Bangladesh: Possibilities for Export Diversification[1]

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Acronyms	Full Name
ABD	Asian Development Bank
CAGR	Compound Annual Growth Rate
JICA	Japan International Cooperation Agency
PWC	Price Waterhouse and Coopers
RMG	Ready-made garment

Contents

Bangladesh – Potential for manufacturing

The purpose of this Note is to understand how Bangladesh can benefit from two mega trends in Asia in the next decade – one, the strong growth and rising wages in China, and two, demographic change as reflected in China's aging population contrasted with Bangladesh's growing youth and working age populations. Based on the broad implications of these trends, the Note focuses on the prospects for export diversification in Bangladesh. Its existing export basket reveals extreme concentration in a handful of garments and textiles underscoring the need to diversify in new subsectors. With the aid of analytical tools, the Note identifies Bangladesh's emerging export subsectors, as well as an exhaustive list of China's labour-intensive exports in which wages are either rising or expected to rise in the near future. The small overlap between these sets of potential exports is good news as it suggests that Bangladesh has the capabilities to diversify in them. In the last section, the Note briefly discusses the constraints to diversification in manufacturing and presents a novel policy framework for government.
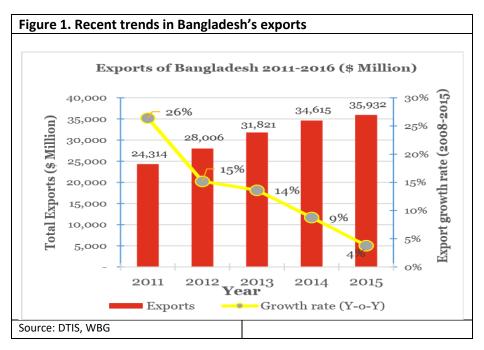
Introduction

The primary objective of this Note is to identify sources of labour- and low skills-intensive manufacturing opportunities for Bangladesh. As a natural starting point, Section I sets the stage for the paper by briefly discussing the current status of manufacturing subsectors in which Bangladesh presently has a global comparative advantage. The key finding is that its export basket has been extremely concentrated in two subsectors – ready-made garments and textiles - for decades and needs to be diversified to spur growth. Fortunately, two prevailing global mega trends presently offer a unique window of opportunity to Bangladesh to diversify its manufacturing sector, create millions of good jobs, and chart a high growth trajectory to a middle-income status. Accordingly, Section II discusses the mega trends and their implications for export diversification in Bangladesh. Sections III and IV then turn to the prospects for diversification offered by these trends. As several other sources have addressed similar issues, this Note first summarizes their findings in Section III. In section IV, we present the methodology used to identify new manufacturing sectors for Bangladesh and enlists potential subsectors. Given that the objective of the paper is to capture some of the spill overs from the decline of light manufacturing in China, the main focus of this section is a close scrutiny of China's manufacturing sector. Bangladesh has the advantage of a young population in comparison to China, and indeed the rest of East Asia, whose population is rapidly aging and likely to be a constraint to competitiveness in manufacturing. Section V proposes policies to foster the growth of the new products and to intensify export diversification. The crux is that while careful and detailed research is needed to identify exactly "what" the Government of Bangladesh can do to foster promising manufacturing subsectors, evidence from similar low-wage countries shows that when their policymakers undertook the requisite reforms/actions, they were successful in attracting and nurturing new manufacturing sectors.

Section I. Sources of current comparative advantage in manufacturing

Export oriented manufacturing sectors have made a significant contribution to economic growth and employment. During the 1970s, Bangladesh's exports comprised mostly of jute and food products. But in the last two decades, the export composition has changed drastically. The ready-made garments or RMG sector comprising knitwear and woven apparel products emerged as principal exports of the country and the single largest export sector contributing to more than 81 percent of export revenue and 13% of national GDP. The exports in Bangladesh grew at a CAGR of 14 percent during 2005-2015.

In 2017, Bangladesh exported about US$34 billion of products (Figure 1). Approximately 80 percent of the total manufactured exports were comprised of two products from two subsectors alone: Garments, and Textiles and fabric. Bangladesh had a strong comparative advantage[2] in both since the 1990s. Other manufacturing subsectors in which it had a strong comparative advantage in 2017 were leather and leather products including footwear, processed food, consumer products for the Home and Office products, Construction materials and equipment, and Machinery. Leather products accounted for about 6 percent of total exports in 2015-16, all other subsectors had a share of about 2-4 percent each (details in Annex 1).

Figure 1. Recent trends in Bangladesh's exports

Source: DTIS, WBG

Section II. Mega Trends: China's rising wages and demographic change in China and Bangladesh

China's rising wages and implications for diversification

Since the 2000s, wages in China, especially along the coast, have risen rapidly. Chinese wages have risen by roughly 80 percent since 2010, and manufacturing goods in China are now only 4 percent cheaper than in the United States.[3] Consequently, Chinese firms are moving out of low-wage, labour-intensive manufacturing sectors, and investing in higher value-added manufacturing to take advantage of the Chinese government's incentives for higher-tech industries. Bangladesh could take up some of those opportunities. Evidently, in recent years, in addition to Bangladesh, the low-cost footwear industry has already partially relocated from China to Vietnam, Indonesia, and even parts of Africa.

Even as there is pressure on Chinese wage costs, it must be recognized that a large-scale exodus of firms is not imminent. Moreover, Xu. Gelb, Li, and Zhao (2017) have reported that in a survey of light manufacturing firms only 6 percent plan to move within China or abroad due to rising costs. However, given its scale, even small-scale relocations could be a significant gain for smaller countries like Bangladesh and Asia's other low wage exporters if they are able to make their trade and business environment attractive enough for investors.

Bangladesh is a good example of a country that benefitted from low-wage manufacturing to generate large numbers of factory jobs instead of relying on its predominantly rural economy that produced mostly jute. However, it seems to have had difficulty in tapping into the vast range of low-tech labour-intensive industries that have mushroomed in other low-wage locations in East Asia (Laos and Cambodia) or in South Asia (India and Pakistan). Domestic trading and a good business environment are the second most important factors for diversification after cheap labour. It seems reasonable to presume that Bangladesh must be falling short of its low-wage Asian competitors on this front.

Demographic change and export opportunities

Relative to China, and indeed most of East Asia, Bangladesh's relatively young and fast-growing population is considered a key advantage for its future competitiveness in labour-intensive manufacturing industries. However, the relationship between demography and trade is not straightforward. First, causality runs in both directions: demographic changes affect trade, but trade also affects demography. Galor and Mountford (2006) find that trade explains the different timing of the demographic transition in technologically advanced and less advanced countries. In the former, trade reinforces specialization in the production of skill-intensive industrial goods by raising the demand for skilled labour and the incentives to invest in human capital which, in turn, reduce the fertility rates. In the latter, trade does exactly the reverse to raise the fertility rate. Second, there are factors affecting

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[3] Matthias Lomas. February 18, 2017. Which Asian Country Will Replace China as the 'World's Factory'? Analyzing the "Mighty Five," countries set to replace China as the workshops of the world." The Diplomat.

both trade and demography, for instance, the quality of institutions. Institutions themselves can also affect demography (Rodrik et al. 2004).
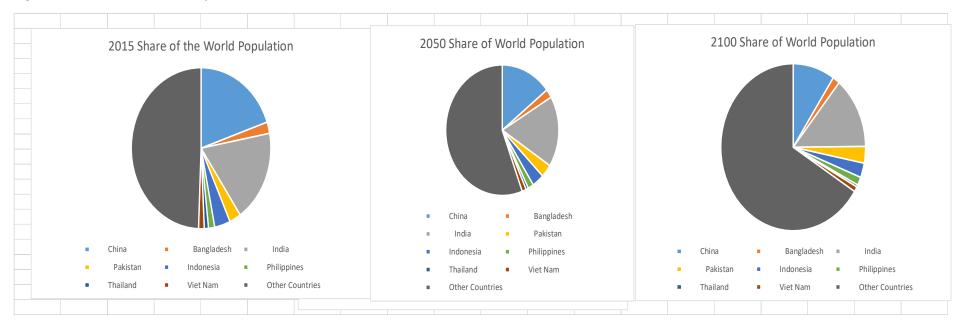
Ageing influences a country's comparative advantage and its trade composition. Thus, Sayan (2005) shows that a country with slow population growth (like China) could become relatively capital abundant while a country with faster population growth (like India) could become relatively labour abundant over time, experiencing lower capital-labour ratios which give rise to differences in relative prices thus creating conditions for Heckscher-Ohlin trade in which the former country specializes in capital-intensive goods and the latter in labour-intensive goods. But other studies, Yakita (2012), show that an ageing country could lead people to invest more in human capital and reduce the number of children. Under certain conditions[4], the ageing economy ends up exporting labour intensive goods and importing capital intensive goods.

The main conclusion is that very little can be said about the effects of ageing on comparative advantage, *especially in the short to medium term*. Ageing can lead to an erosion of comparative advantage in labour-intensive manufacturing goods if accompanied by a decrease in the labour force participation rate as is the case of China. One also needs to consider the effect of demand composition. Studies show that in countries at the advanced stage of a demographic transition, older groups will experience a decline in spending following the 'retirement consumption puzzle' and where consumption of services such as healthcare, tourism, and high tech sectors will increase the most (Luhrmann 2005; Oliveira Martins et. al., 2005).

Figure 2 and Tables 1 and 2 examine the demographic profiles of various Asian countries and Bangladesh from the lens of three indicators.

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[4] When a longer retirement reduces the demand for consumption goods and reduces their autarky relative price and this price is below the free trade relative price.

Figure 2: Share of the World Population, 2015, 2050, 2100

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2017).

World Population Prospects: *The 2017 Revision.* New York: United Nations

The world population, which is expected to reach over 9 billion in 2050, is increasingly shaped in the size and composition by demographic transition[5] -the process by which the mortality rate first declines due to improved health conditions followed by a reduced fertility rate. While most developed economies started their demographic transition in the 19th century, most developing countries started this transition a century later although making progress more rapidly (Lee 2003). Because of different demographic dynamics, the composition of the world population is projected to change. Figure 2 shows that India will replace China as the most populous country while the share of Bangladesh and most East Asian countries will remain the same.

The two key indicators in the relationship between demography and trade are the dependency ratios[6] and the median age. The UN projections show that of the major economies located near Bangladesh, China will see its dependency ratio rising sharply (from 37.7 in 2015 to 67.4 by 2050, Table 4) and the median age rising from 35.4 in 1913 to 46.3 years in 2050. India, in contrast, will see the dependency ratio declining from 52.2 to 47.7 and the median age rising from 26.4 to 36.7 years. Tables 1 and 2 show the dependency and median age, respectively, for selected countries in 2050 and 2100.

TABLE 1: TOTAL DEPENDENCY RATIO FOR SELECTED COUNTRIES

Country	Total dependency ratio (ratio of population aged 0-14 and 65+ per 100 population 15-64)		
	2015	2050	2100
Bangladesh	52.6	49.5	88.6
Cambodia	55.6	51.4	71.2
China	37.7	67.4	83.8
India	52.2	47.7	69.0
Indonesia	49.2	50.7	65.5
Lao People's Democratic Republic	60.2	44.4	71.9
Malaysia	44.6	49.8	79.3
Philippines	58.2	50.8	61.7
Thailand	40.0	72.4	87.1
Viet Nam	42.5	62.4	82.4

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2017). *World Population Prospects:The 2017 Revision.* New York: United Nations

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[5] This process takes place through four stages: i) mortality declines while fertility remains high: the country's population increases and becomes younger; ii) the country's fertility rate declines and the country's working age population increases as more young people reached adulthood—this is when the country is said to have a demographic dividend; iii) has rising young and old age dependency ratios because ageing leads to increasing elderly population while low fertility reduces the growth of working age population; and finally iv) total dependency is back to pre-transition level but young-age dependency is low while old-age dependency is high.

[6] The dependency ratio is the ratio of those typically not in the labor force (ages 0 to 14 and 65+) to those typically in the labor force (ages 15 to 64).

TABLE 2. MEDIAN AGE OF THE POPULATION BY SELECTED COUNTRY, 2013, 2050 AND 2100
        (MEDIUM VARIANT)

	Median age (years)		
Country or area	2013	2050	2100
World	**29.2**	**36.1**	**41.2**
Bangladesh	25.1	39.9	48.9
Cambodia	24.4	36.2	47.3
China	35.4	46.3	46.9
India	26.4	36.7	44.3
Indonesia	27.8	38.4	45.3
Lao People's Dem.	21.4	34.3	46.9
Malaysia	27.4	39.8	47.1
Myanmar	29.0	40.1	42.6
Pakistan	22.5	34.1	43.0
Philippines	23.0	31.5	41.5
Thailand	36.9	51.1	50.5
Viet Nam	29.8	45.6	49.2

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2013)*. World Population Prospects: The 2012 Revision.* New York: United Nations.

In the long run, while Bangladesh may have a demographic edge over countries such as China or Vietnam, its demographic dynamics does not offer any advantage compared to other Asian countries such as India, Indonesia, or the Philippines. According to UN World Population prospects, Bangladesh's total dependency ratio in 2050 is projected to be 49.5 percent compared to 67 percent for China and 62 percent for Vietnam in Table 1. But this ratio is higher than that of India (47.7) and Laos (44.4) and is comparable to Malaysia and the Philippines. Similarly, while its median age in 2050 is about 40 years (Table 2) which is lower than both China and Vietnam (about 46 years), this median age is higher than Pakistan and is comparable to the rest of the comparator countries**.**

Migration and trade
Are demographic changes in China and East Asia in general likely to open doors for Bangladeshi labour to migrate to countries with ageing populations in the future? Evidently, in the mid-1990s, certain Asian economies were reliant on migrant workers: the share of foreign workers was as high as 6 percent of the labour forces in Hong Kong, China, Malaysia, and Thailand, while the share of non-residents in Singapore's economically active population rose from 18 percent in 1991 to 27.5 percent in 2006 (Menon and Melendez-Nakamura (2009)).

Economic theory sheds some light on the possible effects of migration and trade suggesting that there is a theoretical case for countries with ageing populations to allow greater migration of relatively less-skilled foreign workers to boost their labour-intensive exports (World Bank 2016). International migration can also affect the patterns of comparative advantage by shifting the education and age profile of both the source and host countries. There are two effects that migration can have on a country's population. First, it directly affects the size of that population and secondly, it affects the fertility rates in the country of origin and the host country. Recent evidence (Kulu 2005), however, seems to indicate that migrants adopt to host country's norms.

Labour migration can have both short and long-term effects in the host country. In the short run, immigration causes output of both agriculture and manufacturing to increase (at constant relative prices) but since both capital and land are fixed factors of production, labour-intensity increases in both sectors leading to a fall in wages (under perfect competition), hence no change in output composition and comparative advantage. However, in the long run, the Ribczynski theorem predicts that output of the labour-intensive industry will expand while that of the capital-intensive industry will fall. This is because the capital-labour ratio will be unchanged in both sectors in the long run and there will be a reallocation of labour and capital into the labour-intensive industry so if the host country has a comparative advantage in the labour intensive industry, immigration will lead to a strengthened comparative advantage and if the host has a comparative advantage in capital-intensive industry, it will lead to a weakened comparative advantage. If migration is skilled-biased in the short run, wages of skilled workers will decline but in the long run output of skilled labour-intensive sectors will increase.

Despite the well documented benefits of migration for reversing some of the constraints imposed by an ageing labour force, migration decisions remain political (World Bank 2016). To date, in comparison to skilled migration which is limited and routine, there is no evidence to suggest that Asian countries are welcoming larger numbers of less-skilled Bangladeshi workers or similar workers from other Asian countries in their labour-intensive industries. In fact, as evident from around the world, the actual outcome in migration matters is driven more by politics than economics.

Section III. Analysis of export diversification

The statistics in Section I and numerous studies by donor agencies [7] collectively show that Bangladeshi exports are heavily concentrated in ready-made garments (RMG) which make the economy more vulnerable to exogenous shocks and dampen long term growth in per capital incomes. Export diversification is a well-known strategy to stabilize growth and the Government of Bangladesh has recognized export diversification as a development priority. The first step towards successfully diversifying the export basket is to identify feasible subsectors that can contribute to employment generation and sustainable growth. In this respect, several good studies provide a useful resource.

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[7] World Bank's "Diagnostic Trade Integration Study (DTIS) for attracting investments in Bangladesh"; ADB's "Bangladesh- Consolidating Export Led Growth; Country Diagnostic Study"; Study by JICA and Ministry of Commerce of Bangladesh, titled "Study on Potential Sub-Sector Growth for Export Diversification in the People's Republic of Bangladesh".

The World Bank's DTIS conducted by PWC 2017 addresses the identification of products which could potentially help the industrialization of Bangladesh by raising the complexity of its productive capabilities. The sector selection has been carried out by analysing 96 products at HS – 2 level to arrive at a shortlist of advantageous sectors. It excluded RMG product categories (13 products) as the objective of the study is to look beyond RMG and diversify. Phase I of the DTIS adopted an analytical approach based on the product space and economic complexity to shortlist feasible sectors and prioritize them according to their potential to contribute to the economic goals of Government of Bangladesh. Tables 3 (a and b) present the findings of the DTIS.

Table 3a. Priority sectors recommended by the DTIS to diversify from Garments and Textiles.

Table 1: Identifying advantageous products and sectors based on distance vs complexity

Feasible Sector	Products	Sector
Parsimonious bets	Footwear/Gaiters, Leather Goods,	Leather and Footwear
	Tobacco	Food Processing
	Yarn of Jute	Jute Yarn
Strategic bets	Vehicles other than automobile (Bicycles), Optical instruments, electrical machinery, copper	Engineering goods
	Furniture	Furniture
	Pharmaceuticals	Pharmaceuticals
	Plastics, Toys	Plastics
	Ceramics	Ceramics

Table 3b. Bangladesh's performance in DTIS recommended priority sectors

Sectors	Growth in global market (2010-15)	Global export market size (in billion USD) - 2015	Bangladesh exports (million USD) - 2015
Leather & Leather Products	5.2%	105.4	508
Footwear Products	2.6%	138.3	827
Furniture	5.9%	240.1	46
Food processing (tobacco)	3.8%	40.5	44
Plastics	3.4%	554.1	529
Pharmaceutical products	1.3%	868.5	83
Engineering goods	3.4%	2,414.5	271
Jute	-5.0%	0.9	666
Ceramics	7.7%	56.9	52
IT and ITES	28.7%	453.3	56
RMG*	5.0%	477.1	30,526

* Data on RMG sector is provided only to show comparison with other sectors
Source: UN COMTRADE data from trademap.org

Section IV. Exploring the potential for manufactured exports

Section II suggested that in light of the shifting demographics, China (and to a lesser extent Vietnam) will be the only credible benchmark for Bangladesh. India's demographics will position it even better than

Bangladesh to seek China's sunset industries. Sunset industries are defined here as industries in which China is losing wage-competitiveness due to its aging population and rising wage pressures more generally and are discussed more in Annex 2 – 3. Today, Bangladesh's manufacturing sector remains overly concentrated in the RMG sector. As low-cost manufacturing is moving out of China, Bangladesh has an opportunity to attract investors into *other* low-wage sectors. What other industries can Bangladesh attract? The remainder of this section tries to address this issue analytically. A comprehensive answer requires a proper identification and feasibility study which is beyond the scope of this Note.

To identify Bangladesh's potential for new manufacturing sectors, we apply an analytical framework that combines two concepts. The first concept examines Bangladesh's own comparative advantage in its emerging or nascent sectors. The second concept explores Bangladesh's potential comparative advantage in China's current low-wage, low-tech sectors where the latter's comparative advantage is eroding due to rising wage costs. Since Bangladesh's enjoys a large and growing labour force, its comparative advantage in labour-intensive sectors can open doors to attracting some investments from China.

Table 4: Bangladesh emerging export sectors in which it has gained recent comparative advantage

Traditional Exports of Bangladesh	
Had a RCA in 1990 = YES	
Had a RCA in 2015 - YES	
Main sector	
Readymade garments	
Textiles and Fabrics	
Emerging Export Sectors of Bangladesh	
Had a RCA in 1990 = NO	
Had a RCA in 2015 - YES	
Main sector	**Subsectors**
Leather	Composition leather; Footwear.
Processed food	Fruit juices; Vegetables - frozen or in temporary preservatives.
Home & Office products	Bicycles
	Tarpaulins, sails, tents, camping goods
Construction goods	Steel and aluminium reservoirs/tanks
Simple machinery	Metal-cutting machine tools.

Source: *Authors calculations*. COMTRADE, SITC Rev 2, 4 digits.

Applying the Identification Framework to Bangladesh. We analyse the potential for new products by first searching for signs of any new or nascent export subsectors. A step by step discussion of the identification of new products is presented in Annex 3.

By applying the concept of comparative advantage, Bangladesh's current exports can be demarcated into two categories (Table 4).

1. **Bangladesh's *traditional* manufactured exports** defined as products in which it had a comparative advantage or RCA > 1 in 1990 and in 2016. As noted earlier, the main Traditional subsectors are RMG comprised of Garments and Textiles & fabrics. These jointly account for over 80 percent of its total exports. Closer scrutiny at the export baskets of other low wage garments exporters in the world reveals that Bangladesh could diversify substantially *within* the RMG subsectors. There are many low-hanging fruits which could be exploited by exporting more of the same products to newer markets or new products in the same subsectors. It should be noted that while this development will foster growth, it will further reinforce Bangladesh's export concentration in RMG.

2. **Bangladesh's *Emerging* manufactured exports** are defined as subsectors in which it did not have a comparative advantage in the 1990s (RCA was <1) but developed it in recent years (Table 4). While presently small in size, these are indeed its new or emerging champions that herald a prudent direction for diversification as Bangladesh is already competitive in them at a global level. The Footwear export subsector for example, is a prize from the Chinese spill over in the footwear industry (Forbes). Each of the five subsectors in Table 4 presently produces only a few products. Examples include: (1) the Leather subsector which exports Footwear; (2) Food processing subsector which produces Frozen or preserved vegetables, and Fruit juices; (3) Home and Office-related consumer goods such as non-motorized bicycles and tarpaulins; (4) Construction materials and equipment subsector that produces iron and steel tanks and reservoirs; and (5) Simple machinery which includes hand-tools. Each of these products marks an important albeit small step in diversification from the RMG subsector which has dominated Bangladesh's exports since the 1990s. If these Emerging sectors grow in volume and start exporting to new markets, they will contribute significantly to the diversification of Bangladesh's exports in the coming decades. If they can diversify into new products, they can make an even greater contribution to export diversification. What are some potential subsectors? Insights from China's low-wage sectors under threat of rising wages reveal many possibilities for diversification.

3. **China's current low-tech export subsectors also present a large range of diversification options for Bangladesh in the near future** (Table 5). Bangladesh does not have to wait to discover new Emerging export subsectors. China's vast but gradually declining consumer exports sector indicates that there are many products that Bangladeshi firms could start producing as they require skills and materials that are similar to those employed in Bangladesh's current Emerging industries. Table 5 illustrates examples of Low-Tech Chinese products in which China currently has a comparative advantage, but which could become Bangladesh's *new* Emerging exports subsectors. The last four columns of Table 5 indicate China's comparative advantage in the listed subsectors in 1990, 2000, 2010 and 2016. An RCA = 1 implies that China had/has a comparative advantage while an RCA = 0 implies it no longer has it. China's declining industries will be the ones in which it has consistently had RCA = 1 since 1990 and where wages are most likely to rise

first. Examples of potential or new Emerging exports include shoe parts and Composition leather products (Leather subsector); Paperboard and packaging containers (Wood Products subsectors); brooms, and furniture (Home and Office products subsector); simple base metal products or Railway track construction products (Metal products subsector); plastic containers, and nails and bolts etc. (Construction materials subsector); and Children's toys and indoor games (Electronics export subsector). Table 5 presents an exhaustive list of potential Emerging exports. Any one or all of them are potentially suitable for Bangladesh as many are already being exported by other low-wage countries such as Cambodia, Laos, India and Pakistan. Their hallmark is low-skills, low-wages, and low-tech applied to large scale manufacturing industries in a business -friendly environment.

Can we precisely identify which Chinese export industries will decline/ fold-up/ relocate first in response to rising Chinese wages? The sheer volume and diversity of Chinese exports makes such predictions tricky and speculative for several reasons. As empirical evidence documenting the response of Chinese firms is still very slim, it is difficult to predict which industries will either shut down or move to new locations under mounting cost pressures. The only empirical evidence available is a survey of 640 Chinese firms conducted by Xu, Gelb, Li and Zhao (2017). The latter shows that even though wages rose by 11% during 2014-16, only 6% (36 firms) of the firms said that they would respond by relocating and in the footwear industry, about 14% of the firms were considering relocating. The vast majority identified rising wages as a serious constraint but noted that they were adopting more capital-intensive technologies of production and other cost-cutting measures to continue production in China. This is not surprising given the Chinese government's proactive policies to enable firms to move up the value ladder to better quality and more sophisticated products that are consistent with higher wage-levels.

There is prolific anecdotal evidence on the responses of individual firms – Chinese or American - leaving China for more lucrative locations but it falls short of credible assessments necessary to predict a trend in the relocation of investments from China to Bangladesh. In addition to an attractive investment climate, a well-known reason for investment relocation is the incentives offered by new host governments. Without thorough investigation, it is difficult to determine whether the primary reason for a new firm's location in any low-wage East or South Asian country is due to rising Chinese wage pressures, special investment incentives offered by the host country, significant improvements in the investment climate or other factors.

This said, it is not unreasonable to assert that rising wages in China will erode its competitiveness in the labour-intensive exports, and drive investors to other locations. The world's demand for these industries is strong and steady. Given Bangladesh's comparative advantage in low-wage industries, it is reasonable to assume that if all other factors are favourable, some of the spill-over investments can potentially flow from China to Bangladesh.

We therefore recommend that if Bangladesh wants to propel diversification of exports away from RMG, it should:

> a. <u>Grow the existing products</u> in the Emerging Subsectors (Table 4) as this has several advantages. First, it is a low risk strategy. As the market forces have already jumpstarted

the subsectors, it implies *nurturing* market-selected winners, not *picking* winners. Second, it demonstrates that the skills to operate these subsectors exist. Third, expanding the scale of production of the few *existing* products in these sectors would lead to a significant transformation of the country's existing export basket, and reduce concentration in Garments and Textiles.

b. Foster growth of ***new products*** by exploring some of China's low-Tech, low wage manufactured export subsectors (Table 5), especially as Chinese wages rise, and the country's comparative advantage weakens. As China's current low-wage sectors become its sunset industries on the decline, they will be ideal candidates for Bangladesh's new export sectors. The small overlap between the products in Tables 4 and 5 is good news as it confirms that Bangladesh has the capabilities to diversify in these products.

Table 5: China's low-tech export subsectors today present a large range of diversification options for Bangladesh's manufacturing sector

SITC code	Product_name	Export values (US Dollars '000s)					Revealed Comparative Advanatge (RCA) RCA = 0 No comparative advantage; RCA = 1 Has a comparative advantage in the designated sector.			
		ex1990	ex2000	ex2010	ex2015	ex2016	RCA1990	RCA2000	RCA2010	RCA2016
1	**Leather**									
6114	Leather of other bovine cattle and equine leather	$36,804	$363,054	$249,445	$498,386	$493,460	0	0	0	0
6115	Sheep and lamb skin leather	$4,742	$17,267	$19,617	$43,767	$31,322	0	0	0	0
6116	**Leather of other hides or skins**	$85,914	$79,788	$129,316	$75,652	$59,976	**1**	**1**	**0**	**0**
6118	Leather, specially dressed or finished, nes	$220	$5,586	$5,867	$15,897	$8,966	0	0	0	0
6123	Parts of footwear of any material except metal and asbestos	$30,110	$383,593	$1,968,736	$2,413,793	$2,317,057	0	1	1	1
6129	Other articles of leather or of composition leather	$2,195	$91,797	$344,282	$597,919	$605,855	0	1	1	1
8510	Footwear	$1,956,620	$9,466,634	$33,700,000	$51,100,000	$44,900,000	1	1	1	1
	Leather total	**$2,116,605**	**$10,407,719**	**$36,417,263**	**$54,745,415**	**$48,416,637**				
2	**Wood Manufactures**									
6421	Packing containers, box files, etc, of paper, used in offices	$10,112	$302,507	$1,924,002	$4,346,380	$3,688,952	0	0	1	1
6422	Correspondence stationary	$3,129	$42,484	$104,709	$153,287	$144,294	0	1	0	1
6424	Paper and paperboard cut to size or shape, nes	$57,012	$72,120	$548,774	$1,497,362	$1,243,906	1	0	0	0
6428	Articles of paper pulp, paper, paperboard or cellulose wadding, nes	$53,571	$209,317	$1,684,054	$4,996,698	$4,472,269	0	0	0	1
	Wood Manufactures total	$123,824	$626,427	$4,261,540	$10,993,727	$9,549,421				
3	**Home and office products**									
8997	Basketwork, wickerwork; brooms, paint rollers, etc	$370,326	$698,280	$3,465,333	$5,030,305	$4,875,383	1	1	1	1
6974	Base metal domestic articles, nes, and parts thereof, nes	$74,736	$1,250,335	$5,313,152	$9,066,314	$7,787,705	1	1	1	1
6960	Cutlery	$118,923	$970,701	$3,140,741	$4,722,519	$4,017,526	1	1	1	1
6953	Other hand tools	$243,257	$752,632	$3,345,588	$5,450,430	$5,236,903	1	1	1	1
6978	Household appliances, decorative article, etc, of base metal, nes	$38,452	$231,080	$1,000,638	$1,945,323	$1,569,552	1	1	1	1
6993	Pins, needles, etc, of iron, steel; metal fittings for clothing	$16,789	$151,609	$691,108	$1,087,495	$930,321	0	1	1	1
8933	Personal adornments and ornaments articles of plastic	$13,585	$1,023,240	$2,190,725	$3,623,418	$2,984,688	1	1	1	1
8951	Office and stationary supplies, of base metal	$17,338	$138,603	$421,958	$601,999	$501,977	1	1	1	1
8952	Pens, pencils and, fountain pens	$60,525	$342,142	$1,859,414	$2,524,708	$2,482,614	1	1	1	1
8959	Other office and stationary supplies	$7,586	$71,997	$570,298	$761,206	$749,315	0	0	0	0
8941	Baby carriages and parts thereof, nes	$7,780	$279,995	$942,279	$1,186,208	$1,168,193	0	1	1	1
8994	Umbrellas, canes and similar articles and parts thereof	$78,334	$602,514	$2,436,111	$3,104,793	$2,717,324	1	1	1	1
8998	Small-wares and toilet articles, nes; sieves; tailors' dummies, etc	$38,389	$370,174	$2,018,495	$3,376,799	$3,265,918	0	1	1	1
6652	Glassware (other than heading 66582), for indoor decoration	$22,217	$194,653	$2,635,709	$3,291,207	$2,941,099	0	1	1	1
6664	Porcelain or china house ware	$237,254	$826,968	$2,221,755	$6,649,467	$5,022,973	1	1	1	1
6665	Articles of domestic or toilet purposes, of other kind of pottery	$12,751	$84,247	$214,439	$416,521	$360,128	0	1	1	1
6666	Ornaments, personal articles of porcelain, china, or ceramic, nes	$156,973	$637,993	$1,519,306	$2,248,253	$1,501,677	1	1	1	1
8935	Articles of electric lighting of plastic	$6,570	$8,381	$141,690	$342,432	$275,425	1	1	1	1
8996	Orthopaedic appliances, hearing aids, artificial parts of the body	$1,649	$77,004	$589,811	$1,282,696	$1,387,020	0	0	0	0
8939	Miscellaneous articles of plastic	$214,363	$2,880,092	$12,100,000	$27,000,000	$26,100,000	0	1	1	1
6597	Plaits, plaited products for all uses; straw envelopes for bottles	$56,042	$178,829	$411,989	$443,297	$395,799	1	1	1	1
6582	Tarpaulins, sails, tents, camping goods, etc, of textile fabrics	$40,011	$437,144	$1,702,468	$2,288,161	$2,223,778	1	1	1	1
	Home and office products total	**$96,053**	**$615,973**	**$2,114,457**	**$2,731,458**	**$2,619,577**				

		Export values (US Dollars '000s)					Revealed Comparative Advanatge (RCA) RCA = 0 No comparative advantage; RCA = 1 Has a comparative advantage in the designated sector.			
SITC code	Product_name	ex1990	ex2000	ex2010	ex2015	ex2016	RCA1990	RCA2000	RCA2010	RCA2016
4	**Metal products**									
6733	Angles, shapes, sections and sheet piling, of iron or steel	$84,478	$106,205	$1,320,625	$2,575,615	$2,155,811	0	0	0	1
6744	Sheet, plates, rolled of thickness 4,75mm plus, of iron or steel	$57,015	$215,993	$1,962,197	$432,105	$356,695	0	0	0	0
6745	Sheet, plates, rolled of thickness 3mm to 4,75mm, of iron or steel	$22,617	$12,079	$401,400	$667,332	$568,324	0	0	0	0
6746	Sheet, plates, rolled of thickness less 3mm, of iron or steel	$23,953	$90,496	$3,244,321	$4,118,634	$3,126,628	0	0	0	0
6747	Tinned sheets, plates of steel (not of high carbon or alloy steel)	$259	$45,812	$707,155	$838,440	$795,551	0	0	1	1
6749	Other sheet and plates, of iron or steel, worked	$4,264	$166,908	$6,168,299	$10,400,000	$10,100,000	0	0	1	1
6760	Rails and railway track construction materials, of iron or steel	$5,052	$37,120	$377,663	$723,142	$385,634	0	0	0	0
6770	Iron or steel wire (excluding wire rod), not insulated	$80,650	$104,945	$1,623,407	$2,132,819	$1,866,047	1	0	1	1
6793	Steel and iron forging and stampings, in the rough state	$275	$125,451	$346,855	$818,751	$831,120	0	1	0	1
6794	Castings of iron or steel, in rough state	$20,506	$441,780	$634,544	$746,926	$637,089	0	1	0	0
	Metal products total	$299,068	$1,346,789	$16,786,465	$23,453,764	$20,822,899				
5	**Construction materials and equipment**									
6911	Structures and parts of, of iron, steel; plates, rods, and the like	$47,962	$566,370	$7,649,048	$12,000,000	$10,500,000	0	1	1	1
6912	Structures and parts of, of aluminium; plates, rods, and the like	$12,981	$137,600	$1,594,386	$3,384,385	$2,967,022	0	0	1	1
6921	Iron, steel, aluminium reservoirs, tanks, etc, capacity 300 lt plus	$4,527	$17,117	$157,658	$398,008	$326,326	0	0	0	0
6924	Cask, drums, etc, of iron, steel, aluminium, for packing goods	$18,540	$139,797	$1,057,053	$1,938,201	$1,492,521	0	0	0	0
6931	Wire, cables, cordage, ropes, plaited bans, sling and the like	$33,071	$84,171	$1,305,895	$2,005,005	$1,833,701	0	0	1	1
6940	Nails, screws, nuts, bolts, rivets, etc, of iron, steel or copper	$206,038	$632,068	$4,462,958	$6,409,164	$5,748,691	1	1	1	1
6732	Bars, rods (not wire rod), from iron or steel; hollow mining drill	$224,786	$192,959	$2,337,455	$11,700,000	$10,200,000	1	0	0	1
6731	Wire rod of iron or steel	$25,986	$27,443	$1,450,898	$4,564,499	$3,663,867	0	0	0	1
6973	Domestic, non-electric, heating, cooking apparatus, and parts, nes	$25,019	$293,127	$2,664,417	$4,471,145	$3,907,932	0	1	1	1
6996	Miscellaneous articles of base metal	$27,565	$139,128	$963,351	$1,598,301	$1,613,299	0	0	0	0
6997	Articles of iron or steel, nes	$176,133	$829,407	$4,241,814	$6,995,037	$6,150,504	1	1	1	1
8211	Chairs and other seats; and parts thereof, nes	$47,712	$1,408,041	$14,900,000	$23,600,000	$21,900,000	0	1	1	1
8212	Furniture for medical, surgical, dental or veterinary practice	$154,270	$1,024,670	$6,279,575	$8,617,852	$8,333,430	1	1	1	1
8219	Other furniture and parts thereof, nes	$119,632	$2,157,149	$18,000,000	$29,100,000	$25,900,000	0	1	1	1
8931	Plastic packing containers, lids, stoppers and other closures	$84,140	$1,004,114	$4,903,276	$8,186,197	$7,731,348	0	1	1	1
8932	Plastic sanitary and toilet articles	$982	$25,237	$496,719	$866,720	$763,736	0	0	1	1
6975	Base metal indoors sanitary ware, and parts thereof, nes	$2,055	$66,474	$1,071,741	$1,887,620	$1,629,379	0	1	1	1
6991	Locksmiths wares, safes, etc, and hardware, nes, of base metal	$174,923	$865,394	$6,953,774	$14,000,000	$11,800,000	1	1	1	1
6992	Chain and parts thereof, of iron or steel	$35,727	$200,375	$1,014,978	$1,464,067	$1,275,609	1	1	1	1
6994	Springs and leaves for springs, of iron, steel or copper	$2,479	$25,383	$234,219	$497,981	$434,802	0	0	0	0
6954	Interchangeable tools for hand or machine tools (tips, blades, etc)	$70,106	$253,858	$1,823,111	$3,598,162	$3,383,088	0	0	0	0
	Construction materials and equipment total	$1,424,531	$9,836,025	$81,739,215	$143,684,182	$128,172,167				

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Table 5 continued…

SITC code	Product_name	Export values (US Dollars '000s)					Revealed Comparative Advanatge (RCA) RCA = 0 No comparative advantage; RCA = 1 Has a comparative advantage in the designated sector.			
		ex1990	ex2000	ex2010	ex2015	ex2016	RCA1990	RCA2000	RCA2010	RCA2016
6	**Electronics**									
8942	Children's toys, indoor games, etc	$1,830,531	$7,909,222	$21,600,000	$32,500,000	$34,700,000	1	1	1	1
8947	Other sporting & fairground amusements, etc	$121,643	$1,915,949	$8,790,390	$11,900,000	$10,500,000	1	1	1	1
8981	Pianos, other string musical instruments	$13,146	$116,260	$411,253	$501,241	$437,479	0	1	1	1
8982	Musical instruments, nes	$31,807	$204,968	$849,456	$953,615	$890,957	0	1	1	1
8983	Sound recording tape, discs	$155,990	$330,156				0	0	0	0
	Electronics total	$2,153,117	$10,476,556	$31,651,099	$45,854,856	$46,528,437				
7	**Textile & Fabrics**									
6511	Silk yarn and spun from noil or waste; silkworm gut	$96,355	$235,035	$281,351	$188,270	$177,752	1	1	1	1
6513	Cotton yarn	$401,314	$630,825	$2,250,840	$1,667,976	$1,553,713	1	1	1	0
6514	Yarn 85% of synthetic fibres, not for retail; monofil, strip, etc	$99,525	$660,010	$3,940,014	$5,666,214	$5,713,158	0	1	1	1
6515	Yarn containing 85% or more of synthetic fibres, put up for retail	$7,926	$3,547	$39,066	$67,623	$73,880	1	0	1	1
6516	Yarn containing less than 85% of discont.synth.fibres	$105,539	$172,664	$336,548	$473,033	$463,087	1	1	1	1
6517	Yarn of regenerated fibres, not for retail, monofil, strip, etc	$80,521	$174,355	$831,097	$811,541	$887,227	1	1	1	1
6518	Yarn of regenerated fibres, put up for retail sale	$16	$1,936	$1,243	$1,407	$1,139	0	1	0	0
6519	Yarn of textile fibres, nes	$117,049	$166,273	$990,826	$1,243,652	$1,125,711	1	1	1	1
6521	Cotton fabrics, woven, unbleached, not mercerized	$637,108	$644,841	$2,367,521	$3,269,700	$3,247,199	1	1	1	1
6522	Cotton fabrics, woven, bleached, dyed, etc, or otherwise finished	$1,185,562	$2,480,999	$9,008,862	$11,100,000	$10,400,000	1	1	1	1
6541	Fabrics, woven, of silk, of noil or other waste silk	$769,588	$362,055	$992,677	$724,326	$629,535	1	1	1	1
6542	Fabrics, woven, 85% plus of sheep's or lambs' wool or of fine hair	$44,205	$138,790	$279,658	$288,437	$284,277	0	1	1	0
6543	Fabrics, woven, of sheep's or lambs' wool or of fine hair, nes	$14,800	$48,671	$241,200	$251,417	$234,422	0	0	1	1
6544	Fabrics, woven, of flax or of ramie	$164,678	$282,319	$359,734	$512,062	$479,262	1	1	1	1
6549	Fabrics, woven, nes	$1,610	$119,784	$294,112	$700,550	$307,040	0	1	1	1
6551	Knitted etc, not elastic nor rubberized, of synthetic fibres	$1,656	$157,638	$1,178,895	$2,397,088	$2,275,328	0	1	1	1
6553	Knitted or crocheted fabrics, elastic or rubberized	$1,995	$116,851	$6,360	$10,146	$7,887	0	1	0	0
6571	Felt, articles of felt, nes, whether or not impregnated or coated	$38	$3,464	$86,183	$177,477	$127,423	0	0	0	0
6572	Bonded fibre fabrics, etc, whether or not impregnated or coated	$9,529	$96,087	$1,113,290	$2,523,066	$2,590,544	0	0	0	1
6577	Wadding, wicks and textiles fabrics for use in machinery or plant	$13,719	$55,972	$694,843	$866,815	$866,716	0	0	0	0
6579	Special products of textile materials	$2,279	$11,390	$155,811	$178,385	$174,112	0	0	1	1
6583	Travelling rugs, blankets (non electric), not knitted or crocheted	$63,146	$268,327	$2,218,948	$3,400,829	$3,140,864	1	1	1	1
6592	Carpets, carpeting and rugs, knotted	$319,856	$249,166	$139,876	$120,598	$78,335	**1**	**1**	**0**	**0**
6593	Kelem, Schumacks and Karamanie rugs and the like	$768	$11,772	$4,479	$2,321	$1,917	**0**	**1**	**0**	**0**
	Textile & Fabrics total	**$4,138,781**	**$7,092,769**	**$27,813,433**	**$36,642,931**	**$34,840,527**				

SITC code	Product_name	Export values (US Dollars '000s)					Revealed Comparative Advanatge (RCA) RCA = 0 No comparative advantage; RCA = 1 Has a comparative advantage in the designated sector.			
		ex1990	**ex2000**	**ex2010**	**ex2015**	**ex2016**	**RCA1990**	**RCA2000**	**RCA2010**	**RCA2016**
8	**Garments**									
6552	Knitted, not elastic nor rubberized, of fibres other than synthetic	$315,327	$1,013,814	$7,487,606	$12,200,000	$12,100,000	1	1	1	1
6560	Tulle, lace, embroidery, ribbons, trimmings and other small wares	$45,712	$224,364	$2,308,487	$3,263,754	$3,072,893	0	1	1	1
6581	Bags, sacks of textile materials, for the packing of goods	$153,673	$261,657	$1,475,511	$1,953,837	$1,787,174	1	1	1	1
6574	Elastic fabrics and trimming (not knitted or crocheted)	$7,165	$50,335	$164,153	$341,644	$353,200	1	1	1	1
6575	Twine, cordage, ropes and cables and manufactures thereof	$42,755	$136,247	$919,828	$1,451,026	$1,505,743	1	1	1	1
6576	Hat shapes, hat-forms, hat bodies and hoods	$2,418	$21,469	$14,914	$20,488	$20,155	1	1	1	1
6584	Linens and furnishing articles of textile, not knitted or crocheted	$1,064,778	$1,980,526	$9,678,103	$11,700,000	$11,400,000	1	1	1	1
6589	Other made-up articles of textile materials, nes	$54,047	$487,707	$4,488,097	$7,023,532	$6,559,784	1	1	1	1
6594	Carpets, rugs, mats, of wool or fine animal hair	$58,288	$79,007	$120,454	$254,919	$198,041	1	1	0	1
6596	Carpets, rugs, mats, of other textile materials, nes	$3,040	$61,498	$812,949	$821,057	$830,174	0	1	1	1
8310	Travel goods, handbags etc, of leather, plastics, textile, others	$385,120	$3,881,655	$18,100,000	$28,400,000	$25,100,000	1	1	1	1
8421	Men's and boys' outerwear, textile fabrics not knitted or crocheted; overco	$43,075	$365,223	$530,086	$588,142	$524,405	1	1	1	1
8422	Men's and boys' outerwear, textile fabrics not knitted or crocheted; suits	$124,110	$705,866	$1,500,337	$1,380,403	$1,089,536	1	1	1	1
8423	Men's and boys' outerwear, textile fabrics not knitted or crocheted; trouse	$378,310	$2,563,960	$6,325,168	$9,385,945	$8,053,358	1	1	1	1
8424	Men's and boys' outerwear, textile fabrics not knitted or crocheted; jacket	$220,174	$916,590	$1,510,266	$3,438,884	$3,318,643	1	1	1	1
8429	Men's and boys' outerwear, textile fabrics not knitted or crocheted; other	$393,485	$2,365,358	$8,264,003	$9,882,752	$9,046,378	1	1	1	1
8431	Womens, girls, infants outerwear, textile, not knitted or crocheted; coats a	$258,758	$1,476,626	$4,396,294	$9,865,418	$9,642,056	1	1	1	1
8432	Womens, girls, infants outerwear, textile, not knitted or crocheted; suits a	$144,927	$687,511	$279,495	$272,028	$240,134	1	1	1	0
8433	Womens, girls, infants outerwear, textile, not knitted or crocheted; dresse	$87,350	$475,565	$2,595,591	$5,035,513	$4,738,978	1	1	1	1
8434	Womens, girls, infants outerwear, textile, not knitted or crocheted; skirts	$149,073	$728,126	$1,325,714	$1,962,999	$1,852,229	1	1	1	1
8435	Womens, girls, infants outerwear, textile, not knitted or crocheted; blouse	$452,585	$1,010,531	$2,156,934	$2,324,348	$2,108,272	1	1	1	1
8439	Womens, girls, infants outerwear, textile, not knitted or crocheted; other	$928,656	$3,782,449	$16,000,000	$22,100,000	$20,300,000	1	1	1	1
8441	Under garments of textile fabrics, not knitted or crocheted; mens and boy	$389,850	$1,614,901	$3,336,156	$3,540,771	$3,143,052	1	1	1	1
8442	Under garments of textile fabrics, not knitted or crocheted; mens, boys un	$120,156	$334,605	$409,843	$385,339	$305,103	1	1	1	1
8443	Under garments of textile fabrics, not knitted or crocheted; womens, girls,	$274,308	$450,243	$485,242	$468,673	$414,383	1	1	1	1
8451	Outerwear knitted or crocheted, not elastic nor rubberized; jerseys, pullov	$497,921	$4,576,719	$17,000,000	$19,700,000	$17,600,000	1	1	1	1
8452	Outerwear knitted or crocheted, not elastic nor rubberized; womens, girls,	$62,385	$662,356	$4,964,371	$6,469,790	$5,475,472	1	1	1	1
8459	Outerwear knitted or crocheted, not elastic nor rubberized; other, clothing	$2,744,206	$3,703,566	$24,800,000	$31,800,000	$27,400,000	1	1	1	1
8461	Under-garments, knitted or crocheted; of wool or fine animal hair, not ela	$2,370	$21,262	$215,669	$230,832	$191,666	1	1	1	1
8462	Under-garments, knitted or crocheted; of cotton, not elastic nor rubberize	$698,644	$2,145,949	$8,442,009	$8,571,332	$8,130,989	1	1	1	1
8463	Under-garments, knitted or crocheted; of synthetic fibres not elastic nor r	$27,353	$1,415,561	$5,880,564	$9,230,087	$8,263,806	0	1	1	1
8464	Under-garments, knitted or crocheted; of other fibres, not elastic nor rubb	$116,057	$133,807	$66,058	$96,782	$107,757	1	1	0	0
8465	Corsets, garters, etc, not knitted or crocheted, elastic or not	$15,012	$578,849	$2,693,519	$4,278,015	$4,165,211	0	1	1	1
8471	Clothing accessories, of textile fabrics, not knitted or crocheted	$385,088	$808,678	$2,503,937	$3,495,136	$3,140,737	1	1	1	1
8472	Clothing accessories, knitted or crocheted, nes	$283,065	$765,218	$5,299,377	$7,678,357	$7,209,850	1	1	1	1
8481	Articles of apparel, clothing accessories of leather	$399,091	$2,576,002	$2,251,108	$1,997,187	$1,531,543	1	1	1	1
8482	Articles of apparel, clothing accessories of plastic or rubber	$107,295	$452,075	$2,171,719	$3,043,195	$2,698,458	1	1	1	1
8484	Headgear and fitting thereof, nes	$147,073	$595,156	$2,782,859	$4,764,588	$4,383,230	1	1	1	1
	Garments total	$11,582,699	$44,111,028	$173,756,420	$239,416,774	$218,002,410				

Section V. A Policy Framework to Facilitate Export Diversification

As more than 80 percent of the manufactured exports are in the form of RMG, the strategy for Bangladesh would be to diversity into the other products. To this end, Bangladesh needs a combination of appropriate macroeconomic policy including a more export-oriented growth strategy, a conducive trade policy including the "right" exchange rate policy, and a stable macroeconomic framework.

Economy-wide policies: Bangladesh would benefit greatly from policy measures to maintain macroeconomic stability, build infrastructure (including resolving trade logistics issues), and develop human resources. Among the most important policies is the maintenance of an appropriate exchange rate that would make Bangladesh competitive in terms of labour costs and input costs compared with other countries in the region. Similarly, building roads, boosting electricity generation, and enhancing trade logistics are a top priority for Bangladesh. Yet, addressing infrastructure needs in Bangladesh is a time-intensive challenge and cannot be achieved rapidly. Hence, while infrastructure investment and reforms should start without delay, priority has to be placed on providing infrastructure to specific areas where clusters and industrial parks are located before solving the infrastructure problems in other areas. Additional measures in this group include the simplification of regulatory policy and foreign labour management.

Sectoral policies include helping existing products breaking into new markets through improving trade logistics, such as the launching of the National Logistics Strategy; establishment of the rail inland container depot (ICD) at Tongi; development of the Inland Water Transport sector; and improvement in the efficiency of Dhaka-Chittagong road connectivity. Bangladesh could also benefit from taking advantage of its strategic location in the fastest-growing region in the world and between India and China. Bangladesh can increase its exports to India several fold through mutual recognition agreements (MRAs) for harmonization of standards, mutual reduction of nontariff barriers, and facilitating transit traffic.

On the other hand, sectoral policies to help break into *new products* involve trade policies aiming at eliminating the anti-export bias in the long run by reducing substantially the high and varying rates of effective protection. In the short run, trade policies may involve reducing tariffs on raw materials and intermediate products used in the production of these new products—such policy may involve raising the rates of effective protection but as long as the policy framework aims at reducing tariffs on both input and output, the long run effective protection will be reduced. Ensuring efficient imports for exports will progressively make the private sector's production and export decisions less dependent on domestic availability of inputs. In practice, given the poor functioning of duty drawback, the best answer seems to lie in ensuring well-functioning bonded warehouse schemes that are in principle available to all sectors and high-performing operators. Such schemes were critical in the initial success of Korea's exports. Reviewing mandatory standards to ensure a smooth flow of imports would also be useful.

To break into **new products,** Bangladesh also needs to improve the environment for domestic and foreign investment. It needs to raise the location of serviceable land for business use, including through the 2010 Export Processing Zone Act; more proactively welcome FDI and promote it through high-level missions to potential FDI sources, such as China, India, and Japan. It should also increase transparency and enforce standards more strictly so that foreign as well as domestic firms that enforce strict compliance and standards are not penalized. Resolving energy constraints will help all segments of the economy and provide a major boost to investment. It would be critical for Bangladesh to implement sustainable solutions that are able to provide unsubsidized power at competitive prices.

Sector-Specific Issues: Industrial clusters are the best way to deal with a plethora of binding constraints in Bangladesh. For each subsector, governments should first find out where enterprises are already clustered and should then ease the most binding constraints (identified in the report) within the clusters. Similarly, successful industrial parks provide enterprises with security, basic infrastructure, streamlined government regulations, and affordable industrial land. Policy makers in Bangladesh need to open up and attract foreign direct investment on a mass scale, particularly in labour-intensive activities such as those identified in the report. They should also harmonize and improve customs procedures by simplifying procedures and leveraging information technology, particularly along the border with India. They should likewise facilitate access to inputs for light manufacturing by working to improve trade logistics and pushing to deepen regional integration. A close public-private cooperation will be needed to implement the proposed policy reforms.

Detailed studies of a number of growing export sectors confirmed the crosscutting findings highlighted above and other sector-specific issues. In shipbuilding, enforcement of standards for domestic ships would help bring domestic and export market segments closer and help exporting yards to achieve better scale economies. More credible enforcement of standards in pharmaceuticals would help people's health and also reduce the disincentives for firms, including foreign firms that practice self-enforcement. Training to relieve skill shortages was identified as a critical need in many sectors, including shipbuilding, ITES, and bicycles. FDI could play a much larger role in many sectors, especially those with technology upgrading needs, such as pharmaceuticals, bicycles, and shipbuilding.

Making improvements in access to finance and easing Bangladesh Bank monitored current account transactions would relieve constraints across all sectors. Additional submarine cables would increase the reliability of Internet services for the ITES sector. The energy constraint was ubiquitous, almost taken as a given in all sector discussions.

Future directions

Beyond its capacity to stimulate job creation, the strong connection between light manufacturing and trade also supports the development choice to focus on light manufacturing. The case for export-led growth is well established among developing countries (Chenery 1980; Commission on Growth and

Development 2008; Harrison and Rodríguez- Clare 2010). Harrison and Rodríguez-Clare (2010) find that export-oriented countries have grown more rapidly, though establishing causality is difficult. Trade also enables developing countries to take advantage of the important learning that is derived from exposure to global competition and then to import the skills and technology necessary to move up the value chain.

Bangladesh, together with many other low-income countries, has the necessary inputs for a competitive light manufacturing sector: a comparative advantage in low-wage labour (at the proper exchange rate), abundant natural resources sufficient to offset the lower labour productivity compared with their Asian competitors, privileged access to high-income markets for exports, and a sufficiently large local or regional market to allow emerging producers to develop capabilities in quick-response.

These countries can follow the course pioneered by a succession of Asian countries by accelerating the realization of latent comparative advantage in segments of light manufacturing in which specific, feasible, sharply focused, low-cost policy interventions can deliver a quick boost to output, productivity, and perhaps exports, opening the door to expanded entry and growth.

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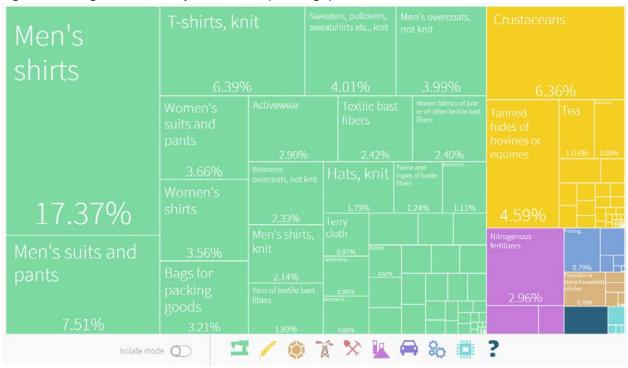
Figure A1. Bangladesh: Net exports in 2016 (HS 4 digit)

Source: Atlas, MIT.

Figure A2. Bangladesh: Net exports in 1995 (HS 4 digit)

Annex 2 - A Framework for Identifying Opportunities in Light Manufacturing

Box 1. A Framework for Identifying Opportunities in Light Manufacturing

How can a country determine whether its products reflect its comparative advantages? If a country's products are being successfully exported to global markets or are beating out imports in domestic markets with no government help, the country is sure to have a comparative advantage in those products. Similarly, if, without the recipient government's heavy subsidies, an industry producing exports is attracting a growing amount of foreign direct investment (FDI), the country has a comparative advantage in those goods, too. Foreign direct investors have a keen sense of what countries can produce to compete internationally.

The approach proposed here to help Bangladesh create a diversification development strategy is the following. For existing products, the concept of revealed comparative advantage (RCA) can be used to pinpoint industries in which increased production could accelerate industrialization. This is a traditional method based on a country's trade data. Another method, domestic resource cost, can also be used, but would require detailed field work not available for this report.

The RCA based on trade data can be determined either quantitatively using the Balassa index, after Balassa (1965), or qualitatively by inspection of detailed import data. The Balassa index is an index that shows the relative advantage or disadvantage of a country in exporting a commodity as revealed in its actual export patterns relative to those of all other countries in the world. It is defined as follows:

$$RCA = (E_{ij} / E_{iw}) / (E_{wj} / E_{wn})$$

Where E_{ij} refers to exports of commodity j by country i; w is the set of countries; and n is the set of all commodities. A country has an RCA in commodity j if the RCA is greater than 1 and a comparative disadvantage in commodity j if the RCA is less than 1.

Another approach which also relies on trade data is a careful review of a country's imports to identify sectors that require only small investments and have limited economies of scale and could thus benefit from domestic manufacturing. In this case, imports are used as a proxy for domestic demand, and therefore the issue is whether domestic supply is capable of producing such competitive products.

For new products, the concept of latent comparative advantage, as introduced in Lin (2009), can be used to identify new industries that are likely to be consistent with a country's comparative advantages. The most precise way of applying latent comparative advantage is found in Lin and Monga (2011): the growth identification and facilitation framework. The Lin-Monga framework proposes a six-step process for identifying industries in which developing countries may have latent comparative advantages and for creating the conditions and removing the constraints that impede the emergence of these industries. The criteria used in the growth identification and facilitation framework are useful for low-income countries such as Bangladesh.

Step 1: Governments should first identify tradable goods and services that have been produced for about 20 years in dynamically growing countries with similar endowment structures and with per capita incomes about twice their own.

Step 2: Among industries producing the goods and services identified, governments may give priority to those that domestic firms are already producing and try to identify any obstacles preventing these firms from upgrading their products or any barriers limiting entry by other firms. This could be done using a combination of methods such as value chain analysis or the growth diagnostic framework proposed by Hausmann, Rodrik, and Velasco (2005). Policies could then be implemented to ease the constraints using randomized controls to test the effectiveness of the policies as they are scaled up to the national level (Duflo 2004).

Step 3: Some of the industries identified may be completely new to domestic firms. In such cases, governments could encourage firms in the higher-income countries identified in the first step to invest in these industries. These firms would have incentives to relocate their production to lower-income countries to take advantage of lower labour costs. Governments in the lower-income countries could also create incubation programs to encourage private domestic firms to enter these industries.

Step 4: In addition to the identification of goods and services in the final step, developing- country governments should pay close attention to successful discoveries by private sector and support the expansion of these industries.

Step 5: In developing countries with poor infrastructure and unfriendly business environments, governments should invest in industrial parks and export processing zones as well as make other improvements that attract investments by both domestic and foreign firms. Industrial parks and export processing zones also encourage industrial clustering.

Step 6: Governments may also provide incentives to domestic pioneer firms or foreign investors that work in the industries identified in the first step to compensate for the nonrival public knowledge created by their investments. Such incentives should have limited timeframes and costs and may take the form of corporate income tax holidays, directed credits to co-finance investment, or priority access to foreign reserves to import key equipment.

The industries identified through the above process should be consistent with a country's latent comparative advantage. Once pioneer firm enters successfully, other firms will enter these industries. Government's facilitating role is mainly limited to providing information, coordinating hard and soft infrastructure improvements, and compensating for externalities. Government facilitation through the above approach is likely to help developing countries tap into the potential advantages of backwardness and achieve dynamic, sustained growth.

The framework postulates that, while a country's natural endowments, including its infrastructure, are fixed at a specific time and determine its comparative advantage at that time, these endowments change over time in a rapidly growing country. Thus, the comparative advantage of a successful country is dynamic (Grossman and Helpman 1991; Krugman 1987; Lin 2009; Lin and Chang 2009). Some of a successful country's dynamically growing industries will lose their comparative advantage as the economy's endowment structure upgrades. For instance, Hong Kong shifted from a garment and electronic component assembly centre in the 1980s to a high-technology and financial services economy

by the late 1990s. The garments moved over the border to Shenzen and beyond, and even these are beginning to close down as wages rise in Guangdong and the switch occurs to more value-added industries and services.

These sunset industries will then become the sunrise industries of latecomer countries that have lower income levels, less capital-intensive endowments, and, therefore, a latent comparative advantage in the industries. For example, in Fujian and Guangdong provinces in China, the industrial labour force swelled from 6 million in 1985 to 11 million at the end of 2001 (likely an understatement, given the large number of migrant workers) (Naughton 2007). Official data indicate that 83 million Chinese were employed in the manufacturing sector in 2002 (NBS).

Beyond its capacity to stimulate job creation, the strong connection between light manufacturing and trade also supports the development choice to focus on light manufacturing. The case for export-led growth is well established among developing countries (Chenery 1980; Commission on Growth and Development 2008; Harrison and Rodríguez- Clare 2010). Harrison and Rodríguez-Clare (2010) find that export-oriented countries have grown more rapidly, though establishing causality is difficult. Trade also enables developing countries to take advantage of the important learning that is derived from exposure to global competition and then to import the skills and technology necessary to move up the value chain.

Bangladesh, together with many other low-income countries, has the necessary inputs for a competitive light manufacturing sector: a comparative advantage in low-wage labour (at the proper exchange rate), abundant natural resources sufficient to offset the lower labour productivity compared with their Asian competitors, privileged access to high-income markets for exports, and a sufficiently large local or regional market to allow emerging producers to develop capabilities in quick-response.

These countries can follow the course pioneered by a succession of Asian countries by accelerating the realization of latent comparative advantage in segments of light manufacturing in which specific, feasible, sharply focused, low-cost policy interventions can deliver a quick boost to output, productivity, and perhaps exports, opening the door to expanded entry and growth.

But what activities can Bangladesh pursue? This report makes the case that, in the current situation, simple light manufacturing goods remain a viable option for urban dwellers. Urban- rural links mean that urban livelihoods are also important for the rural poor. Migration to urban centres, particularly secondary cities and rural towns, is an important livelihood strategy for rural people. This is illustrated by data from a rather unique panel study tracking more than 3,300 individuals in households in rural Kagera, Tanzania, during 1991/94–2010 (World Bank 2014). The study shows that half the individuals interviewed in 1991/94 who had exited poverty by 2010 did so by transitioning out of agriculture into the rural nonfarm economy or secondary towns; one in three exited poverty, while continuing in farming; and only one in seven through migration to the capital or other big cities. The urban economy, in turn, provides crucial goods and services that can help increase the productivity of rural economies and agriculture.

Annex 3 – Application of the analytical framework to identify Bangladesh's new exports

Revealed Comparative Advantage (RCA) to construct two categories of exports for Bangladesh. From an export basket of over 500 products, this step constructs two subsets of exports. It finds that Bangladesh had a comparative advantage in 2015 (RCA > 1) in about 65 manufactured products. . About 40 of these products belong to the Garments and Textiles and fabrics subsectors collectively called RMG which account for more than 80 percent of all manufactured exports. These 65 products can be divided into Traditional exports such as Garments and Textiles, and new or Emerging exports.

1. **Traditional exports are defined as products in which Bangladesh had a RCA> 1 in both 1990 and 2015-16.** An examination of China's export basket reveals that there are several dozen products *within* the Garments and Textiles and fabrics subsectors which Bangladesh does not currently produce – these are relatively low hanging-fruit as they too are labour-intensive and low-wage, though it should be noted that such a strategy would lead to a further concentration of its exports in Garments and Textiles.
2. *Emerging exports are defined as products in which* Bangladesh did not have a RCA>1 in the 1990s but developed an RCA>1 after 2010. The subsectors do not include RMG (which are Traditional exports). They include about 5 – 6 subsectors each of which exports a few products. We further divide the Emerging exports into two categories of products: (i) existing Emerging Bangladeshi exports which include all products in this larger Emerging export set; and (ii) potential Bangladeshi exports which currently do not exist. We search for them in China's Low-tech exports sectors. These are large in number and cover many Emerging sub sectors in Bangladesh because they are similar.

Methodology for finding new exports for Bangladesh from China's current export basket. We first turn to Chinese exports and isolate a large set of about 140 Low-Tech products popularly termed LT1 and LT2. These are under pressure from rising Chinese wages. Given that Bangladesh still enjoys significantly lower wages than China, it could diversify into some or all of them. The menu it can choose from is large and summarized in text Table 5.

Text Table 5 presents the large set of Low-Tech products that employ low-skills and are low-wage. Several issues are important in sector-selection. Note that the RCA for each product enables comparisons between 1990 and 2016. A striking feature of the trends in RCAs is that in spite of the wage pressures, China's RCA in labour-intensive exports has been fairly resilient to wage pressures. For most products the RCA is well above 1 which indicated that exporters are managing to do business despite higher wages. The lesson for Bangladesh is that low wages will not be sufficient to attract investments from China. Other critical factors will have to fall in place. Second, since 2010, the RCA has declined in some industries. These industries offer useful opportunities for Bangladesh to diversify into Emerging Sectors listed in Table 4. Examples include the product *Leather of other hides or skins in* the Emerging "Leather" subsector. China's RCA in 1990 and 2000 was greater than 1 but since 2010, it has declined to less than 1. While there aren't too many other examples in the data which is not fully available for recent years, the menu of potential products for Bangladesh in the low-wage, low-skill, low-Tech sectors are many (Table 5). Without a proper identification study of the type conducted for Ethiopia (Hinh et al,

2012), we are unable to pick from this large list of potential products for each of Bangladesh's <u>Emerging sectors which are Leather, Wood Products, Home and Office Products, Metal Products, Construction materials and equipment, and simple Electronics.</u>

Text Table 5 presents Options for diversifying Bangladesh's manufactured exports in Low-Tech subsectors in which China currently has a comparative advantage but is also facing rising wages.

- Low-Tech manufactures are defined as per the Technology content of exports definition (Lall, 2006) applied to SITC-4-digit UN COMTRADE data. Only LT1 and LT2 denoting low-tech1 and low-tech2 categories were selected as they are a good representation of low-wage, low-skilled labour-intensive manufactured products. China exports a large variety of Medium-Tech (MT1, MT2, and MT3) and High-Tech (HT1 and HT2) products that are not included as they require more sophisticated skills and production technologies. Primary products (PP) and Resource-Based (RB1 and RB2) are also excluded as they do not involve low-skilled labour.
- RCA denotes Revealed Comparative Advantage and is calculated using UN COMTRADE data. An RCA < 1 is set to value 0, while an RCA = or >1 is assigned a value of 1.