Chapter 5
Growth of Manufacturing Employment in the Changing Context of Trade and Trade-Related Policies

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Abstract The growth of the manufacturing sector has been considered as one of the key policy tools for the structural transformation of the Bangladesh economy and as a major mean for achieving full employment. Following (Jenkins and Sen, Oxford Development Studies 34:299–322, 2006), this study has tried to distinguish the impact of trade on employment through three distinct effects—*size*, *composition* and *process*. The analysis tends to suggest that no single type of effect reveals any clear pattern of growth in manufacturing employment due to trade. At the same time, domestic-market-oriented industries have also been contributing to employment growth. In other words, trade-related policies and measures are likely to have a *partial* role in influencing the nexus of growth of production, exports and employment. However, the study shows that attempts to create *exports at any cost* or to overly protect domestic industries are likely to engender policy biases, rent-seeking and corruption. In the backdrop of different kinds of market failures and problems of governance, the choice of policies with regard to enhancing employment should be well-calibrated with policy priorities to increase productivity and export, with appropriate emphasis on both domestic- and export-oriented industries. In view of COVID-19, the above mentioned initiatives need to be customised and refocused.

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5.1 Introduction and Objectives

Industrialisation, in general, and the growth of the manufacturing sector, in particular, has formed the basis of the key policy tools employed by the successive governments in Bangladesh for the structural transformation of the economy, and is imperative for achieving full employment in the country. Achieving full employment is one of the major goals of inclusive growth in an economy (Felipe 2012; Ali and Son 2007).[1] Most developing economies are confronted with a high and persistent incidence of unemployment and underemployment. While orthodox economists tend to attribute this to lack of competitiveness in the labour market (or distortions/mismatch of skills, lack of human capital, labour regulations, among others), there are others who consider different factors and systemic failures (for instance, slow growth of private investment and rise in capital–labour pricing, impeding the economy from adequate and sustainable job creation). Full employment in an economy enables the opportunity to all members of the active labour force to be productive and earn a decent wage. Pursuing and designing a full employment strategy would essentially lie in articulating a combination of economic policies (including macroeconomic) and social policies which would fully engage the labour force in expanding productivity and developing a necessary institutional framework for achieving simultaneously freely chosen, productive employment, fundamental rights at work and adequate income from work.[2]

The present study focuses largely on the impact of the manufacturing sector on the generation of productive employment, and the support provided by the trade policies toward industrialisation and employment in the manufacturing sector (henceforth manufacturing employment) in Bangladesh. It is fairly evident from the trends in the growth of the manufacturing sector that in Bangladesh, the sector's gross domestic product (GDP) has grown steadily since the mid-1990s, though its share is still relatively low compared to many of the Asian countries, and lower than what was achieved by the East Asian countries during their early periods of industrial expansion. Furthermore, in the context of the latter countries, the share of manufacturing in total employment was nearly twice as that of Bangladesh's share of manufacturing employment (14.4% in 2016). In accordance with Kaldorian hypothesis and historical observance, the growth of manufacturing employment is the catalyst to structural transformation. In the High-Performing Asian Economies (HPAEs), manufacturing employment, productivity and wages grew in tandem. As Table 5.1 shows, while wages in Bangladesh's manufacturing sector grew to some extent, there was negative growth in employment. The share of manufacturing is not only inadequate, but

[1] According to Ali and Son (2007), full employment and productive employment are two primary factors that determine inclusive growth. Referring to the example of the Philippines, the paper indicates that a high level of structural transformation where workers shifted from low-productive to high-productive sectors, has contributed to economic growth and poverty reduction in the Philippines.

[2] See among others, Muqtada (2010).

Table 5.1 Manufacturing wage and employment growth

Component	2013	2016	2017	Average yearly changes between 2013 and 2017 (%)
Average monthly income (wage) in manufacturing (BDT)	11,703	12,380	12,068	0.78
Total employment in manufacturing (in thousand)	9,500	8,595	8,800	−1.84

Source BBS (2018)
Note In the previous surveys, average monthly income was not reported in similar patterns

has also been declining in the recent period. Between 2013 and 2016, it fell from 16.4 to 14.4%. The share had again increased slightly in 2017, but was still lower than that of 2013.

During the post-colonial period, most of the developing countries embarked on a process of industrialisation with objectives that ranged from consolidation of economic independence, enhancing productivity and generating productive jobs to absorb the high surplus labour observed in the agriculture sector. By and large, these economies pursued a path of import-substituting industrialisation (ISI) through preferential treatment to imported machinery, access to capital, overvalued exchange rate, high protection and quantitative restrictions. The ISI strategy, as subsequently documented, led to high capital intensity, low labour absorption and high social costs, and failed to deliver on the primary objective of generating adequate productive jobs.[3] While many South Asian countries continued to operate with inward-looking policies with some shift of policy emphasis toward small and less capital-intensive industries, the East Asian countries, in particular, swiftly shifted to outward policies, and adopted what came to be subsequently known as the *labour-intensive, export-oriented industrialisation (EOI) strategy*. Prices, policies and institutional mechanisms were set in place for domestic production and resource structure to take advantage of the trade boom of the period, and of the rising export opportunities for labour-intensive manufacturing goods.[4] The success of attaining full employment through a labour-intensive EOI strategy however, was dependent on several contingent factors, especially on the growth and patterns of global trade during the period, flow of foreign direct investment (FDI), and how individual countries, through easing of their respective supply constraints were poised to take advantage of these factors. Analysts have pointed out that fortuitous circumstances, trade liberalisation and greater export orientation alone will neither automatically ensure industrial *take-off*, nor will guarantee a state of full employment. Furthermore, the international environment for investment and industrialisation is fast changing, viz. trading environment, influence of trading blocs, technology, value chains and FDI patterns. While these

[3]For a detailed evaluation of ISI during that period, see Little et al. (1970), Bruton (1970).

[4]See for example, World Bank (1993), Khan (2007).

have influences on the domestic environment, both through resource and technology availability, as well as transaction costs, there are many other supply constraints that may inhibit such an industrialisation process.

While the East Asian (and some of Southeast Asian) countries and China have attained rapid structural transformation and full employment—most developing countries are yet to do so. Bangladesh is one of those countries requiring structural transformation and full employment. It may be noted that Bangladesh has undertaken significant trade liberalisation reforms starting from the mid-1980s, and has expanded export earnings quite significantly. Yet, as will be examined in detail below, the extent and pattern of industrial growth, and more importantly, the share of industrial/manufacturing employment is less than encouraging, especially compared to the HPAEs. EOI labour-intensive industrialisation is commendable, but this is a strategy for which a comprehensive trade and industrialisation strategy is required. While comparisons are not always useful, it may be instructive to look into the trade and industrialisation policies of Vietnam and Bangladesh. Starting from the mid-1990s till approximately 2019, export earnings of Vietnam and Bangladesh have increased at a disproportionate rate which reached USD 264 billion in Vietnam and USD 40.5 billion in Bangladesh during 2019; FDIs (registered) amounted to USD 38.2 billion in Vietnam and less than USD 3.2 billion in Bangladesh in 2019. On the other hand, while the share of industrial employment grew in Bangladesh from 10% in 1996 to 14.4% in 2010, it rose from 11 to 20.2% in Vietnam over the same period. Vietnam undertook various other policies that intermediated between trade reforms and helped the economy to diversify. The export concentration ratio for Vietnam declined from 0.2 in 1990 to about 0.14 in 2016; whereas during the same period, the ratio for Bangladesh increased from 0.34 to 0.4. Vietnam diversified vigorously towards technology, mobile phones and electrical machinery; whereas Bangladesh continued to depend overwhelmingly on readymade garments (RMG) and textiles. These are indicative of differential achievements with fairly similar liberalisation strategies. The examples tend to suggest that while trade liberalisation is significant in enhancing trade openness to facilitate industrial and job growth, there is no automaticity about it. Furthermore, while the expansion in exports is undoubtedly critical to industrial growth, the stance of *exports at any cost* that may often lead to policy biases, price distortions and rent-seeking, has come under serious scrutiny.[5]

As shall be observed later, while Bangladesh's manufacturing growth was initially related to labour-intensive export growth, it would be tendentious to suggest that Bangladesh had a prior strategy and structured policies to pursue an EOI labour-based industrialisation policy. There have been various fortuitous circumstances which have been subsequently supported by trade reforms and other public policies. Nevertheless, growth in the manufacturing sector in the past decades followed two distinct streams—growth of export-oriented industries and growth of domestic-market-oriented/import-competing industries. Major development policies emphasised on the growth of both streams of industries. However, their impact on growth of

[5] See Mazumdar (2008) for a general scrutiny of an unchallenging acceptance of the EOI strategy; Khan (2007) for a rise in policy biases in the trade regime of Bangladesh.

production, export and employment has been different for different industries. More specifically, trade policies and related measures influence the nature and growth of employment in different manufacturing industries in different ways. This chapter intends to examine, albeit in a limited scope, the nature of the growth–export–employment nexus in the manufacturing sector over the last few decades, and how that growth was influenced by trade-related policies and measures.

Based on the secondary data, the chapter presents some perspectives in the context of different sub-sectors of the manufacturing industry, such as: (a) categorising different sub-sectors in terms of their level of export orientation, viz. *highly export-oriented*, *moderately export-oriented* and *low export-oriented* industries; (b) conducting an in-depth analysis of the growth of production and export of different categories of industries and their implications on employment; and (c) undertaking an analysis of changes in employment with regard to level of labour- and capital-intensity in different sub-sectors. Based on these analyses, the study tries to appreciate the possible impact and implications of different policies (and trade-related policies in particular) on changes in employment in the manufacturing sector during the 2000s.

5.2 Practices of Trade-Related Policies in Different Categories of Manufacturing Industries

Bangladesh embarked on trade liberalisation reforms more than three decades ago, starting from the late 1980s. The various reforms which were consistent with the overall macroeconomic stabilisation policy framework supported the growth of exports and imports substantially, as observed in the expansion of the trade openness indicator. It increased from a low of 16.1% of GDP in 1987 prior to the reforms, to 38.2% in 2018. It is observed that trade policy appears to have a favourable impact on the growth of local industries (both domestic- and export-market-oriented) which were expected to have a positive impact on employment. As will be examined later, the results have been mixed, and it is difficult to identify a precise correlation between tariff reduction and employment outcomes in various sub-sectors of manufacturing, whether export-oriented or import-substituting. Within the manufacturing sector, some sub-sectors are more labour-intensive compared to others. One strategic approach towards promoting labour-intensive manufacturing growth is to implement sub-sector-based policies and measures. However, this sub-sector-specific approach towards policy analysis has to be viewed critically as various sub-sectors of the economy are integrated with one another, and one sub-sector might have competing interest with another.

5.2.1 Export-Oriented Industries

Nevertheless, successive governments took measures under the broader economic liberalisation initiative to induce the growth of the labour-intensive manufacturing sector. The main objective of the policies was to promote export-oriented industries by removing the anti-export bias in the economy. These policies had significant implications on exports and employment in one particular sub-sector, i.e. RMG. The policies included duty-free access to imported inputs, the reduction in tariff levels and a number of tariff rates, streamlining and simplification of import procedures, provision for financial assistance on traditional exports, tax rebates on export earnings and concessionary duties on imported capital, accelerated depreciation allowance and excise fund refund on domestic raw materials and inputs, and proportionate income tax rebates of at least 30% on export earnings.

During FY2004-05, the government took bold tariff measures for promoting the country's textile sector as the backward linkage industries of the RMG sector. It proposed a reduction in the existing rates of duty on most of the raw materials and essential machinery and spares needed by this industry. The number of Harmonized System (HS) 8 digit level items for the textile sector, which would enjoy duty-free and value added tax (VAT)-free import, was 34. Considering the importance of the textile industry as a backward linkage industry of the RMG sector, which was under tremendous pressure at the advent of the Multi Fibre Arrangement (MFA) phase out, the government proposed to reduce the income tax for the sector from 20 to 15%.

During FY2005-06, one positive move was that import of spare parts, dyes and chemicals for RMG had been zero-tariffed. An initiative had been taken to formulate a programme titled Post-MFA Action Program at the cost of USD 40 million, with assistance from development partners. In FY2004-05, the government allocated BDT 30 crore for retaining retrenched garment workers. As a token of proactive fiscal measure towards increasing employment opportunities, the budget proposed setting up a special fund of BDT 20 crore for retraining and creating employment opportunities for employees/labourers of the RMG industry.

In FY2006-07, the government again allocated an additional BDT 30 crore for retraining retrenched garment workers in continuation of the previous year. Considering the huge demand for workers in the RMG sector, such funds for retrenchment were not necessary. During FY2007-08, the government provided support to the textile sector by withdrawing import duty on textile machinery along with other items.

In FY2009-10, the government extended the tax holiday facility, in a staggered manner, for new industries to be set up between July 2008 and June 2011, which include textiles and RMG enterprises. Also, the government earlier announced a special package of BDT 3,424 crore for FY2008-09 targetting industries affected by the Global Financial Crisis (GFC). A second package was announced at the time of the budget for FY2009-10 with an allocation of BDT 5,000 crore. In 2011, it became apparent that the textiles and apparels had been among the most adversely

affected sectors due to the GFC, particularly in FY2009-10. The government allocated BDT 2,000 crore under the second stimulus package as part of providing support to encourage export diversification (5% additional cash incentive in FY2008-09, 4% for FY2010-11 and 2% for FY2011-12); 5% additional cash incentive for small and medium-sized enterprises (SMEs) against their apparels export in FY2008-09; and 10% cash incentives on electricity bill for FY2009-10 for SMEs which did not have captive generator facility.

In FY2011-12, the budget proposed the increase of supplementary duty (SD) on the import of all kinds of fabrics and RMG articles from 20 to 45%. This enhanced the protection available for domestic-market-oriented apparel industries. At the same time, the proposed measure to continue with 5% regulatory duty (RD) on the import of finished products (along with 25% import duty) was also likely to help protect the local industry.

5.2.2 Domestic-Market-Oriented Industries

Besides the textile and RMG sector, the government provided support to domestic-market-oriented industries—it proposed to impose VAT on processed, and primarily agricultural products like fruit, pulp and paste, packed spices in powdered form, flavoured milk and yoghurt, etc. In order to give a further boost to the dairy and poultry industry of the country, the government proposed to withdraw customs duty (CD) and VAT on 87 capital machineries needed for this sector. The government continued the allocation in the Equity Entrepreneurship Fund (EEF) in FY2004-05. This fund was reserved for providing equity support to computer software, food processing and agro-based industries. It is to be mentioned that the system and framework of EEF was restructured.

The agro-based industry and paper industry received priority in FY2006-07. An analysis shows that the proposed budget increased allocation for credit support under the agro-based industries programme from BDT 100 crore in the previous budget, to BDT 150 crore. Budgetary allocation under the Equity Development Fund (EDF) was increased from BDT 100 crore in the revised budget of FY2005-06, to BDT 200 crore in FY2006-07. The government extended the benefit of tax exemption and rebate to agro-processing, jute and textile industries up to 30 June 2008 which was a positive measure for the promotion of agro-based industries. In the budget for FY2006-07, SD of 15% was imposed on the import of advertising materials, commercial catalogues, etc. This would support domestic paper industries. The domestic tiles industry was actively promoted by the government, which is complementary to the booming construction sector. For this, the government decided to reduce SD on locally manufactured tiles from 20–5%.

The FY2009-10 budget proposed changes (reduction/increase) in CD, SD and VAT for various imported raw materials, intermediate products and finished products, which were likely to raise the effective rate of protection (ERP) for domestic industries. According to CPD (2010), these would not substantially affect total tax

incidence (TTI); CPD estimated a decrease by (−) 1.5%. Increasing SD for various imported materials was also suggested, which was expected to aid import-substituting industries.[6]

Apropos CPD (2011), various fiscal measures favourable to import-substituting industries were proposed, especially those involved with manufacturing electronic items and vehicles. These fiscal measures, particularly the time-bound ones, were positive for the investment climate in the domestic electronics industry. As indicated in the budget, this initiative was aimed at protecting the interest of domestic industries by enhancing the ERP for import-substituting industries, and discouraging import of those commodities. For the same purpose, 5% RD had been imposed on 43 items (at 8 digit level) that are eligible for paying 10% CD, but not treated as intermediate goods. On the other hand, RD had been exempted for eight items (at 8 digit level) which were to pay 25% CD. However, these items are treated mainly as intermediate goods. Different sectors were benefitted from the revised duty structures of the national budget of FY2013-14. SD on import of milk powder and ceramic bathroom fittings had been made zero. The domestic ceramics industry was a promising one and reducing import duties could hurt the industry.

In order to ameliorate the competitiveness of emerging local products in the domestic market (such as glass and ceramics) against imported ones, the national budget for FY2013-14 proposed to increase SD (such as on the import of float glass in the glass industry) to render imported products (e.g. glass) more expensive in the domestic market (CPD 2014).

There is scant analytical comparative assessment of the relative influences (*biases*) of the liberalisation and tariff strategy on the growth of domestic-market- and export-oriented industries. From among the latter, it is evident that the RMG in particular has received various forms of policy and fiscal support. It has grown substantially, and has dominated the export share of manufacturing exports. Notably, RMG exports as percentage of total exports was 3.9% in 1983–84; it was 83.9% in 2019.

Despite the rapid achievements of the RMG sector, Bangladesh has not quite succeeded in establishing an EOI labour-intensive industrialisation strategy that would significantly absorb the 2 million net additions to the workforce and move the economy towards full employment similar to the HPAEs. For various reasons, no other sub-sector has been able to follow the RMG trail, an issue that requires closer scrutiny. Whether it is the alleged anti-export biases and/or the protection structure towards import-substituting industries, the employment outcomes appear to be inadequate.

[6]For details, see CPD (2010).

5.3 Full Employment Through Implementing Trade Policies: A Review

The foreign and domestic trade environments not only affect the demand for labour in the economy, but also the skill composition and workers' wages of the existing labour force, as higher industrialisation is expected to result in more skilled jobs. Policies towards foreign trade, as many experts have pointed out, are among the most important factors for promoting economic growth and development (Fischer, 2000). These policies also shape the structure and growth of employment. According to Puyana (2011), trade liberalisation would increase the elasticity of employment. However, such a relationship could be constrained if there is low labour absorption in the industrial sector owing to increasing incentives towards capital intensity and undue protection under cover of import substitution policies (Nassar 2010). Trade policies, including export and import policies, focusing on export diversification have an impact on economic growth and employment. International competitiveness also plays an important role for the smaller economies as their higher level of economic growth is dependent, among others, on international trade and investment.

There are various empirical studies that document the interlinkages between trade liberalisation, exports and their impact on employment, skills and wages. Trade and market openness can have a positive effect not only on boosting economic growth, but also on the total employment in an economy (OECD 2012). In the OECD study, the 14 main multi-country econometric studies show that trade plays an independent and positive role in raising incomes. The higher wages attract a higher number of workers in the formal and more productive sectors, leading to an overall increase in employment.[7] Orbeta (2002) shows that an increase in the propensity to export shifts the demand for labour upward. In terms of the employment structure, the impact of openness on the proportion of women workers is not significant at the aggregate level, but is a boon for them at the manufacturing sub-industries level. An increase in export propensity also leads to an increase in the proportion of low-skilled production workers both at the aggregate and manufacturing sub-industries level.

Feliciano (2001) using micro-level data, analyses the impact of trade reform on Mexican wages and employment. Industries that had greater reductions in protection levels had a larger percentage of low-skill workers. On the other hand, wage dispersion increased in both the non-tradable sector, and to a much greater degree, in the tradable sector. This pattern suggests that trade reform increased wage inequality. The decline in import license coverage led to a reduction in the relative wages of workers in reformed industries by 2%, but did not affect the relative level of employment. Reductions in tariffs had no statistically significant effect on relative wages or relative employment. In general, while studies show that increased competition through trade liberalisation actually contribute towards the goal of full employment as the economies experience higher labour productivity (Krugman 1981; Melitz 2003), the above trade impacts are difficult to generalise.

[7] According to the study, in order to increase productivity, employment and economic growth, it is important to protect the workers' rights rather than promote protectionist policies to protect jobs.

On the other hand, Rodrik (2008) stressed on the importance of *effective industrial policy* to correct the market failures pertaining to the markets for labour, credit, products and knowledge. The study argues that industrial policy allows the government to target where the industry is failing in an effort to make a correction and create more indirect demand for labour in both the domestic and foreign markets. The chapter further posits that interventions through industrial policies are necessary to overcome market failures and allow the countries to catch up with the other economies in terms of industrial development and export competitiveness. Lall (2004) found that the differences in industrial competitiveness are among the main causes of disparities in income in the Asian economies. Trade liberalisation may result in skills acquired (by both men and women workers) and gender sensitivity among all workers. However, trade openness of an economy is not necessarily able to address the market failures, particularly with regard to labour, credit, products and knowledge. Hence, government intervention through effective industrial policy could attempt to address those market failures, especially the one concerning job generation. Of course, for the latter, various other policies must come into play. Macroeconomic stability, particularly through price stability, is considered to be pivotal for addressing the full employment issue.

Examining the various issues raised above is a tall order, and beyond the scope and space of the present chapter. According to Jenkins and Sen (2006), trade affects manufacturing employment in three ways: (a) impact on output of the manufacturing sector, and thereby positively impacting employment (called *scale effect*); (b) rise in output of exportables by replacing output of importables, and thereby positively contributing to employment (called *composition effect*); and (c) changes in labour coefficients within industries, and thereby positively impacting employment (called *process effect*). Using both aggregate and sub-industry-level manufacturing data, the study provides some insights, on these various effects and their implications for policy design. Diagram 5.1 presents a schematic relationship between trade and employment in the manufacturing sector.

5.4 Overview of Manufacturing Employment: Structure, Composition and Growth

5.4.1 Overall Employment Structure in Bangladesh Economy

The Bangladesh economy has experienced a major change in the structure and composition of employment over the last decades. Although the rate of labour force participation did not change much (around 58%), the level of employment has considerably increased—from 39 million in 2000 to 60.8 million in 2017 (Table 5.2). However, both overall and sectoral growth of employment have slowed down over the years. A relatively higher level of employment growth was observed in case of manufacturing and services sectors; in contrast, employment growth in the

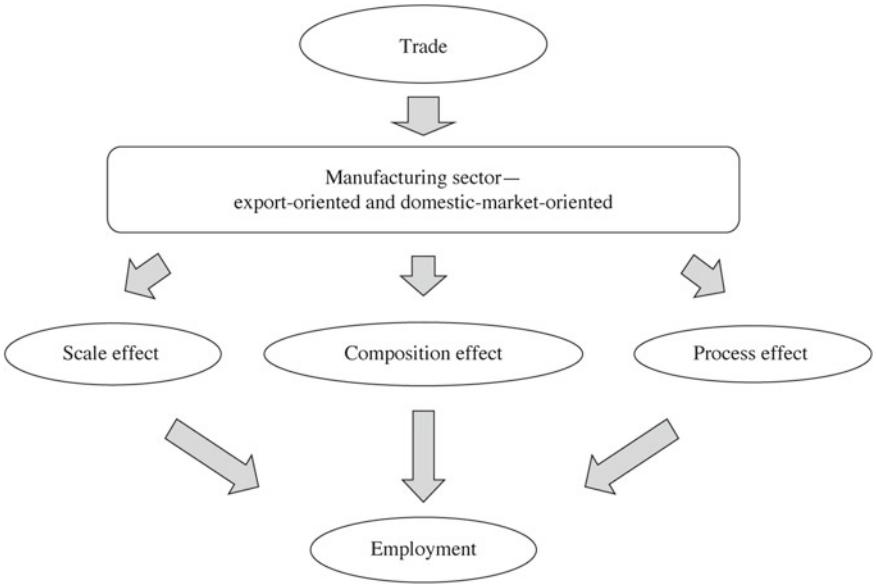

Diagram 5.1 Relationship between trade and employment in the manufacturing sector. *Source* Prepared by authors based on Jenkins and Sen (2006)

Table 5.2 Employment by broad economic sectors

Sector	2000	2006	2010	2013	2015–16	2016–17
Employed by broad economic sectors (million)						
Agriculture	24.2	22.8	25.7	26.2	25.4	24.7
Industry	4.0	6.9	9.6	12.1	12.2	12.4
Services	9.2	17.7	19.1	19.8	22.0	23.7
Total	39.0	47.4	54.1	58.1	59.5	60.8
Composition by broad economic sectors (%)						
Agriculture	62.1	48.1	47.6	45.1	42.7	40.6
Industry	10.3	14.5	17.7	23.0	20.5	20.4
Services	23.5	37.4	25.5	32.0	36.9	39.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Year-on-year percentage change (%)						
Agriculture	-	−0.9	3.2	0.6	−1.0	−2.8
Industry	-	12.1	9.8	8.7	0.3	1.6
Services	-	15.4	1.9	1.2	3.7	7.7
Total	-	3.6	3.5	2.5	0.8	2.2

Source Authors' calculations based on BBS (2018)

agriculture sector had slowed down and ultimately reached negative terrain in recent years. Overall, the structure of employment has changed and shifted from agriculture to non-agriculture sectors, particularly in the manufacturing and services sectors. Despite the slowdown of employment growth in agriculture, it still accounts for the largest share of employment.

These changes in the structure and composition of employment denote: (a) a higher level of economic growth over the years could not ensure a similar level of growth in employment, rather employment growth has stagnated over the years; (b) the gap between sectoral GDP growth and employment growth is higher in case of the manufacturing sector; and (c) shifting employment from agriculture is still slow due to limited scope of employment generation in the non-agriculture sector. Hence, it is important to explore the strengths and weaknesses in the manufacturing sector with regard to scope of employment generation in order to ensure inclusive development.

Rise in manufacturing employment has largely been driven by the robust growth of the RMG sub-sector over the last three decades. The overall employment in the manufacturing sector was about 8.8 million in 2016–17 which was only 3.7 million in 1999–00; in other words, manufacturing employment has increased by 137% within 17 years, or on average 8.1%, annually. This is mainly attributed to the gradual rise of the RMG sector which constituted over 40% of total manufacturing employment. In 2017, the share of employment of RMG workers was about 45.4% of total employment. Such an overwhelming contribution of the RMG sector makes the dynamics and changes in manufacturing employment dependent on the performance of a single sector. A robust growth of employment in the manufacturing sector requires the growth of numerous labour-intensive *RMG-like* sectors with an export capacity of over USD 5–10 billion which could help to diversify the employment base in the manufacturing sector.

5.4.2 Structure of the Manufacturing Sector

The change in manufacturing employment is directly linked with its structure, composition and growth of the sector. The manufacturing sector comprises of sub-sectors which are either export-oriented or domestic-market-oriented. The majority of enterprises in different sectors are domestic-market-oriented (Fig. 5.1); industries which are fully domestic-market-oriented include coke and refined petroleum, machinery and equipment, motor vehicles and trainers, installation of machinery and recycling, etc. Industries which are exposed more to export market include RMG (95% of total production), transport equipment (82%), leather and leather goods (74%) and textiles products (57%). A part of enterprises of other sub-sectors is also exposed to export markets, such as paper and paper products, computer, electronic and optical products and electrical equipment, etc.[8]

[8]Lack of exposure to the export market is likely to happen due to limited capacity of these sub-sectors to participate in the export market.

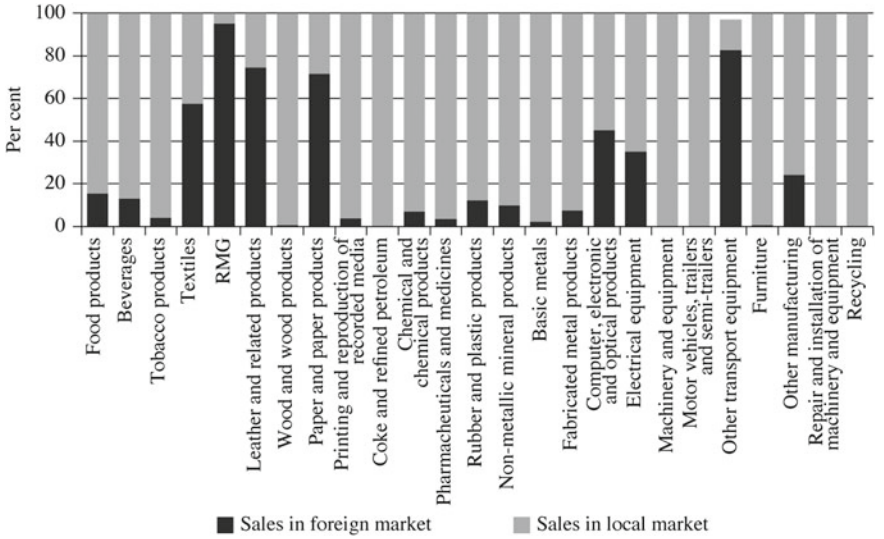

Fig. 5.1 Ratio of market exposure of different manufacturing industries. *Source* Authors' calculations based on BBS (2010, 2013)

The structure and composition of the manufacturing sector is still overwhelmingly dominated by the RMG and textiles industries, which accounted for 33.7 and 13.3% of total value-added of the manufacturing sector in 2012 for RMG and textiles, respectively. However, RMG has lost its market share over time (from 38.5% in 2000 to 33.7% in 2012). In fact, other traditional manufacturing industries have also lost their shares, such as food processing (from 18.2 to 11.3%), tobacco products (8 to 2%), chemical products (from 5.5 to 1.6%) and pharmaceuticals (from 4 to 2%). In contrast, a number of non-traditional industries have been growing in the country which include basic metals (0.01 to 16.8%), non-metallic products (from 4.1 to 6.5%), rubber and plastic products (from 0.4 to 0.9%) and computer, electronics and optical products (from 0 to 0.7%), etc. Most of the other industries are either stuck at the same level or have declined in terms of market share; these include beverages, leather, paper products, fabricated metal products and transport equipment. Overall, the manufacturing sector has experienced compositional changes both in case of traditional and non-traditional industries, and these are likely to have impacts on employment as well.

The present study divides the manufacturing sector into three categories: (a) highly export-oriented industries (herein after HEIs); (b) moderately export-oriented industries (MEIs); and (c) low export-oriented/domestic-market-oriented industries (LEIs).[9] Table 5.3 presents the list of industries under these categories. The contribu-

[9]HEIs—if the share of sales of a particular industry in the foreign market equals or exceeds 40% of total market sale in 2012; MEIs—if the share of sales of a particular industry in the foreign market

Table 5.3 Share of total manufacturing outputs (%)

Category of industry	Share of total manufacturing outputs		
	2000	2005	2012
Highly export-oriented	*44.4*	*56.4*	*50.9*
RMG	37.8	38.0	33.7
Leather	2.1	1.5	1.4
Other transport equipment	2.9	1.2	0.7
Paper products	0.9	0.8	1.1
Textiles	0.7	14.9	13.3
Computer, electronic and optical products	0.0	0.0	0.7
Moderately export-oriented	*26.1*	*16.2*	*16.1*
Electrical equipment	5.7	0.6	2.7
Other manufacturing	0.0	0.1	0.2
Food	18.2	13.2	11.3
Beverages	1.8	0.2	1.0
Rubber and plastic products	0.4	2.1	0.9
Low export-oriented	*29.6*	*27.3*	*32.9*
Non-metallic mineral products	4.1	8.5	6.5
Fabricated metal	2.1	0.6	1.3
Chemical products	5.5	1.8	2.6
Tobacco products	8.2	5.9	1.6
Recorded media	3.9	2.1	0.2
Pharmaceuticals, medicinal chemical and botanical products	4.0	6.2	2.1
Basic metals	0.0	0.6	16.8
Furniture	0.7	1.4	0.7
Wood and cork	0.3	0.0	0.1
Petroleum products	0.3	0.1	0.1
Machinery and equipment	0.0	0.0	0.2
Motor vehicles, trailers and semi-trailers	0.5	0.1	0.7

Source Authors' calculations based on BBS (2010, 2013)

tion to manufacturing GDP is highest for HEIs, followed by LEIs and MEIs. Interestingly, the contribution of export-oriented industries to the GDP has weakened, while that of domestic-market-oriented industries has increased over time. During 2012, the share of HEIs was 50.9%, which was mainly driven by the production of RMG and textiles. The contribution made by the LEIs had progressed significantly—their share to manufacturing GDP had increased from 6.6% in 2001 to 24.4% in 2012.

equals or exceeds 10%, but is less than 40% of total market sale in 2012; LEIs—if the share of sales of a particular industry in the foreign market is less than 10% of total market sale in 2012.

These LEIs are largely domestic-market-oriented industries, such as basic metals, non-metallic mineral, chemical, pharmaceuticals and tobacco products. Hence, the dynamics and changes in the structure of manufacturing employment need to be explained both through the sectors' orientation to export, as well as their orientation to domestic market.

5.4.3 Export of Manufacturing Goods

The export of manufacturing goods is still highly concentrated in a limited number of products; for example, woven and knit garment products account for 81.6% of total exports (Table 5.4). However, an intra-RMG compositional change is discerned with the share of woven products declining (from 49.8% in 2003 to 41.9% in 2017) vis-à-vis a rising share of knit products (from 25.3% in 2003 to 39.7% in 2017). In case of non-RMG products, the share of leather and leather goods has increased (from 2.9 to 3.6%), while the share of other export products, such as jute goods, footwear and handicrafts, has declined. The structure of export is measured by the

Table 5.4 Export of different manufacturing industries

Export item	Share of total export					
	2002–03	2004–05	2009–10	2014–15	2015–16	2016–17
Export of manufacturing goods (million USD)	6,086	8,006	15,517	29,922	21,318	22,009
Share of manufacturing goods (%)	100.0	100.0	100.0	100.0	100.0	100.0
Woven garments	49.8	41.6	37.1	41.9	43.2	41.9
Knitwear	25.3	32.6	40.0	39.8	39.0	39.7
Leather	2.9	2.6	1.4	2.1	3.4	3.6
Jute goods	3.4	3.6	4.9	2.9	2.2	2.3
Chemical products	1.5	2.3	0.6	0.4	0.4	0.4
Footwear	0.7	1.0	1.3	2.3	0.6	0.7
Ceramic products	0.3	0.3	0.2	0.2	0.1	0.1
Handicrafts	0.1	0.1	0.0	0.0	0.0	0.0
Others	16.1	16.1	14.5	10.4	11.1	11.3

Source EPB (n.d.)

Export Concentration Index (ECI).[10] The ECI value or the Herfindahl–Hirschman Index (HHI)[11] of Bangladesh is rather high (0.6), which is largely influenced by the high export share of RMG products; however, it has changed very little over the last several years. Between 2004 and 2014 Bangladesh's ECI had increased by 7.6%, but the rise has slowed down in recent years.

Different categories of industries have experienced different levels of export growth during 2001–2012 (Table 5.5). The average yearly export growth in case of MEIs was found to be higher (111%) compared to that of HEIs (32.8%) and LEIs (79.7%). Relatively high export growth in case of MEIs and LEIs is partly owing to their low export-base compared to that of HEIs. Among the HEIs, export growth is higher for industries such as textiles, paper products and transport equipment; on the other hand, among MEIs, high growth is found in case of beverages, plastic and electrical equipment; among LEIs, they are non-metallic minerals, fabricated metals, pharmaceuticals and petroleum products. In other words, export orientation alone may not sufficiently explain changes in employment in different manufacturing industries.

5.5 Production, Export and Employment in Different Manufacturing Industries

5.5.1 Exploring the 'Size Effect' of Trade on Employment

This section highlights the impact of trade on manufacturing production and its linkages with employment—how changes in production and export in different manufacturing sub-sectors impacted employment. The manufacturing sector accounted for about 5 million workers in 2012 which increased to about 8.6 million in 2016. Likewise, employment distribution is highly concentrated in a few sub-sectors.[12] The top five manufacturing sub-sectors which accounted for 81.6% of manufacturing GDP comprised about 88.6% of total manufacturing employment (Table 5.6). However, the nexus between the share of manufacturing production and share of manufacturing employment in the top five sectors are not necessarily at the same level over the years. While the share of manufacturing GDP had significantly increased between 2000 and 2012 for the top five sectors (from 60.7 to 81.6%), the share of employment

[10]The ECI portraits the degree of concentration of a country's export in a small number of products or a small region. The perfect concentrated index must hold the value of 1, implying the country is concentrated only on a single product.

[11]The sectoral HHI is defined as the square root of the sum of the squared shares of exports of each industry in total exports; takes a value between 0 and 1. Higher values indicate that exports are concentrated in fewer sectors.

[12]The RMG industry is accounted for about 55% of total manufacturing employment, followed by textiles (16.1%), non-metallic products (8.9%) and beverages (5.6%).

Table 5.5 Average yearly manufacturing export growth: 2001–2012 (%)

Category of industry	Average yearly export growth
Highly export-oriented	*32.8*
RMG (HS 61 and 62)	34.3
Leather (HS 41)	3.5
Other transport equipment (HS 87)	183.3
Paper products (HS 48)	876.2
Textiles (HS 59)	3522.7
Computer, electronic & optical products (HS 90)	18.4
Moderately export-oriented	*111.0*
Electrical equipment (HS 85)	96.7
Other manufacturing (HS 96)	42.4
Food (HS 16)	-
Beverages (HS 22)	546.3
Rubber and plastic products (HS 39 and 40)	129.7
Low export-oriented	*79.7*
Non-metallic mineral products (HS 25)	410.2
Fabricated metal (HS 72, 72, 74, 75, 76, 78, 79 80, 81, 82 and 83)	265.1
Chemical products (HS 28 and 29)	12.0
Tobacco products (HS 24)	78.4
Recorded media (HS 92)	−4.0
Pharmaceuticals, medicinal chemical and botanical products (HS 30)	106.8
Basic metals (HS 71)	-
Manufacture of furniture (HS 94)	762.7
Wood and cork (HS 44 and 45)	−7.7
Petroleum products (HS 27)	474.3
Machinery and equipment n.e.c. (HS 84)	17.8
Motor vehicles, trailers and semi-trailers (HS 8716)	-
Repair and installation of machinery and equipment (HS 82)	48.2
Recycling	-

Source Authors' calculations based on World Bank (n.d.)
Note n.e.c.: Nowhere else classified

had marginally increased during this period (from 86.6 to 88.6%). At the disaggregated level, the relationship between changes in shares of manufacturing GDP and manufacturing employment is found to be mixed—GDP and employment changes in a *positive* direction are discerned in the case of basic metals and partly of non-metallic industries; while both GDP and employment changes towards a *negative* direction are observed in case of food processing; and GDP and employment changes are in

Table 5.6 Relation between share in manufacturing outputs and manufacturing employment

Manufacturing industry	Share of manufacturing outputs (%)			Share of manufacturing employment (%)		
	1999–00	2005–06	2012	1999–00	2005–06	2012
Top 5 industries	60.7	75.2	81.6	86.6	86.5	88.6
Food	18.2	13.2	11.3	8.8	6.5	5.6
Textile	0.7	14.9	13.3	25.4	21.0	16.1
RMG	37.8	38.0	33.7	41.8	49.1	55.1
Non-metallic mineral products	4.1	8.5	6.5	9.9	8.9	9.4
Basic metals	0.0	0.6	16.8	0.7	1.0	2.4
Other manufacturing industries	39.3	24.8	18.4	13.4	13.5	11.4
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

Source Authors' calculations based on the data from Bangladesh Bureau of Statistics (BBS) and Bangladesh Economic Review

opposite direction in RMG and textiles sub-sector. Hence, the *size effect* in major manufacturing sub-sectors provides a mixed signal with regard to impact and implications of production on employment. Other than the top five sectors, a rise in the share of manufacturing employment, owing either to a rise in the share of production or decline in the share of production, is observed only in cases of leather and wood-cork sub-sectors. On the other hand, a number of sectors have experienced declining employment during a rise/decline in products such as beverages, tobacco products, paper products, petroleum products, chemical products, pharmaceuticals, rubber and plastic, fabricated metal, computer and electronics, electrical equipment and motor vehicles, etc. Overall, sub-sectors other than the top five have lost their shares over the years both in terms of manufacturing outputs and employment.

In case of the export of manufacturing industries, growth in employment was not always commensurate with growth in export, as observed during the last decade (Fig. 5.2). While the MEIs have experienced the highest level of growth in export during 2000–2012, these industries have registered the lowest level of growth in employment generation. In contrast, the HEIs have registered the lowest level of growth compared to the other two categories, but have experienced the highest level of growth in employment.[13]

[13]One must note the caveat that *size* in the above analysis refers to the percentage share in value-added, and not to the size of enterprises.

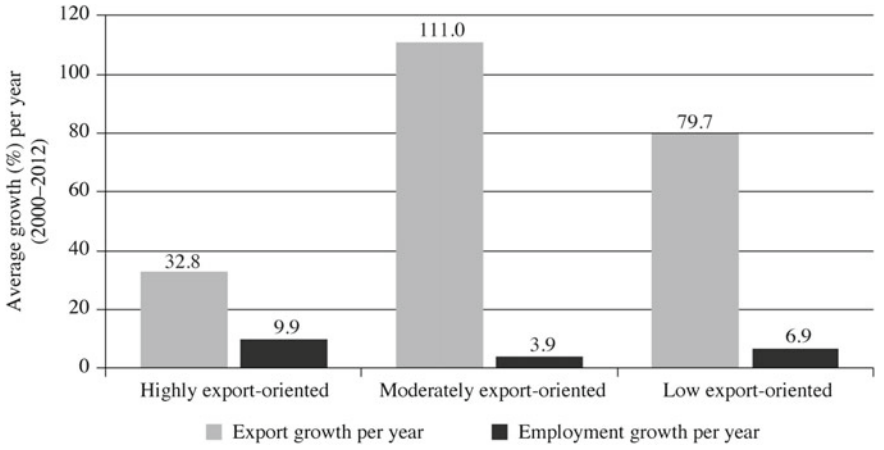

Fig. 5.2 Export–employment nexus. *Source* Authors' estimations

5.5.2 *Exploring the 'Composition Effect' of Trade on Employment*

This section highlights the *composition effect* of trade on employment—how more production for export shifts more employment from domestic-market-oriented/import-competing industries towards export-oriented industries. Traditionally, both share of production and share of employment are the highest in case of HEIs (Table 5.7). On the other hand, share of employment is higher in case of LEIs, even though their share is lower in manufacturing GDP. Over the years, no major compositional change has been observed in either manufacturing production or employment. However, some changes in shares of manufacturing GDP and employment are discerned in all three categories of industries. The composition effect is relatively strong in case of HEIs—as share of employment has increased consistently against moderate rise in manufacturing production. In contrast, composition effect is either

Table 5.7 Summary of output–export–employment nexus

Category of industry	Share of manufacturing output			Share of manufacturing employment		
	2000	2005	2012	2000	2005	2012
Highly export-oriented	44.4	56.4	50.9	68.9	71.6	74.2
Moderately export-oriented	26.1	16.2	16.1	10.9	8.7	7.9
Low export-oriented	29.6	27.3	32.9	20.1	19.7	17.8

Source Authors' estimations

weak or negative in case of MEIs and LEIs. Three categories of industries have experienced three different levels of growth in employment between 2000 and 2012. Overall, the composition effect of trade on employment is rather low.

5.5.3 *Exploring the 'Process Effect' of Trade on Employment*

The *process effect* assesses the impact of changes in coefficients in terms of labour and capital in a particular industry and their likely impact on employment. The composition of capital and labour in different manufacturing sub-sectors, as measured by capital–labour ratio, widely varied; even within the same categories of industries, the composition is found to be different for different sub-sectors. This study defines labour- and capital-intensive industries based on the capital–labour ratio in the production process of different industries.[14] While most of the manufacturing industries in Bangladesh are labour-intensive, a few industries are capital-intensive, such as textiles, transport equipment, electrical equipment, beverages, chemical products, pharmaceutical products, basic metals and petroleum products (Table 5.8). Major labour-intensive industries are RMG, recycling, non-metallic products, tobacco, furniture and recorded media. It has been found that, in general, employment growth in the labour-intensive industries is relatively higher compared to that in capital-intensive industries. During 2012, employment growth in both categories of industries was high; but the growth of employment in labour-intensive industries was almost twice as that of capital-intensive industries. It is important to examine whether such growth in employment in labour-intensive industries is induced by international trade.

At the disaggregated sub-sector level, employment growth in both categories of industries was rather mixed. With the labour-intensive industries, significant positive growth in employment between 2006 and 2012 was observed in case of RMG, leather, fabricated metal, wood and cork and other manufacturing and recycling. Meanwhile, negative growth in employment was discerned in case of furniture, tobacco and recorded media. The sub-sectors under the capital-intensive industries which portray higher growth in employment include petroleum, chemicals, basic metals, electrical equipment and transport equipment.

Reviewing the growth of employment in capital- and labour-intensive industries through the lens of their export orientation, it is found that export orientation of enterprises registers a major contribution to employment growth (Table 5.9). HEIs comprise both labour- and capital-intensive industries, and the current evidence shows that growth in employment in both categories of industries is relatively high. In case of MEIs, growth in employment is mostly low, except in electrical equipment

[14]We have considered the 70th (equal or more than that) percentile of capital–labour ratio for manufacturing industries as capital-intensive, and below that considered as labour-intensive. And the given result is more congruent to the common scenario. Capital-intensive industries—if the value of capital–labour ratio of a particular industry is equal to or exceeds 400. Labour-intensive industries—if the value of capital–labour ratio of a particular industry is less than 400.

Table 5.8 Capital–labour intensity in the manufacturing sector and employment growth (%)

Category of industry	Yearly average employment growth		
	1996–2000	2000–2006	2006–2012
More capital-intensive			
Petroleum products	2.4	−10.8	61.5
Beverages	25.0	10.4	6.0
Chemical products	−15.8	−2.9	68.4
Pharmaceuticals, medicinal chemical and botanical products	7.8	28.4	−4.1
Basic metals	−4.2	13.8	51.7
Electrical equipment	−1.3	−8.0	23.8
Other transport equipment	−12.9	−8.7	29.8
Textiles	4.5	0.6	4.1
Average	2.44	1.65	6.40
More labour-intensive			
Rubber and plastic products	−6.6	47.3	6.2
Machinery and equipment n.e.c	−25.0	-	-
Paper products	10.6	1.3	22.7
Motor vehicles, trailers and semi-trailers	−14.4	−5.9	17.2
Computer, electronic and optical products	-	-	-
Food	6.2	−1.3	6.7
Leather	−21.2	14.5	42.5
Fabricated metal	4.4	−11.4	51.5
Wood and cork	−1.0	−15.1	89.4
Other manufacturing	2.4	72.2	44.8
Tobacco products	−4.5	−1.3	−2.7
Repair and installation of machinery and equipment	-	-	-
Non-metallic mineral products	16.0	2.1	12.0
Furniture	5.8	62.4	−1.9
Recycling	-	-	27.0
RMG	10.0	7.8	13.9
Recorded media	20.1	8.4	−11.3
Average	*7.00*	*5.32*	*12.06*

Source Authors' estimations

Table 5.9 Capital–labour intensity and employment growth under different types of export-oriented industries

Category of industry	Type of intensity	Capital–labour ratio	Yearly average employment growth		
			1996–2000	2000–2006	2006–2012
Highly export-oriented		-	*5.7*	*5.0*	*11.4*
RMG	Labour-intensive	91.9	10.0	7.8	13.9
Leather	Labour-intensive	302.9	−21.2	14.5	42.5
Other transport equipment	Capital-intensive	438.6	−12.9	−8.7	29.8
Paper products	Labour-intensive	313.7	10.6	1.3	22.7
Textiles	Capital-intensive	425.3	4.5	0.6	4.1
Computer, electronic and optical products	Labour-intensive	310.9	-	-	-
Moderately export-oriented		-	*4.7*	*−0.2*	*8.1*
Electrical equipment	Capital-intensive	446.4	−1.3	−8.0	23.8
Other manufacturing	Labour-intensive	196.9	2.4	72.2	44.8
Food	Labour-intensive	304.4	6.2	−1.3	6.7
Beverages (HS 22)	Capital-intensive	1354.6	25.0	10.4	6.0
Rubber and plastic products	Labour-intensive	340.4	−6.6	47.3	6.2
Low export-oriented		-	*5.0*	*3.9*	*8.0*
Non-metallic mineral products	Labour-intensive	179.0	16.0	2.1	12.0
Fabricated metal	Labour-intensive	270.9	4.4	−11.4	51.5
Chemical products	Capital-intensive	879.0	−15.8	−2.9	68.4
Tobacco products	Labour-intensive	186.0	−4.5	−1.3	−2.7
Recorded media	Labour-intensive	87.9	20.1	8.4	−11.3
Pharmaceuticals, medicinal chemical and botanical products	Capital-intensive	844.7	7.8	28.4	−4.1
Basic metals	Capital-intensive	736.6	−4.2	13.8	51.7
Furniture	Labour-intensive	135.6	5.8	62.4	−1.9

(continued)

Table 5.9 (continued)

Category of industry	Type of intensity	Capital–labour ratio	Yearly average employment growth		
			1996–2000	2000–2006	2006–2012
Wood and cork	Labour-intensive	244.8	−1.0	−15.1	89.4
Petroleum products	Capital-intensive	1399.9	2.4	−10.8	61.5
Machinery and equipment n.e.c	Labour-intensive	331.0	−25.0	-	-
Motor vehicles, trailers and semi-trailers	Labour-intensive	313.0	−14.4	−5.9	17.2
Repair and installation of machinery and equipment	Labour-intensive	185.9	-	-	-
Recycling	Labour-intensive	97.2	-	-	27.0

Source Authors' estimations

and other manufacturing equipment, which are capital-intensive and labour-intensive industries, respectively. In contrast, the employment performance in different labour and capital-intensive industries under low export-oriented industries is mixed. High growth is observed in case of fabricated metal, basic metal, chemicals, wood and cork and petroleum products, while negative employment growth is observed in case of furniture, media, pharmaceuticals, tobacco, etc. Overall, trade (i.e. export orientation) influences employment in both labour- and capital-intensive industries. In other words, the *process effect* is not unidirectional. More importantly, there is a combined effect of *size*, *composition* and *process* related to trade. Multiple factors besides export orientation also affect employment; the impact of non-trade-related issues on growth in employment, particularly in few domestic-market-oriented industries, needs further analysis.

High import penetration was not found to be a contributing factor for growth of employment in any manufacturing sub-sector. However, the nature and extent of linkages between import penetration and level of employment in different sub-sectors are not the same. On one hand, industries with high import penetration ratio such as textiles, wearing apparels and leather experienced considerable growth of employment. Contrarily, industries with moderate import penetration ratio such as chemical industry experienced negative growth. While the rise of the shares of textiles, wearing apparels and leather in total industrial output have contributed to a rise of employment opportunities in these sectors, the shrinkage in the share of chemical and chemical products in total industrial output, perhaps is indicative of the creation of lower levels of employment opportunities in these sectors.

5.5.4 *Employment Elasticity of Manufacturing Industries*

The overall employment elasticity[15] in the manufacturing sector is not very encouraging[16] (0.28) (Table 5.10). However, HEIs are more elastic compared to that of the MEIs and LEIs. The scenario essentially depicts that the country's employment growth and its relative concentration is strongly associated with the growth and gravity of different export-oriented industries.

Leading industries such as RMG has an employment elasticity higher than the average (0.42). The highest level of employment elasticity was found in case of leather (0.97), media (1.18) and chemical products (0.89), while low or even negative employment elasticity was found in case of tobacco products (−0.34), food (0.13), textiles (0.04), wood (−0.29), electrical equipment (0.14) and motor vehicles (0.09). Thus, from the employment generation point of view, RMG is still ahead of other industries which equally contribute to production, export and employment. A number of domestic-market-oriented industries with moderate employment elasticity are contributing to production and employment (e.g. chemical products and plastic products). Besides, a number of manufacturing industries have experienced a negative employment elasticity which include tobacco and wood and cork, which indicate a negative relationship between growth in production and employment.

5.6 Trade Impulses to Growth of Manufacturing Sector in Bangladesh: Constraints

5.6.1 *Policies for Labour-Based and Export-Oriented Industrialisation*

Analysis reveals that successive policies have focused on the trade-led growth of the manufacturing sector, which will contribute to employment generation. The five-year plans, industrial policy, export policy and import policy order and SME policy, among others, have more or less common objectives in terms of labour-intensive and export-oriented industrialisation. Several sectors have been specified as priority sectors in key development policies having fiscal and budgetary support. During the early stage of development in the 1980s, the RMG sector was hugely benefitted through a number of fiscal measures which include duty draw back facility, bonded warehouse facility, subsidised credit facility and zero-duty import facility of machineries, raw

[15]Employment elasticity is defined here as percentage change in manufacturing employment over percentage change in manufacturing GDP over a period.

[16]Islam (2001) showed that employment elasticity in manufacturing declined from 0.76 during 1981–1985 to 0.66 during 1986–1992 while using ILO-EMP/RECON database on employment; on the other hand, Islam (2004) calculated employment elasticity of the manufacturing sector as 0.39 based on the regression result in respect with poverty incidence and annual GDP growth.

Table 5.10 Employment elasticity of manufacturing industries during 2000–2012

Category of industry	Employment elasticity
Highly export-oriented	*0.42*
RMG	0.42
Leather	0.97
Other transport equipment	0.32
Paper products	0.35
Textiles	0.04
Computer, electronic and optical products	-
Moderately export-oriented	*0.36*
Manufacture of electrical equipment	0.14
Other manufacturing	0.60
Food	0.13
Beverages	0.44
Rubber and plastic products	0.49
Low export-oriented	*0.34*
Non-metallic mineral products	0.21
Fabricated metal	0.13
Chemical products	0.89
Tobacco products	−0.34
Recorded media	1.18
Pharmaceuticals, medicinal chemical and botanical products	0.40
Manufacture of furniture	0.58
Wood and cork	−0.29
Petroleum products	0.57
Machinery and equipment n.e.c	-
Motor vehicles, trailers and semi-trailers	0.09
Repair and installation of machinery and equipment	-
Recycling	-
Total	*0.28*

Source Authors' estimations based on the data from Survey of Manufacturing Industries (SMI)

materials and intermediate products. Interestingly, such facilities were allowed for other industries as well, but the growth of non-RMG export sectors remained modest.

In recent years, the government's budgetary measures have emphasised issues and concerns raised by the business bodies of the RMG sector. During the last decade, multiple issues related to the RMG sector got priority in the government's fiscal measures, including the reduction of corporate tax, advance income tax (AIT), reduction of import duties on different industrial items and providing cash incentives for export in non-traditional markets. These changes have been undertaken in accordance with demand from the business bodies of the RMG sector. On the other hand, the support provided to non-RMG enterprises was scant and sporadic. Considering the level of contribution made by different industries on employment such as non-RMG export-oriented as well as domestic-market-oriented industries, government policies should pay more attention towards those industries. A major criticism of government policy support is that selected products under different sub-sectors, whether it is domestic-market-oriented or export-oriented, is largely influenced by different pressure groups which raise the efficacy of support mechanism. In other words, given the limited scope for revenue expenditure, such kinds of biased support deprive various important sub-sectors which might have higher potential to contribute to export and employment. The Ministry of Finance (MoF), which is the authority to provide the fiscal benefits, did not have any mechanism to assess the impact of these benefits to the industry. Hence, an irrational, pressure-group-influenced and un-assessed incentive mechanisms have been continued.

5.6.2 Tariff Regime and Implications on Growth of the Manufacturing Sector

Production of manufacturing industries in Bangladesh is heavily influenced by tariff, para-tariff and other technical requirements at import stage on various kinds of raw materials, intermediate goods, capital machineries and finished goods. Thus tariff regime has direct and indirect impact on production of export-oriented and import-competing industries, thereby contributing to *size*, *composition* and *process* effects on employment. With a view to examining the impact and implications of the tariff regime over the last one and a half decades, a total of 17 sectors have been identified on which necessary analysis has been carried out. The study measures relative burden of tariff and para-tariff by estimating the simple averages of tariff in different categories of industries (HEIs, MEIs and LEIs).[17] The selected products are known as the top importable products (top five products in each category at 6 digit level) in 2012 and 2016.

[17]The data having zero (0) figures and blanks in all export and import dataset have been replaced by 0.01 value. The justification for this kind of minor addition is that it would provide a better dataset without having any mathematical errors. On the other hand, the data having zero (0) figures in tariff data set has also been replaced by 0.01 value, and leaving all the blanks unchanged.

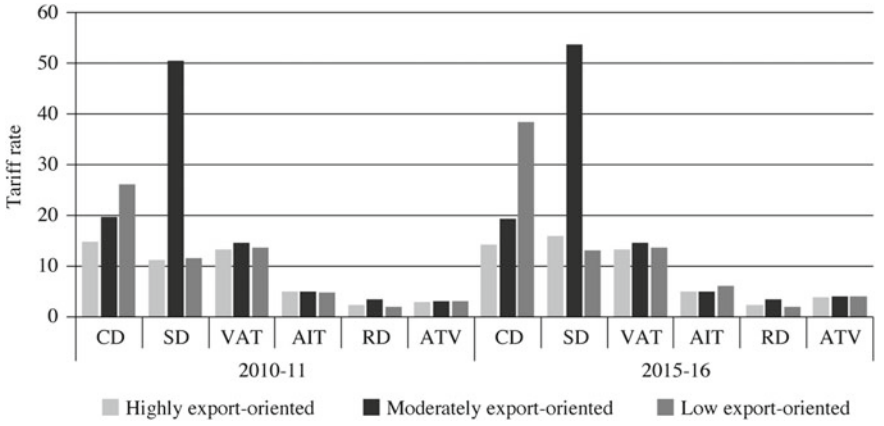

Fig. 5.3 Industry-wise tariff and para-tariff. *Note* ATV: Advance trade VAT *Source* Authors' calculations.

A mixed trend has been observed in case of tariffs and para-tariffs on the import of different categories of products (Fig. 5.3). The HEIs have enjoyed relatively less burden in all types of tariffs and para-tariffs compared to that of MEIs and LEIs. This possibly happened owing to the government's policy to protect domestic-market-oriented industries through tariffs and para-tariffs, which are relatively large in number under MEIs and LEIs.

During 2012–2016, though CD in HEIs and MEIs has declined at different levels, the duty has increased in the case of LEIs. In case of different types of para-tariffs, including SD, VAT, AIT, RD and ATV—these have either mostly increased or remained unchanged for all categories of industries. More specifically, para-tariffs are relatively high in case of MEIs and LEIs. Overall, these are indicative of the government's policy to support and protect domestic industries. Rahman et al. (2011) identified a number of consequences on employment due to changes in tariff. There is significant positive impact of restrictive CD, found in case of direct employment. However, when trade variables are used alone, significant negative coefficients are found on demand for labour.

Analysis on tariffs and para-tariffs on different categories of export-oriented industries imposed between 2010–11 and 2015–16 indicates that tariffs and para-tariffs were not necessarily high in LEIs/domestic-market-oriented industries. These indicate that protection/support is not necessarily always about job creation, unless more support is provided to small and medium industries. Hence, recalibration of tariff regime to remove anti-export bias could not protect industries with high employment and/or their productivity prospects. The most important issue is to remove rent-seeking and corruption.

5.6.3 *Effect of REER on Export and Import*

Among many, exchange rate is considered as one of the major policy variables which could influence the country's external trade. The empirical results from different studies corroborate the fact of having a significant relationship between exchange rate volatility and export and import. Hassan et al. (2016), Younus and Chowdhury (2014) and Aziz (2012) evinced that an appreciation (depreciation) in real effective exchange rate (REER) decelerates (accelerates) the domestic export earnings, and therefore, experienced a resultant effect on trade balance. An appreciation of REER makes import more affordable and export more expensive, driving off the potential demand for exportable products in the reported countries. Studies on selected Asian developing countries generally corroborate the above. Sharma (2003) and Veeramani (2008) showed that the demand for Indian exports increases when its export prices fall in relation to world prices; and also deteriorates when export prices increase in relation to world prices. The Indian non-financial sector firms also experienced a downturn in export during 2000–2010 due to a real appreciation of rupee against the partner countries' currency (Cheung and Sengupta 2013). The firms having a smaller share of total export are found to be more affected by an adverse effect of exchange rate. Dhasmana (2012) found India's trade balance to have a positive long-run association between real exchange rate depreciation, with its key trading partners. Volatility of REER also exhibits a negative long-term relationship. It is found in the case of Pakistan that REER has a positive impact on export performance only in the presence of trade openness (Zulfiqar and Kausar 2012). The same analysis also revealed that Pakistan experienced a negative association with export growth during 1981–2010, which actually oppugns the case of India (Sharma 2003).

Over the last 15 years (i.e. 2001–2016), the REER index of Bangladesh has more or less had a tendency to appreciate, and it reached at some 137.95 during 2015–16 (Fig. 5.4). On the other hand, since an appreciation of REER makes import cheaper, import growth is likely to be influenced positively. The results essentially illustrate that due to an appreciation in REER, export earnings for the country get reduced and import gets encouraged substantially. According to Aziz (2012), during the period of 1976–2009, the devaluation of REER made a positive contribution to the country's external trade.

5.7 Impact and Implications of COVID-19 on Production, Export and Employment in the Manufacturing Sector

The outbreak of COVID-19 worldwide is the latest example of *act of nature*, which has caused a considerable level of disorder in domestic and global supply chains. The risks associated with such global systemic concerns have multiple dimensions, which are related to the process, control, supply and demand, business environment, and thereby related to industries' survival and ensuring employment. Bangladesh

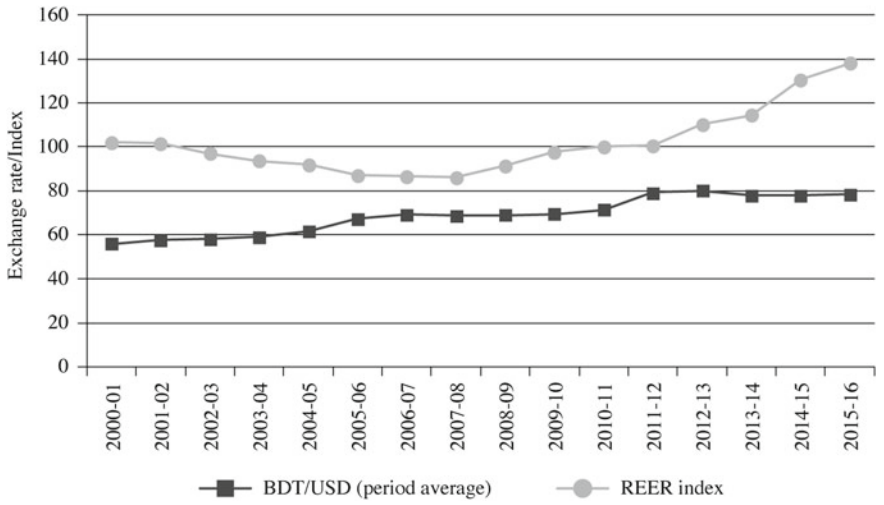

Fig. 5.4 National exchange rate versus REER. *Source* Bangladesh Bank

economy, like elsewhere, has become exposed to a number of these risks due to the snowballing nature of the adverse impact of this crisis. A number of international and local organisations have estimated the possible damages caused by COVID-19 on Bangladesh economy in terms of production, sales, export, employment and unemployment, level of poverty, inequality and overall size of the GDP. According to ADB (2020), Bangladesh's GDP may get shrunk by 0.01%—this is collectively reflected through a reduction in agriculture production (−0.68% of GDP); squeezed activities of business, trade, personal services (−1.66% of GDP); and reduction of activities in light/heavy manufacturing, utilities and construction (−1.2% of GDP). However, this estimate was carried out in April 2020, when Bangladesh was exposed to coronavirus in a limited scale. A possible reestimation of the impact on the economy based on the significant impact of the virus in following months (the peak of the spread of the virus is yet to be predicted) would illustrate a worsening picture. In recent estimates, GDP growth has been gauged to be at a much lower level in FY2019-20—within the ranges of 1.6% (World Bank 2020), 2.5% (CPD 2020a) and 3.8% (IMF 2020). The official estimate of GDP growth for FY2019-20 is, however, indicated to be 5.2%.

A sectoral decomposition of losses in terms of production and employment indicates that extent of impact varies widely between different sectors in terms of the amount of losses, share in GDP, loss of employment and their share in sectoral employment (Table 5.11). According to ADB (2020), manufacturing sector would experience a loss of about USD 3.2 million, which is about 1.2% of GDP and 4.2% of the sectoral share of GDP. Transport sector, which is an important support service of the manufacturing sector, would have a loss of USD 1.1 billion, which is about 4.6% of the sectoral share of GDP. Different businesses and personal services would have a collective loss of about USD 4.6 billion, which is 4.6% of the sectoral share

Table 5.11 Estimates of loss in Bangladesh economy due to COVID-19 pandemic

Sector	Loss as % of total GDP	Loss (million USD)	Loss in employment (in'000)	Loss as % of sectoral GDP	Loss as % of sectoral employment
Agriculture, mining and quarrying	−0.68	1,870	1,254	−4.36	−4.32
Business, trade, personal and public services	−1.66	4,558	784	−4.55	−4.66
Hotels, restaurants and other personal services	−0.50	1,374	140	−4.58	−4.55
Light/heavy manufacturing, utilities and construction	−1.20	3,279	650	−4.22	−3.92
Transport services	−0.39	1,058	213	−4.57	−4.57
All	−4.43	12,138	3,041	−4.43	−4.33

Source ADB (2020)
Note Additional impact is assumed for all sectors under longer containment and larger demand shock

of GDP. Overall, the manufacturing sector and associated service sectors have been severely affected, which have weakened the conclusions made in earlier sections on the issue of full employment in the manufacturing sector.

The prolonged cessation of economic activities caused a significant adverse impact on both domestic-market- and export-oriented industries. Major manufacturing industries and their related activities reportedly impacted by the pandemic, include—leather and finished leather products, live and chilled food and jute spinning (in export of goods); garments accessories and packaging, plastic, pharmaceuticals, cosmetics and toiletries (in import of goods and raw materials); woven and knit products (in import of intermediate products); and computer and accessories, medical instruments and hospital equipment, eyeglass and electronics (in import of goods). A large section of SMEs operating in domestic-market-oriented industries, which are reported less, faced many challenges for their survival. According to IMF (2020), both exports and imports will experience negative growth rates during FY2019-20 (−17.9 and −8.8%, respectively) (Table 5.12). Although the level of adversity would reduce in FY2020-21, the country's trade may not return to a normal state in FY2020-21, particularly that of export.

Domestic SMEs were particularly hard-hit in view of the corona pandemic. The businesses of these enterprises are overwhelmingly dependent on a few important religious and cultural events. In that context, cancellation of the *Pohela Baishakh*

Table 5.12 Changes in the external sector (%)

Component	FY2017	FY2018	FY2019	Pre-COVID		New projection	
				FY2020	FY2021	FY2020	FY2021
Export of goods	1.7	6.7	10.1	−1.5	7.0	−17.9	−0.8
Import of goods	9.0	25.2	1.8	1.0	10.0	−8.8	4.8
Remittances	−14.5	17.3	9.6	18.0	7.0	1.4	−7.1

Source IMF (2020)

(New Year of Bangla calendar) festival as part of the government's COVID-19-related restrictive measures has resulted in significant losses for these SMEs. These losses are expected to rise further with the duration of the public holiday having been extended till 15 May 2020 which significantly affected businesses that profit from Ramadan and Eid-ul-Fitr.

A significant negative impact is observed in the world of work as well, pertaining to employment, decent wages, occupational safety and health-related issues. Job security in Bangladesh is very weak in most of the economic establishments since the major portion of employment is in the informal sector. According to the Labour Force Survey (LFS) 2017, 82.6% of employment in Bangladesh is in the informal sector (BBS 2018), under which workers do not get legal protection for retaining jobs, benefits in case of leave and termination along with other entitled dues. Hence, taking special measures to protect these workers has become crucial. According to Policy Research Institute of Bangladesh (PRI), a think tank in Bangladesh, about 1–1.5 crore people working in different sectors have lost their jobs, and the majority of them are in the informal sector.[18] According to ADB (2020) estimates, about 3.04 million workers are likely to be unemployed. Manufacturing sector would experience a loss in employment of 0.65 million workers under different categories of light/heavy manufacturing industries.

Workers in different sectors have been working at a wage rate lower than their stipulated wages during the pre-COVID period. Workers in the RMG sector received wages at the level of 60–65% of their gross wages. CPD (2020b) identified that a considerable number of workers (about 30%) did not even get that wage. In fact, this amount of wage is usually provided to workers when they are laid-off. However, lowering the wages could not ensure the job of a large section of workers in the RMG sector. According to the Industrial Police, as many as 19,919 workers have been officially terminated from 115 RMG factories. Besides, a considerable number of workers from the RMG sector had to undergo an informal termination of their jobs as they were either laid-off or retrenched or forced to resign from different factories. The situation in the domestic-market-oriented manufacturing industries was much worse because of a lack of monitoring and enforcement of labour laws and rules.

[18] See details on The Business Standard (2020).

It is evident that the manufacturing sector had almost no shock-absorption capacity in order to address the risks caused by the COVID-19 pandemic. Most of the enterprises have no contingency plan to manage the risks in the short-term and to gradually move towards recovery. This is reflected both in case of export-oriented industries, especially RMG industry, as well as in domestic-market-oriented industries in terms of scaling down production and employment, lower level of payment to workers and in large part, domestic-market-oriented industries shutting down their operations with or without paying the workers. In this situation, the government has announced a number of stimulus packages for the export-oriented and domestic-market-oriented industries mainly to pay workers' wages and to initiate businesses with working capital. A large part of these facilities is targetted towards export-oriented industries, mainly RMG industry, in the form of deferment of payment of bank loans, utility bills, import payment and export receipts, deferred payment facility of VAT and AIT, etc. In the national budget for FY2020-21, various fiscal measures for the export-oriented industries, particularly for the RMG sector, have been kept unchanged without making any upward revision (withholding tax rate retained at 10–12% level for another year) and offering tax-holiday facility for diversified garment products. A large part of these package facilities has been availed by RMG factories, particularly those which are member factories of two associations. Non-member factories, particularly those of sub-contracting factories, buying houses, garment-accessory-related factories, could not avail those benefits. In the case of domestic-market-oriented industries, the package is limited, and are allowed for those based on bank–client relationship. It is apprehended that a large section of cottage, micro, small and medium enterprises (CMSMEs) which have limited or no banking transactions would be deprived of getting the benefit. According to CPD (2020b), only 6–7% of SMEs would avail that facility. Overall, the fiscal, monetary and sectoral measures undertaken by the government would make a limited contribution in addressing the risks faced by a large segment of manufacturing enterprises. In such a situation, if the pandemic prolongs over an extensive period (as it seems to be), a large segment of these enterprises would not survive without broad-based support. The likely impact on the world of work would be much worse in the future. Hence, the hypothesis of creating full employment by promoting domestic- and export-oriented manufacturing industries would be more difficult in the coming days.

5.8 Conclusion

The study has observed that owing to trade reforms and several other factors, including fortuitous circumstances, Bangladesh over the past three decades appeared to have embarked on trade liberalisation and labour-intensive industrialisation, which could potentially generate productive jobs and reach a state of full employment. This has been the characterisation of export and employment growth in the HPAEs during the early phases of their development. The growth of the RMG sector and its share in manufacturing value-added, exports and employment has been quite

striking. However, unlike in HPAEs, it has not evolved into an EOI *strategy*, where exports have diversified and graduated into a broad-based export structure. While RMG has spearheaded the growth of formal, paid jobs, especially for women, its share in total employment is static or declining. Hence, while the share of manufacturing employment is steadily increasing, it is still far too low to ensure any structural transformation.

Meanwhile, Bangladesh has stepped up its protection and other support to domestic import-substituting industries. While domestic industries too should create jobs,[19] if properly planned, many experts believe that an anti-export bias has been created.[20] The latter would imply that export diversification is likely to be adversely affected. Whether the lack of adequate diversification is due to trade regimes or to various constraints to growth of manufacturing industries per se, is unclear.[21] Given the relatively low levels of FDI flows, in a milieu of rising imports in a fast-growth country, export growth would need to be boosted both for job growth as well as to ease potential foreign exchange constraints. The above discussion leads to a number of issues which need to be thoroughly investigated in order to calibrate policies and interventions that would, seriatim, minimise distortions towards the objectives of higher employment growth and export growth. This would, in turn, be contingent on an appropriate design of a comprehensive trade and industrialisation policy. The objectives of such a policy need to be clear and pragmatic, not only to include export expansion, but also for employment generation. The present study, within a limited framework, tends to argue that the two are not automatic. Further, attempts to create *exports at any cost* or to overly protect domestic industries are likely to engender policy biases, rent-seeking and corruption. Bangladesh would need to explore its own *golden mean*.[22]

The manufacturing sector of Bangladesh has experienced growth in employment over the years; however, growth in employment has slowed down in the more recent period. The present study shows that employment growth has been variable and highly concentrated on a limited number of sub-sectors. This chapter analyses how employment growth in the manufacturing sector has been influenced by trade. Following Jenkins and Sen (2006), it has tried to distinguish the impact of trade on employment through three distinct effects—*size*, *composition* and *process*. The analysis tends to suggest that no single type of effect reveals any clear pattern of growth in manufacturing employment due to trade; rather, such growth is found to be a combined effect of all—*size*, *composition* and *process*. While a large share of changes in employment has taken place in HEIs, changes in employment are also observed in case of MEIs and LEIs. Moreover, both the labour- and capital-intensive industries under *different export categories of industries*, experienced growth in employment.

[19] Note that non-traded sector plays a significant role in employment generation.

[20] See Ahmed (2015), Khan (2007).

[21] Private investment is still relatively low.

[22] Mazumdar (2008).

However, higher growth in employment in both labour- and capital-intensive industries is revealed in HEIs. In contrast, a few LEIs have experienced negative growth in employment. While the employment content of export-oriented industries is heavily influenced by RMG, which is labour-intensive, not all export-oriented sub-sectors can be relied upon to generate employment. Similarly, domestic-market-oriented industries have also been contributing to employment growth through *size*, *composition* and *process* effects. These observations require further scrutiny, especially through per unit/enterprise-level data, and comparison of trade effects on both employment and productivity, to ensure which sub-sectors are best supported.

The growth of the manufacturing sector has been constrained by various factors which have adverse effects on employment. According to the World Economic Forum (WEF), major problematic factors for enhancing competitiveness in Bangladesh includes some 16 different constraints. Among the five major constraints, *corruption* has ranked number one for six times since 2006, implying that it has become a *core chronic curse* to the potential and existing health of the economy. *Inadequate supply of infrastructure* came second in the ranking in 2017 as one of the major impediments for doing business in Bangladesh. It is evident that infrastructural backwardness deters the potential foreign investments in Bangladesh since the constraint is unable to attract both foreign and domestic investments. These constraints, coupled with *inefficient government bureaucracy* have added to the uninviting business environment extensively. Furthermore, *policy instability* and *inadequately educated labour force* and *poor work ethic in the national labour force* became the newly perceived constraints in 2017, and are currently considered to be the top impediments for doing business in Bangladesh. While there are some constraints which have improved significantly in the ranking (e.g. tax rates, tax regulations, crime and theft, foreign currency regulations), the business environment overall has been worsened by these emerging issues.

Poor technological readiness is a prime weakness restraining the manufacturing sector of Bangladesh. Bangladesh is specialised in bulk-scale low value-added products, where skill requirement is low. Apart from RMG, few other sectors have the potential to absorb such a large volume of workers. For such volume-led employment, the manufacturing base is rather limited in other potential sectors, such as leather and footwear, pharmaceuticals and food processing. Given the poor educational background and inadequate qualifications of the pool of labour force, it is difficult to develop industries which require more advanced skills.

While the current policies are largely supportive of export-oriented industries through various trade and budgetary measures, low export-based and/or domestic-market-oriented industries have also been partly supported by fiscal measures. The recent shifts in the tariff regime cater to domestic-market-oriented industries which are low export-oriented and import-competing industries. Although such policy support partially contributed to a degree of rising in export and domestic production of both categories of industries, the impact on employment is not evident, except in a few sub-sectors. In other words, trade-related policies and measures are likely to play a *partial* role in influencing the growth in production and exports, and thereby on growth in employment. However, there are a number of other factors which also

influence the performance of industries both in the domestic and export markets. Hence, it is difficult to conclude that the export orientation of industries or labour-intensive nature of industries alone could contribute to a rise in employment in a labour-abundant economy like Bangladesh. Against the backdrop of different kinds of market failures and problems of governance, the choice of policies with regard to enhancing employment should be well-calibrated with policy priorities to increase productivity and export with appropriate emphasis on both domestic-market- and export-oriented industries.

The hypothesis that this study intends to prove through discussion on trade and other public policies and domestic business environment would be difficult to establish if one or more of the critical assumptions changes. The assumption of having no major shocks to take place at local and global levels has been questioned with the COVID-19 pandemic worldwide and its adverse impact on the Bangladesh economy. As discussed, the manufacturing sector has been severely affected due to the pandemic which forced the businesses to scale down their operations particularly in case of export-oriented industries; or even to shut down business, particularly those of the domestic-market-oriented industries. The employment both in export-oriented and domestic-market-oriented industries have been badly affected. The limited shock-absorption capacity due to the absence of contingency plans forced these businesses to seek support from the government. However, the limited fiscal and financial capacity of the government and banking sector would make small-scale contribution to addressing the risks. However, if the pandemic prolongs (as it currently seems it may), the sector would confront a major crisis in terms of survival and ensuring employment. In that context, the conclusions drawn regarding full employment hypothesis would be weakened.

References

ADB. (2020). *COVID-19 economic impact assessment template*. Manila: Asian Development Bank (ADB). Retrieved April 3, 2020, from https://data.adb.org/dataset/covid-19-economic-impact-assessment-template.

Ahmed, A. (2015). Relationship between foreign direct investment and company taxation: Case of Bangladesh. *American Journal of Trade and Policy, 2*(2), 125–129.

Ali, I., & Son, H. H. (2007). *Defining and measuring inclusive growth: application to the Philippines*. ERD Working Paper Series 98. Manila: Asian Development Bank (ADB).

Aziz, N. (2012). Does a real devaluation improve the balance of trade? Empirics from Bangladesh economy. *The Journal of Developing Areas, 46*(2), 19–41.

BBS. (2010). *Survey of manufacturing industries 2005–2006*. Dhaka: Bangladesh Bureau of Statistics (BBS), Government of Bangladesh (GoB).

BBS. (2013). *Survey of manufacturing industries 2011–2012*. Dhaka: Bangladesh Bureau of Statistics (BBS), Government of Bangladesh (GoB).

BBS. (2018). *Labour force survey 2016–2017*. Dhaka: Bangladesh Bureau of Statistics (BBS), Government of Bangladesh (GoB).

Bruton, H. J. (1970). The import-substitution strategy of economic development: A survey. *The Pakistan Development Review, 10*(2), 123–146.

Cheung, Y., & Sengupta, R. (2013). Impact of exchange rate movements on exports: An analysis of Indian non-financial sector firms. *Journal of International Money and Finance, 39*(C), 231–245.

CPD. (2010). Analysis of the national budget for FY2009–10. In *State of the Bangladesh economy in FY2008–09 and outlook for FY2009–10* (pp. 61–100). Dhaka: Centre for Policy Dialogue (CPD).

CPD. (2011). Analysis of the national budget for FY2010–11. In *State of the Bangladesh economy in FY2009–10 and outlook for FY2010–11* (pp. 63–97). Dhaka: Centre for Policy Dialogue (CPD).

CPD. (2014). Analysis of the national budget for FY2013–14. In *State of the Bangladesh economy in FY2012–13 and outlook for FY2013–14* (pp. 23–59). Dhaka: Centre for Policy Dialogue (CPD).

CPD. (2020a, June 7). *Challenges of policymaking in times of pandemics: State of the Bangladesh economy in FY2020*. Issue paper prepared for a virtual media briefing organised by the Centre for Policy Dialogue (CPD), Dhaka, Bangladesh.

CPD. (2020b, June 9). *Responding to COVID-19—A rapid assessment of stimulus packages and relief measures: Will the target groups get the benefits?* Issue paper prepared for a virtual dialogue organised by the Centre for Policy Dialogue (CPD), Dhaka, Bangladesh.

Dhasmana, A. (2012). *India's real exchange rate and trade balance: Fresh empirical evidence.* Working Paper 373. Bangalore: Indian Institute of Management.

EPB. (n.d.). *Export data.* Dhaka: Export Promotion Bureau (EPB), Government of Bangladesh (GoB). Retrieved January 10, 2018, from https://epb.gov.bd/site/view/epb_export_data/.

Feliciano, Z. M. (2001). Workers and trade liberalisation: The impact of trade reforms in Mexico on wages and employment. *ILR Review, 55*(1), 95–115.

Felipe, J. (2012). *Inclusive growth, full employment, and structural change: Implications and policies for developing Asia* (2nd Ed.). Manila: Asian Development Bank (ADB).

Fischer, S. (2000). *Lunch address given at the conference on Promoting Dialogue: Global Challenges and Global Institutions.* Washington, D.C.: American University.

Hassan, R., Chakraborty, S., Sultana, S., & Rahman, M. M. (2016). *The impact of the real effective exchange rate on real export earnings in Bangladesh.* Working Paper 1605. Dhaka: Monetary Policy and Research Department, Bangladesh Bank.

IMF. (2020, June 3). *Bangladesh: Requests for disbursement under the rapid credit facility and purchase under the rapid financing instrument-press release; staff report; and statement by the executive director for Bangladesh.* Washington, D.C.: Asia and Pacific Dept., International Monetary Fund (IMF).

Islam, R. (2001, February 5–9). Poverty alleviation, employment and labour market: Lessons from the Asian experience and policies. Paper presented at the *Asia and Pacific Forum on Poverty*, organised by the Asian Development Bank (ADB), Manila, Philippines.

Islam, R. (2004). *The nexus of economic growth, employment and poverty reduction: An empirical analysis.* Geneva: International Labour Organization (ILO).

Jenkins, R., & Sen, K. (2006). International trade and manufacturing employment in the South: Four country case studies. *Oxford Development Studies, 34*(3), 299–322.

Khan, A. R. (2007). *Growth, employment and poverty: An analysis of the vital nexus based on some recent UNDP and ILO/SIDA studies*. DESA Working Paper 49. New York: United Nations Department of Economic and Social Affairs (UN DESA).

Krugman, P. R. (1981). Intra-industry specialization and the gains from trade. *Journal of Political Economy, 89*(5), 959–973.

Lall, S. (2004). Selective industrial and trade policies in developing countries: Theoretical and empirical issues. In C. C. Soludo, O. Ogbu, & H. Chang (Eds.), *The politics of trade and industrial policy in Africa: Forced consensus* (pp. 4–14). Ottawa: International Development Research Centre (IDRC).

Little, I., Scitovsky, T., & Scott, M. (1970). *Industry and trade in some developing countries: A comparative study*. London: Oxford University Press.

Mazumdar, S. (2008). *Crony capitalism and India: Before and after liberalization*. Working Paper 2008/04. New Delhi: Institute for Studies in Industrial Development.

Melitz, M. J. (2003). The impact of trade on intra-industry reallocations and aggregate industry productivity. *Econometrica, 71*(6), 1695–1725.

Moazzem, K. G., & Reza, M. M. M. (2018). *Growth of employment in the manufacturing sector: Impact of trade and trade-related policies*. CPD Working Paper 118. Dhaka: Centre for Policy Dialogue (CPD).

Muqtada, M. (2010). *The crisis of orthodox macroeconomic policy: The case for a renewed commitment to full employment*. Employment Working Paper 53. Geneva: International Labour Organization (ILO).

Nassar, H. (2010). *Growth, employment policies and economic linkages: Egypt*. Employment Working Paper 85. Geneva: International Labour Organization (ILO).

OECD. (2012). *OECD Employment outlook*. Paris: Organisation for Economic Co-operation and Development (OECD).

Orbeta, A. C. (2002). *Globalization and employment: The impact of trade on employment level and structure in the Philippines*. PIDS Discussion Paper Series 2002–2004. Makati City: Philippine Institute for Development Studies (PIDS).

Puyana, A. (2011). *Economic growth, employment and poverty reduction: A comparative analysis of Chile and Mexico*. Employment Working Paper 78. Geneva: International Labour Organization (ILO).

Rahman, M., Shadat, W. B., & Raihan, S. (2011). *Trade liberalisation, manufacturing growth and employment in Bangladesh*. New Delhi: Academic Foundation.

Rodrik, D. (2008). *Normalizing industrial policy*. Commission on Growth and Development, Working Paper 3. Washington, D.C.: The World Bank.

Sharma, K. (2003). Factors determining India's export performance. *Journal of Asian Economics, 14*(3), 435–446.

The Business Standard. (2020, April 1). Pandemic hits hard all business sectors of Bangladesh.

Veeramani, C. (2008). Impact of exchange rate appreciation on India's exports. *Economic and Political Weekly, 43*(22), 10–14.

World Bank. (1993). *The East Asian miracle: Economic growth and public policy*. World Bank Policy Research Report. New York: Oxford University Press.

World Bank. (2020). *Global Economic Perspective*. Washington, D.C.: The World Bank Group. Retrieved July 4, 2020, from https://www.worldbank.org/en/publication/global-economic-prospects.

World Bank. (n.d.). *World Integrated Trade Solution (WITS) database* (at 2 digit level). Washington, D.C.: The World Bank. Retrieved: January 12, 2020, from https://wits.worldbank.org.

Younus, S., & Chowdhury, M. M. I. (2014). *Real exchange rate and its impact on export, import and trade balance: Is there any J-curve effect in Bangladesh?* Working Paper 1408. Dhaka: Monetary Policy Department, Bangladesh Bank.

Zulfiqar, K., & Kausar, R. (2012). Trade liberalisation, exchange rate and export growth in Pakistan. *Far East Journal of Psychology and Business, 9*(2), 32–47.