh Diagnostic Trade Integration Study (DTIS)* (pp. 107-159). Washington, DC: The World Bank.
- World Bank. 2014. *World Bank Enterprise Survey: India*.
- WTO. 2008. Trade Policy Review: Pakistan *Report by the WTO Secretariat*. Geneva: World Trade Organization (WTO).
- WTO. 2013. Tariff Download Facility, Applied MFN Tariffs. Retrieved March 25, 2014, from World Trade Organization (WTO) <http://tariffdata.wto.org/Default.aspx>
- WTO, UNCTAD, & ITC. 2014. World Tariff Profiles 2014 (pp. 204). Geneva: World Trade Organization (WTO), United Nations Conference on Trade and Development (UNCTAD) and the International Trade Centre (ITC).
- Xavier Cirera and Rajith Lakshman. 2014. The impact of export processing zones on employment, wages and labour conditions in developing countries. *3ie Systematic Review* 10.
- Yunus, M., & Yamagata, T. 2014. Bangladesh: market force supersedes control. In T. Fukunishi & T. Yamagata (eds.), *The garment industry in low-income countries: An entry point of industrialization*: Palgrave-Macmillan.
- Yusuf, S. 2013. Can Chinese FDI Accelerate Pakistan's Growth? *IGC Working Paper*. London, UK: International Growth Centre (IGC).
- Zhu, S., & Pickles, J. 2014. Bring In, Go Up, Go West, Go Out: Upgrading, Regionalisation and Delocalisation in China's Apparel Production Networks. *Journal of Contemporary Asia*, 44, 36-63.
- Zohir, S.C. 2001a. Gender balance in the EPZ: A socio-economic study of Dhaka export processing zone in Bangladesh. Bangladesh Institute of Development Studies.
- Zohir, S.C. 2001b. Social impact of the growth of garment industry in Bangladesh. Bangladesh Development Studies 27(4), pp.41-80.

---

<sup>i</sup> The EU-15 includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom

<sup>ii</sup> Industry associations in Bangladesh were very effective in supporting market diversification in the context of reduced demand from the United States and EU-15 during the global economic crisis (National Stakeholders, 2014)).

<sup>iii</sup> Lead time represented the time between the arrival of fabric (ready to cut) to garments packed and ready to ship.

<sup>iv</sup> [www.ibtimes.com/despite-low-pay-poor-work-conditions-garment-factories-empowering-millions-bangladeshi-women-1563419](http://www.ibtimes.com/despite-low-pay-poor-work-conditions-garment-factories-empowering-millions-bangladeshi-women-1563419)

<sup>v</sup> Note that the magnitude of labor-output elasticities in Bangladesh is much lower when one differentiates between foreign and domestic sales, as opposed to looking at total output, perhaps because some firms answer the questions on total output, but not the questions on foreign and domestic sales.