Enhancing productivity in Bangladesh’s garment sector

Current policy and research debates

Dirk Willem te Velde (ed.)
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1. Introduction and overview

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Productivity change is essential for the sustained growth of Bangladesh’s garment sector, but how can the country achieve this? In early 2014, the DFID-ESRC Growth Research Programme (DEGRP) and the Centre for Policy Dialogue (CPD) brought together key academics and policy-makers in Dhaka to explore the “challenges of economic transformation and growth in Bangladesh.” This set of policy essays draws on discussions from the event, as well as new DEGRP research and practical examples from other countries, to suggest where policy-makers could focus their efforts.

In early 2014, the DFID-ESRC Growth Research Programme (DEGRP) and the Centre for Policy Dialogue (CPD) hosted a policy dialogue (CPD, 2014; DEGRP, 2014a; DEGRP, 2014b) in Dhaka, entitled “Challenges of Economic Transformation and Growth in Bangladesh”. This was organised in part around a DEGRP project led by Prof. Woodruff (Warwick University) on the effect of female managers on firm-level productivity in the ready-made garments (RMG) sector in Bangladesh (see the summary of the debate – essay 8).

This set of essays highlights a range of contributions made to the policy dialogue and sets the DEGRP research in the wider academic and policy context of productivity change and garments in Bangladesh. It argues that whilst Bangladesh has developed a large garment sector, sustaining long-term benefits from the sector will be dependent on addressing issues relating to social compliance (after a number of recent industrial incidents such as Rana Plaza), and productivity enhancements across the sector and economy. It suggests this can be done by implementing firm support schemes such as improved management training and using special economic zones to upgrade the sector and economy. This can be successful as long as there is good quality co-ordination amongst stakeholders.

Mapping productivity change: new research insights

One of the core themes in DEGRP is to understand whether innovation happens mainly within firms, amongst firms in a sector, or through shifts amongst sectors. It has commissioned research on these issues in LICs, mapping out where and how innovation occurs. It has also identified a need for systematic documentation of what policies and institutions have worked for innovation, and in which contexts. Essay 2 provides the background and the relevance of current DEGRP research in mapping where innovation happens. It also highlights a major innovative finding from Woodruff’s study (discussed in essay 3), that there are substantial productivity differences across production lines within garment factories. Apart from its academic importance, this may also have important policy implications for increasing productivity in the manufacturing sector generally and Bangladesh’s garment sector specifically.

Productivity change, upgrading and Bangladeshi garments

Essay 3 by Prof. Woodruff discusses his DEGRP research. He finds there is a great deal of persistent variance in productive efficiency across production lines within the same garment factory. In a typical production unit with 10 production lines, the most efficient line is two-
thirds more productive than the least efficient line. He argues that “reducing the dispersion within factories by increasing the productivity of the least efficient lines is unlikely to be sufficient to ensure that the Bangladeshi garment sector remains competitive as wages increase. But it would be an excellent start.” He points to the importance of the development of management capacity in Bangladesh.

Essay 4 by Moazzem puts Woodruff’s study in the wider context of upgrading in the garment sector in Bangladesh. The RMG sector has gone through a transformative journey, reflected in economic upgrading in three different areas – product, process and functional upgrading. There has been some product upgrading (better ‘design’, ‘washing and dyeing’ and ‘trimming’, which have contributed somewhat to higher value) and some limited process upgrading (e.g. through use of computer-aided design (CAD) machines) but no functional upgrading. Despite some improvements, Bangladesh still remains behind its major competitor, China. Moazzem argues that Bangladesh needs to make significant investments in improving workplace safety, social compliance, labour productivity and capital efficiency, which would help to increase market share in the high and medium-end segments of the value chain. This requires cooperation among the major stakeholders in the value chain (i.e. the government of Bangladesh, trade bodies, buyers/retailers and development partners).

Essay 5 by Fukunishi compares the garment sectors in Cambodia and Bangladesh. His study finds that, in 2002, the average share of profits (including tax) in value added was well beyond that of Cambodian firms, indicating strong cost advantages. However, the profit share fell significantly in 2008, lower than the Cambodian average, owing to average real wage increases. Moreover, while total factor productivity in Bangladeshi firms did not change, Cambodian firms recorded substantial growth in productivity, which allowed them to increase the share of profit despite an increase of wages. On the one hand, the Bangladeshi industry maintained growth by reducing profits. Given a relatively high wage level and labour compliance measures (e.g. Better Factory Cambodia), Cambodian firms had to enhance productivity in order to sustain garment exports. Fukunishi also notes that productivity growth in the Cambodian industry was mainly driven by firm turnover; unproductive firms were replaced by productive ones. This provides an alternative option for increasing productivity through firm turnover: removing policies that restrict free entry and exit. His conclusion echoes that of Moazzem: more coordination amongst stakeholders is essential.

Restructuring the garment sector: practical examples from Mauritius and Pakistan

The garment sector is often the first rung up the manufacturing ladder in LICs. Bangladesh has already experienced strong growth in garment exports. At around $25 billion, it is now the second largest exporter in the world behind China. The export value of the Bangladeshi RMG sector is bigger than the GDP of 90 countries. However, this excellent achievement will be under threat in the coming decade unless it is able to upgrade and remain competitive. Two other countries offer additional important and practical examples.

Essay 6 by Treebhoohun provides an account of Mauritius, which has undergone significant structural changes supported by policy. Export processing zones (EPZs) were the main engine of transformation in the 1980s away from agriculture and initially towards low-cost garments, building on low-cost labour, preferential access to the European market and the absence of quotas on the US market. However, by 1990, labour costs had gone up and the Multi Fibre Arrangement (MFA) was going to be dismantled. This led to more foreign labour being brought in while investing in more technology-intensive processes like computer-aided design (CAD). In addition, the garment sector shifted from middle-market segments to more fashionable items with a more significant design input. Government support was key to the successful transformation through institutional support for promotion, innovation and productivity improvement, an exchange rate policy to give
the sector breathing space to modernise, and sharing of costs for adoption of new technology. Ultimately the country also diversified out of garments/manufacturing and into services.

Essay 7 by Mohammad discusses the Pakistani case, which is different from Bangladesh in having a strong textile sector (in addition to a garment sector). It has seen a number of waves of restructuring. The latest wave of restructuring includes building special economic zones to attract Chinese investors that can make use of the new preferential access that Pakistan has gained to the EU. But it also includes a new export-import bank, cheap gas and the use of an export tax for human resource development.

Conclusions

Bangladesh has developed a large garment sector, but sustained growth will be dependent on addressing issues relating to social compliance and productivity enhancements.

There is significant potential for upgrading and productivity change within factories: a new DEGRP study finds that productivity differentials among production lines within a firm can be up to two-thirds. Management training (Woodruff) and firm support schemes (Treebhoohun on Mauritius) can be helpful in raising productivity and maintaining competitiveness and market share. Cambodia has also achieved this (Fukunishi).

However, it is also important to promote productivity across firms through helping firm entry and exit (as in the case of Cambodia).

Moreover, a country such as Bangladesh should also think beyond garments and promote productivity through structural economic transformation. Mauritius eventually diversified further into other sectors (Treebhoohun) as other countries undercut wages. EPZs have played an important role in fostering structural change.

Finally, better coordination among the key stakeholders was identified as an important area for achieving productivity and economic transformation at firm, sector or national level in Bangladesh, Cambodia and Mauritius.

References


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References


In this essay, we decompose productivity change and examine three ways to increase productivity. These are outlined schematically in Figure 1:

1. **Moving labour across sectors with different productivity.** McMillan and Rodrik (2011) and the International Monetary Fund (2012) have highlighted the potential for aggregate productivity change by enabling shifts of labour from agriculture to manufacturing. In DEGRP-related work, McMillan, Rodrik and Verduzco-Gallo (2014) find that structural change accounts for half of Africa’s productivity growth from 2000 - 2010. Labour moved from agriculture into manufacturing and services, although flows were small. For 30 sub-Saharan African countries, Dercon and Gollin (2014) find that agricultural labour productivity is 28% of non-agricultural labour productivity.

2. **Moving resources to higher-productivity firms within a sector.** Several researchers have argued that productivity differentials are particularly large in developing countries among firms rather than within firms within a sector or across sectors (Hsieh and Klenow, 2009).

3. **Improving firm productivity.** Much aggregate productivity change in advanced countries happens within firms (Bartelsman et al., 2009), implying that innovation can be fostered through firm upgrading. For example, firm upgrading could occur through managerial changes (Bloom and Van Reenen, 2007). This is where Woodruff’s study (essay 3) is relevant as he argues that productivity differentials across production lines within a firm can be considerable, with the most efficient line being two-thirds more productive than the least efficient line.

Figure 1 describes these three modes of productivity change. Mode 1 (moving labour from low- to high-productivity sectors) relates to productivity differentials between the averages of two sectors (the red bar). In this situation, moving labour from sector 2 to sector 1 would increase productivity.

Mode 2 (allocating resources to more productive firms within a sector) illustrates differences in the average productivity levels within a sector, although as drawn the variation across firm-level averages within a sector (the green boxes) is lower than the variation across the sector-level averages.
Employment growth was faster in higher-productivity sectors (services and industry). Such a shift is in line with mode 1.

On the other hand, calculations using the 2004-2005 Bangladesh enterprise survey data suggest total factor productivity (TFP) is not affected much by inefficient allocation of resources across firms in some sectors. Fernandes (2008) calculates the weighted and unweighted average TFP in a sector. TFP in a sector can grow if more resources are allocated to more productive firms. However, Figure 3 shows that the reallocation effect (correlation between market share and level of TFP) is small in most sectors, at around 10-20%. This suggests that the reallocation effect following mode 2 would be relatively small.

Finally, the significance of mode 3 (productivity differentials within a firm) appears substantial for Bangladesh. As Woodruff argues in the next essay, the most efficient production line is two-thirds more productive than the least efficient line within a firm.

The emphasis on policy implications may differ according to where there is the greatest potential for productivity change. For example, active

(difference between white line averages of the green boxes).

Mode 3 (improving firm productivity) relates to the findings of Woodruff: productivity levels vary markedly within firms. In Figure 1 this means that the grey and blue boxes are long.

The way the chart is constructed leaves much potential for productivity change by bringing up the bottom of the grey and blue boxes (e.g. increased firm productivity through training), less so through reducing the green box (firm entry and exit and reallocation amongst firms within a sector) and quite a lot through moving labour from sector 2 to sector 1 or bringing up the bottom of the red box.

In fact, this figure appears to describe the situation in Bangladesh quite well. In particular, labour productivity (measured by value added in 2000 prices per employee in a sector) is around four times greater (using World Development Indicators (WDI) data July 2014) in industry than in agriculture, so moving labour from agriculture to industry would raise productivity considerably. This is exactly what has happened over the period 1996-2005, as shown in Figure 2, where
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Figure 2
Labour productivity and employment changes in Bangladesh

Source: Calculations using WDI data. Labour productivity (value added per employee) in a sector is expressed as a ratio of national labour productivity. Changes in employment shares expressed in percentage point differences.

Figure 3
Decomposition of industry TFP in Bangladesh

Source: Fernandes (2008)
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Structural economic transformation policies would be needed to raise productivity through mode 1, competition policy would be need to promote productivity change through firm entry and exit under mode 2, and enterprise training to upgrade firm productivity in mode 3. Creating further knowledge of the potential for productivity change will help policy-makers to understand the nature of innovation and ways to improve it. Woodruff’s DEGRP research provides further insights into firm level productivity and other areas.

References


Enhancing productivity in Bangladeshi’s garment sector

3 Managing for efficiency in the garment sector
Christopher Woodruff, University of Warwick

4 Transformation of the export-oriented, ready-made garment sector of Bangladesh: changes, challenges and the future outlook
K. G. Moazzem, Centre for Policy Dialogue (CPD, Bangladesh)

5 The Bangladeshi garment sector in the liberalised market: is upgrading needed?
Takahiro Fukunishi, Institute of Developing Economies Japan External Trade Organization
By many measures, Bangladesh’s ready-made garment sector has performed spectacularly well over the past decade. Output has grown at annual rates in excess of 15% over the last half dozen years, and Bangladesh is now the second largest exporter of clothing in the world, behind China. The sector now accounts for more than 12% of Bangladeshi GDP and 80% of exports.

Garments have also played a central role in the country’s rapid growth in real GDP of 6% per year over the past decade, and in the expansion of labour market opportunities for women – for whom the employment-to-population ratio increased from 22% to 34% between 2000 and 2010 (International Labour Organization (ILO), 2013).

While the sector’s growth remains healthy in spite of a tumultuous past year, there are some reasons to be concerned. The events of 2013, and particularly the Rana Plaza collapse, have increased global scrutiny on the garment sector in Bangladesh. Even before the disaster, the growth of the sector was widely viewed as being driven by exceptionally low labour costs. In contrast, productive efficiency is seen as low relative not only to China but to other competing countries as well. Rightly or wrongly, adherence to social compliance standards is also seen as lower in Bangladesh than in competing countries.

Cross-national differences in wages are difficult to determine because of differences in issues such as the standard work week and rules of overtime. However, a recent study by the Center for American Progress (2013) indicates that average wages in Bangladesh in 2011 were 46% and 51% lower than in India and Indonesia, the third- and fourth-largest garment exporters, respectively. Moreover, the data in the study show that wage rates in Bangladesh remained flat between 2001 and 2011. More recent comparative data are not available, and the 65% increase in minimum wages in Bangladesh in December 2013 doubtless closed the gap with these and other competitors. That wage increase also presents an opportunity for the industry to focus on increasing productivity.

Most observers suggest that the Bangladeshi garment sector is less efficient than its main competitors. Again, comparisons based on hard data are difficult to find, but one indication of this comes from a comparison of the export value per worker in different countries. In Bangladesh, each garment sector worker accounts for around $5,300 in exports; in Vietnam, the figure is closer to $7,000, some 30% higher.¹

Together with colleagues at the University of Warwick and the University of Dhaka, I am currently conducting several studies assessing the effectiveness of management training in the garment sector in Bangladesh. Early discussions with stakeholders have suggested that mid-level management skills are under-developed in the sector. Our own survey data indicate that almost all of the training of line-level supervisors comes on the job: only 20% of supervisors report having received any formal training for their jobs, and only 5% have received that training outside of the factory. Moreover, while 80% of machine opera-
tors are women, fewer than 10% of managers are female. In one of our projects, we are examining whether factories are overlooking supervisory talent by promoting men almost exclusively to management roles.

With the generous cooperation of nearly 100 factories, we are collecting very detailed – daily, line-level – production data as a part of these projects. These data indicate both the potential for improvement in productivity and the current state of managerial knowledge that exists within these factories. In our first sample of around 60 factories – all suppliers to middle or higher-end international buyers – we find average efficiency rates of around 45%, slightly above what industry observers agree are standard in the Bangladeshi sector. Somewhat surprisingly, however, we also find a great deal of variance in productive efficiency across production lines within the same factory. The line-level productivity differences appear to be highly persistent across time, so that lines that are relatively efficient in one month are likely to remain so the next month. And the differences are not trivial: the data suggest that in a typical production unit with 10 production lines, the most efficient line is two-thirds more productive than the least efficient line.

The reasons behind the productivity dispersion within factories represent a puzzle we are still piecing together. But the data suggest that some of the knowledge required to generate higher productivity lies inside the factories themselves.

Reducing the dispersion within factories by increasing the productivity of the least efficient lines is unlikely to be sufficient to ensure that the Bangladeshi garment sector remains competitive as wages increase. But it would be an excellent start. What is at stake here is not only the continued prosperity of the garment sector but the development of management capacity in Bangladesh, which will be critical as the country moves up the product ladder to industries with more complex products.

The garment sector developed early in the process of industrialisation in many countries now reaching middle-income and even upper-middle-income status. Of course, organising any activity in developing countries is challenging. Infrastructure is lacking, laws may be arbitrarily applied, contracts are not enforced, and so forth. One reason this sector often initiates the development process is that, relatively speaking, organisation of garment production is straightforward. As national incomes and wages increase, countries have priced themselves out of garment production, and have moved to production of other more complex goods. China is now going through this transition, and losing its competitiveness in garment production.

The next steps on the industrial product ladder punish mistakes much more harshly. Why? One reason is that production becomes more capital intensive in sectors further up the industrialisation ladder. Labour efficiency then matters more, because that efficiency is leveraged with capital. A second reason is that product quality is more sensitive to mistakes. A button coming off a newly-purchased garment is a nuisance; faulty wiring on a motor has much more serious consequences.

Thus, production of garments is a training ground for the development of management systems that promote efficiency and ensure quality. The sector has developed with access to very low-cost labour. But reliance on low labour costs will limit Bangladesh’s longer-term growth.

Bangladesh is fortunate to have a sector with many hundreds of very large firms. In many countries without such sectors, we find ourselves asking what will serve as the wellspring for needed mid-level managers. As Bangladesh develops, the garment sector can be the source of managers for new sectors. But increasing the skill of those managers is critical if they are to be effective in either increasing the competitiveness of the garment sector or in developing new, more complex sectors.

References


4. Transformation of the export-oriented, ready-made garment sector of Bangladesh: changes, challenges and the future outlook

K. G. Moazzem,
Centre for Policy Dialogue (CPD, Bangladesh)

Summary
This essay focuses on the wider context of upgrading in the Bangladeshi garment sector. It argues that Bangladesh needs to make significant investments in improving workplace safety, social compliance, labour productivity and capital efficiency.

Introduction
Key to the economic transformation Bangladesh experienced over the last four decades has been the contribution of the globally competitive, export-oriented ready-made garments (RMG) sector. Increasing the competitive strength of Bangladesh’s RMG sector helped the country to attain the distinction of being the second largest global supplier of apparel after China. Despite its consolidation as a major sourcing destination for apparel, Bangladesh still faces major challenges as sourcing strategies have evolved in accordance with the shifting dynamics of comparative advantages.

Nature of transformation in the RMG sector
Since its emergence in the early 1980s, the RMG sector has had a transformative journey. This transformation in the RMG value chain is reflected in economic upgrading, particularly in three different areas – product, process and functional upgrading.

Product upgrading: A significant degree of intra-RMG product diversification has taken place over the years. The predominance of woven-wear products in the export basket in the 1980s gradually reduced with the emergence of knitwear apparel in the 1990s as a key component (Rahman, Bhattacharya and Moazzem, 2008). At present, woven and knitwear products account for an equal share of the RMG export basket. According to Moazzem and Sehrin (2013), the number of export products has changed, with a decreasing share of less important items. In addition, the share of new products has increased. Within the basic category, local manufacturers have offered better ‘design’, ‘washing and dyeing’ and ‘trimming’, which contributed to a higher value addition at the local level (Moazzem and Sehrin, 2013). However, not all products have experienced a similar level of growth – about 50% of the products of Bangladesh’s product basket experienced an annual average growth of over 10% between 2004 and 2011. This change in product composition indicates consolidation and specialisation of the manufacturing base of local firms.

Bangladeshi manufacturers are specialised in manufacturing cotton-based products – the share of export of cotton-based products increased from 60% to 79% of total exports between 2004 and 2011. With the relaxation of the rules of origin under the EU’s Generalised System of Preferences (GSP) scheme for products from the least developed countries (i.e. the EU Everything But Arms initiative) in 2011, export opportunity in the EU for non-cotton apparel based on imported fabric has significantly increased.

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1. The author would like to register his deep appreciation to Prof. Mustafizur Rahman, Executive Director, CPD.
Process upgrading: Process upgrading is reflected in a number of ways, including changes in the machine-to-labour ratio, number of workers employed per line, average machine speed, average machine-to-line ratio, etc. According to Rahman, Bhattachrya and Moazzem (2008), a notable improvement has taken place in the production process since the phasing out of the Multi Fibre Arrangement (MFA) quota in 2005. The use of high-speed machines, introduction of new technologies and establishment of industrial engineering departments have contributed to improvements in labour productivity and efficiency, as well as improvements in the quality of products (Moazzem and Sehrin, 2013). The use of computer-aided design (CAD) and other sophisticated machines has contributed to reducing wastage both in knitwear and woven-wear factories. Both knitwear and woven-wear factories have reduced the number of workers per line – about 10% fewer workers are now needed compared to the figure in 2004. Because of improvements in trade facilitation and logistics, overall lead time in the production process has decreased.

Functional upgrading: The level of functional upgrading in the RMG firms has been rather low. Despite making progress in terms of process and product upgrading, manufacturers have yet to develop the capacity to offer new designs and develop brands for their products. Firms by and large tend to rely on buyers for marketing of their products.

Attendant challenges and future outlook
Despite considerable improvement in the economic upgrading of the RMG value chain, Bangladesh still remains way behind its major competitor, China, on all accounts. Bangladesh’s RMG sector is currently passing through a transitional phase where it needs to address both economic and social upgrading. This has become more pertinent following the tragic incidents of the fire at the Tazreen garment factory and collapse of Rana Plaza, which caused the deaths of over 1,200 RMG workers. Bangladesh needs to make significant investments in improving workplace safety and in areas of social compliance; it also needs to ensure higher labour productivity and capital efficiency, which would help it to ensure compliance with the more stringent compliance demands of buyers and increase its market share in the medium and high-end segments of the value chain. A number of experiments are currently ongoing in an attempt to ensure economic upgrading in the value chain through improvement in capacity utilisation of machines and better management practices by mid-level managers (Macchiavello, Menzel and Woodruff, 2013).

Of increasing importance is the emerging challenge in the global value chain relating to ensuring adequate social upgrading in tandem with economic upgrading (Barentos, Gereffi and Nathan, 2012; Bhattacharya and Moazzem, 2013). Recent initiatives toward the improvement of physical compliance undertaken by global buyers and retailers such as the North America-based Alliance and EU-based Accord, along with the International Labour Organization (ILO), have to address weaknesses in physical standards that have assumed critical significance. Timely implementation of these initiatives has emerged as an urgent task. Besides, despite significantly increasing workers’ minimum wage over the last seven years (from $38 per month for grade 7 workers in 2006 to $68 in 2013), this is still far behind the required ‘living’ wage.

Addressing these challenges will not be easy without using the appropriate policy instruments and ensuring their effective implementation. In this context, major stakeholders in the value chain, particularly the government of Bangladesh, trade bodies, buyers/retailers and development partners, should work closely to address the attendant tasks.
References


5. The Bangladeshi garment sector in the liberalised market: is upgrading needed?

Takahiro Fukunishi, Institute of Developing Economies, Japan External Trade Organization

Summary
The author compares the garment sectors in Cambodia and Bangladesh. He proposes removing policies that restrict free entry and exit to support productivity growth through firm turnover.

The Bangladeshi garment industry has been successful in the export markets since the 1980s. It has had a substantial presence in the national economy, accounting for the lion’s share of total commodity exports and employing more than 3 million workers. As generally recognised, the strong competitiveness of the industry stems from the low wage level relative to other garment-exporting countries; the average operator wage is much lower than in China and India (Starlitz and Frederick, 2012).

However, the advantage of a low wage has been eroding for the last five years. After a long interval since 1994, the minimum wage was updated in 2005, 2010, and 2013. Although the minimum wage was raised by more than 80% in 2010, a number of demonstrations erupted in Dhaka calling for a further increase. While apparel exports from Bangladesh continued to grow after the abolition of the Multi Fibre Arrangement (MFA) in 2005 and the 2008 financial crisis, we found that the increase of the minimum wage significantly affected the competitiveness of the Bangladeshi sector.

According to our surveys of garment firms, the average share of profits (including tax) in value added was 69% in 2002, which was well beyond that of Cambodian firms in 2002 (35%), indicating Bangladesh’s strong cost advantages (Fukunishi, 2014). However, profit share fell significantly to 42% in 2008, even lower than the Cambodian average (46%). Although most firms earned profits in 2008, the reduction in profit share indicates that firms became more prone to competition in prices.

A direct cause of the reduction in profit share is wages; the average real wage rose by 43% from 2002 to 2008 in Bangladesh. Under the similar upward trend in wages, however, the Cambodian industry managed to raise its share of profit by enhancing total factor productivity, in contrast to Bangladeshi firms, which did not record significant change in productivity (Fukunishi, 2014). The substantial growth of exports in the Bangladeshi industry after the MFA’s termination was maintained by reducing profits.

Productivity is gaining greater importance as a factor of competitiveness even in low-income countries (LICs), given sustained pressure for wage increases and for competition in a liberalised apparel market. As labour demonstrations indicate, there is still strong demand for wage increases in Bangladesh. Furthermore, enforcing compliance with labour regulations is becoming critical for the sector after the recent collapse of a factory building (Rana Plaza) and a series of factory fires. Bangladeshi firms need to incur costs to improve working conditions. On the other hand, export prices have been decreasing since the termination of the MFA. Therefore, the Bangladeshi sector cannot sustain competitiveness without productivity growth.

The Cambodian case is informative. Given a relatively high wage level and a strict labour compliance institution in Better Factories...
Cambodia, it is likely that Cambodian firms had no other choice than to enhance productivity in order to sustain garment exports. This shows firms’ capacity for technological upgrading, in contrast to the conventional wisdom that labour-intensive sectors in LICs do not have the capacity to upgrade technology. It is also notable that productivity growth in the Cambodian sector was mainly driven by firm turnover; that is, unproductive firms were replaced by productive firms (Asuyama et al., 2013).

Productivity increases through process and product upgrading. Process upgrading means enhancing efficiency of production by, for example, developing workers’ and managers’ skills or installing the latest equipment, while product upgrading means improving the quality of products. The Bangladeshi sector has the potential for both types of upgrading. Given the wage level, garment firms are more unskilled and labour-intensive than those in other exporting countries; they employ many assistants to help machine operators. Hence, there is large potential for reducing costs and increasing efficiency by substituting unskilled labour with machines or skilled labour, and training those unskilled workers. A problem is that firms are not motivated to train workers given high labour turnover.

The potential for product upgrading is also substantial, since the unit price of the apparel products exported from Bangladesh is the lowest in the world. However, upgrading requires not only efforts by garment firms but government action to improve the quality of the business environment. A cross-country comparison shows that high-wage garment-exporting countries that are assumed to export high-quality products, such as China and Vietnam, have better logistics performance (World Bank, 2010).

The Bangladeshi garment sector needs to tackle the issue of compliance with labour regulations and productivity enhancements in order to sustain growth. In terms of the policy implications of this, policies that restrict free entry and exit should be removed so as to sustain productivity growth through firm turnover, while the Bangladesh garment industry has been effectively restricting entrance of fully foreign-owned firms (Yunus and Yamagata, 2014). And, since garment firms are generally capable of enhancing productivity, appropriate updating of minimum wages and enforcement of labour compliance will contribute to improvements in the welfare of workers and increased trust in export markets without impairing competitiveness. In conjunction with competition, coordination among garment firms, the government and related organisations including labour unions is needed in order to provide public goods, including the training of workers, a better business environment, and labour compliance institutions.

References


Practical examples: the garment sector in Mauritius and Pakistan

6 Structural transformation of the garment sector in Mauritius in the 1990s
Nikhil Treebhoohun, Oxford International Consultants Mauritius (OIM)

7 Restructuring of the textile and clothing sector in Pakistan
Azam Mohammad, former Executive General and Additional Secretary, Ministry of Commerce, Pakistan
Mauritius achieved independence in 1968 amidst doubts about its economic viability. This island of 782,800 people was in dire straits, with unemployment rife at 17%, high population growth of 3% per year, almost no foreign reserves, and no natural resource endowments except for beautiful beaches and landscapes. Furthermore, the price of sugar was at a low ebb with a monocrop economy dependent on sugar for 98% of its foreign exchange earnings and for 49% of total employment, and an annual per capita income of only 1,046 Mauritian rupees ($60 at today’s rate). It seemed set to be a basket case of Malthusian economics.

However, within a span of some 40 years the structure of the economy underwent substantial transformation. Diversification away from sugar has been achieved. Whereas agriculture accounted for 19% and manufacturing as a whole 26% of GDP in 1982, by 1994 the share of manufacturing had gone up to 35% while agriculture’s share had fallen to 9%. The engine of growth during the 1980s and 1990s was the export processing zone (EPZ), in particular textiles and garments, while tourism also grew by 8% per annum. Figure 1 sums up the economic trajectory of Mauritius from a mono-crop economy to an integrated business platform.

The EPZ was set up in 1970 but had a very slow start. In 1980, there were only 100 enterprises with a workforce of 21,300 (11% of total employment), with exports totaling 895 million rupees (25% of the total). By 1990, the total number of enterprises had grown to 568, employing 32% of the total workforce in the country, with exports accounting for 63% of the total.

The surge in investment occurred during the period 1985 to 1987, when the number of new enterprises being set up increased by 101 in 1985, 139 in 1986, and 114 in 1987. These were years when value added in the EPZ increased by more than 30% on average. During the decade 1983 to 1993, the EPZ recorded an average annual growth rate of 13%; employment soared with a total of 60,000 new jobs created during that period. The apparel sector always occupied an important place in the EPZ. In 1979, it already made up 51.2% of total enterprises, employing 79.8% of the workforce. Within the sector itself, however, shifts in its composition occurred over time.

The initial comparative advantages of Mauritius lay in low-cost labour, preferential access to the European market and the absence of quotas in the US market. In the early phases of industrialisation, only assembly operations or manufacture of products that involved high labour intensity were carried out in Mauritius.

The upsurge in the textile and clothing sector during the 1980s was the result mainly of an inflow of investment from the Far East that was attracted by the above advantages. Most of the
The government’s commitment to structural change stemmed from the realisation that the producers can be described as producers of basic and downmarket garments using basic second-hand equipment. In fact, a survey of Mauritian apparel producers yielded the following categorisation in terms of products in 1992:

1. commodity end products like T-shirts that are not subject to fashion trends;
2. downmarket garments and knitwear, mainly made of synthetic fibres, sold in supermarkets and low-end department stores;
3. products for the middle-market segments distributed by mail-order firms and department stores; and
4. expensive fashionable outerwear sold in boutiques and retail chains catering for the upper-market segments.

However, from 1990 a new set of conditions appeared that required that the industry be restructured. Internally, labour costs had gone up as a result of a tight labour market characterised by an unemployment rate of less than 3%. A short-term palliative was seen to be the import of foreign labour while simultaneously the authorities urged the sector to modernise and invest in more technology-intensive processes like computer-aided design (CAD), and computerised cutting; in more sophisticated handling systems and in reorganising production systems to be able to respond to shorter lead times and to create more value added. Therefore, in terms of the categorisation outlined previously, the garment sector was to shift from middle-market segments to more fashionable items with a more significant design input.

Industrial restructuring is not easy and enterprises often have to be provided support to move in the right direction. Various publicly funded institutions were set up over the years as facilitators: the Mauritius Export Development and Investment Authority in 1984 to attract investors, provide industrial estates and search for new markets; the Industrial and Vocational Training Board in 1989 to ensure that skills were upgraded to respond to new industrial needs; and the Export Processing Zones Development Authority (EPZDA) in 1992 to provide support to export enterprises to help them to enhance their productivity, quality and creativity.

The government’s commitment to structural change stemmed from the realisation that the
trade agreements playing in its favour since the 1970s, namely the Lomé Convention, were bound to disappear with the dismantling of the Multi Fibre Arrangement (MFA), planned for the year 2005. In the meantime, other low-cost competitors were emerging and challenging the position of Mauritius. As a response, those enterprises that wished to compete on low labour costs and produce basic items were encouraged to relocate their production to nearby Madagascar.

To conclude, the catalyst for the structural transformation of the garment sector in Mauritius can be traced to both internal and external conditions: internally, labour costs had risen as near full employment was reached in 1990, and externally the MFA was due to be dismantled and the World Trade Organization was to start operating from 1995. To remain competitive the industry had to adopt new production practices, improve productivity through training and investment in technology, move up the value chain, and engage in product differentiation. Government support was key to the successful transformation through institutional support for promotion, innovation and productivity improvement, an exchange rate policy to give breathing space to the sector to modernise, and the sharing of costs for the adoption of new technology (e.g. the Technology Diffusion Scheme with support from the World Bank). Private sector involvement was achieved through the presence of its representatives on all the boards of directors of the parastatal bodies – in fact, the chair was always somebody from the private sector.

The main lesson from the Mauritius experience is that the push for industrial/sector restructuring was not present so long as the industry benefited from preferential market access. Once traditional markets became open to competition (notably, in the case of Mauritius, to other least developed countries under the Everything But Arms initiative) there was no choice for enterprises other than to adapt or perish: by 2010 many of the inefficient ones had indeed perished even though the government had set up a Textile Emergency Support Team. Therefore, while governments can put in place the proper business environment and support, transformation will not happen if the will to change is not present among operators.

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7. Restructuring of the textile and clothing sector in Pakistan

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Summary
Pakistan’s textile and clothing sector suffered under the quota regime, but recent restructuring strategies by the government have made a significant difference to productivity and growth.

Background
Today Pakistan is one of the few countries with a textile and clothing (T&C) sector that is vertically integrated, from cotton to clothing and made-up textiles. However, the country has suffered – particularly during the quota regime that significantly curbed its potential. Under this regime, quotas – a maximum limit on textile exports of developing countries – were imposed by major economies like the US, EU, Canada, etc. This came to an end following the World Trade Organization’s (WTO’s) Agreement on Textiles and Clothing (ATC) in 2004, but by then the damage had already been done. Other countries that received tariff or quota-free access had grown their exports, thereby distorting the global T&C trade. Even following the quota regime, Pakistan continued to suffer on account of countries such as Bangladesh and other least developed countries (LDCs) that benefited from tariff-free or lower-tariff access. In addition, the rise of China in the T&C sector caused Pakistan’s market share in clothing to deteriorate further. All this led to the realisation that Pakistan needs to restructure its industry if it is to survive and grow this sector.

Early restructuring, 2000-2004
Pakistani exporters were used to the rent seeking that came about from the quota regime and high tariff protection for textiles that were prevalent in Pakistan. In order to prepare exporters for the post-quota competitive era, the first sector transformation occurred in 2000 whereby textile imports were liberalised and tariffs were reduced. By 2003, the highest tariff in Pakistan was 25% (with a few peaks), but in the T&C sector over 1,000 tariff lines were at a reduced rate of 5% to 15% due to the binding of tariffs with the EU, that happened as part of textile quota and GSP negotiations in 2001. Some bindings were made to USA at an earlier date.

Textile Vision, 2005-2013
In order to benefit from the quota-free regime, in 2005, Pakistan undertook structural reform in the T&C sector in line with its ‘Textile Vision 2005’ announced in 2001. Three scenarios were set: low, medium and high roads. Pakistan achieved the medium road, which envisaged an investment in machinery and new capital of over $5 billion between 2002 and 2004. This restructuring proved useful and contributed to Pakistan’s T&C export enhancement to over $13 billion in 2013. The major export share is of yarn, fabric and bed linen, with garment exports at $2.4 billion.

Current government restructuring strategies
In order to cope with utility and energy shortages, Textile City was recently set up in Karachi, where utilities including water are provided as a top priority to the city. Similarly, Garment City has been established in Lahore and another is about to be set up in Karachi.

1. Source: Pakistan’s Ministry of Commerce.
Special economic zones are also being set up, where investors in these zones will be provided a 12-year tax break. This zone should be particularly attractive to Chinese investors who are collaborating with Pakistani exporters to benefit from the EU enhanced Generalised System of Preferences (GSP+) market access.³

In the last couple of years, there has been crowding out of the private sector from the capital market due to heavy government borrowing; now, the government is ensuring easy access to capital for the private sector. An export-import bank is also being set up in 2014 for easy and cheap access to capital for exporters.

As a priority, gas is being provided to the clothing sector throughout the country. Despite severe shortages, gas is assured for up to three days to the T&C sector in Punjab, a region that is frequently one of the worst hit by gas shortages. In Karachi, the situation is now better as compared with the rest of the country.

Priority is being placed on human resource development by the government for upgrading and transformation. Funding for this comes from cost sharing of clothing associations and the 0.25% surcharge collected on the free on board value of exports. The following institutions exist for skill development and testing and improving standards:

- two degree-issuing universities in textiles
- three endowment seats for textiles in major universities
- three fashion design institutes
- 12 technical training institutes
- several institutes for imparting technical skills in cotton ginning and in the garments, towels, bed sheets, processing and synthetic fibre sectors
- laboratories set up with facilities for chemical testing for dyes, etc. used in fabrics.

The emphasis is placed on better compliance to both increase acceptability to buyers and enhance productivity. Upgrading and transformation now include product diversification into ladies’ garments, jackets and value-added clothing. The major incentive and driver for this is the new EU GSP+ and the attraction of Chinese investment in Pakistan in the clothing sector.

Despite Pakistan’s T&C sector facing major challenges due to the energy deficit and law and order situation coupled with competition, particularly from China and LDCs, it is poised to grow as the government and private sector are working closely to ensure enhanced productivity and upgrading. Increased market access in the EU due to GSP+ status is also leading to increased investment by Pakistani entrepreneurs as well as foreign investors, mainly Chinese.

3. Source: Pakistan’s Board of Investment.
The DFID-ESRC Growth Research Programme event

RMG sector at crossroads
Ungradation, transformation required to ensure growth, experts say at CPD dialogue

$30b garment exports hinge on tech upgrade
Analysts also stress improving workers' productivity

Challenges of economic growth and transformation in Bangladesh
DEGRP meeting report, February 2014, Dhaka, Bangladesh
The meeting began with opening remarks from Dr Debapriya Bhattacharya (Member of the Advisory Committee, DEGRP) and an introductory statement by Professor Mustafizur Rahman (Executive Director, CPD) on the importance of the garment sector in Bangladesh, and the potential to expand, upgrade and improve productivity in the 21st century.

Dr Dirk Willem te Velde (Head of Programme, International Economic Development Group, Overseas Development Institute) began the presentations by introducing DEGRP and explaining the concept of structural transformation. He highlighted the importance of strategic and accountable state-business relationships for upgrading, using the examples of Costa Rica and Cambodia.

This was followed by a presentation from Prof. Chris Woodruff (Department of Economics, University of Warwick, UK), who looked at empirical evidence on human resource upgrading at the micro level. Dr Woodruff, a DEGRP grant holder, is currently researching mid-level management training in the garment sector in Bangladesh, and highlighted two main points: a) there is a lot of heterogeneity in the garment sector (between factories and even within); and b) as a country progresses, the poorly managed companies tend to disappear because the market pushes them out of business. There is a point in development where poorly managed companies cannot survive. Dr Woodruff concluded by suggesting there is a hesitancy to innovate in the garment sector, but that innovation is needed in order to stay ahead.

Mr Azam Mohammad (former Executive General and Additional Secretary, Ministry of Commerce, Pakistan) presented on the upgrading challenges in Pakistan. The country is quite a minor player in clothing manufacture, but its strength lies in the investments that have been made in training and human resources. Upgrading in human resource development has led to the recent inclusion in the enhanced Generalised System of Preferences (GSP+) for access to the European market, creating hopes for new investment, along with strengthened connections to the Chinese market.

Mr Nikhil Treebhoohun (CEO, Global Finance Mauritius) provided another example of national upgrading, in Mauritius, which moved from sugar exports to a widely diversified economy in 40 years. The problems in Mauritius before transformation included a limited product base, no delocalisation strategy, inappropriate technology and low productivity. These issues resonate with the Bangladeshi experience, along with other problems of labour market issues, complicated banking and customs procedures and political instability. Mauritius achieved transformation through institutional support, creativity, innovation, proactivity with buyers, technology improvement (such as working with Lycra and
Dr Ludovico Alcorta (Director, Development Policy, Statistics and Research Branch, United Nations Industrial Development Organization) discussed the long-term trends in the textile industry and provided a warning that the country must prepare for a future decrease in productivity. In Dr Alcorta’s opinion, the garment industry in Bangladesh still has potential to grow, but will reach its limit in a decade. Diversification both within and beyond the garment sector is key.

The chair invited the current president of the Bangladesh Garment Manufacturers and Exporters Association (BGMEA) to comment. He agreed with the need for upgrading and structural transformation and suggested that schemes were needed to enhance domestic and international productivity, such as the creation of a fund on technology upgrading, as well as tax exemption on green growth treatment plans and restructuring of buildings. Mr Anwar-Ul-Alam Chowdhury Parvez (former President of BGMEA) followed this up with his opinion that the sector will grow for another 15 to 20 years, but that there is a need to explore new markets, more managers and more design sectors, as well as learning from the lessons of other countries, such as Mauritius. Dr Khonaker Golam Moazzem (Additional Research Director, CPD) suggested the sector needs a long-term strategy. Newer and better quality products are being included, such as ladies’ wear, which helps long-term export competitiveness. But there are incentive failures: higher-level training is seen as costly as employees often move across factories, so employers need to increase retention through improved wages and promotion.

The floor was then opened for a general discussion. The idea of incentives was debated – what can be done to promote innovation and creativity? Social capital is often lacking, but should the focus instead be on tax incentives? Or on policy support, and changing policy hindrances, such as creating a training fund within firms? It was suggested that not just any tax system will do – it should be followed by a plan that is business friendly, such as in Singapore, where the government has worked with the private sector to find an effective approach. The general consensus was on the need for Bangladesh to focus on these issues, look to a longer-term strategy and learn from other countries, while at the same time remembering that context is key.

Closing remarks were provided by a special guest, Dr Abdul Moyeen Khan (former Minister for Science and ICT), who emphasised the need for policies to create an enabling environment and a focus on forward linkages in terms of technology adaptation and redistribution in the global market. The chief guest, Mr Tofail Ahmed (current Minister for Commerce), highlighted that he had taken note of all the issues raised, such as the transport and energy issues in the country and the need to raise productivity in order to reach a target of $30 billion from garment exports by 2015. He announced he would meet with industry leaders to discuss an action plan and agreed with Dr Khan that it was time to put economics ahead of politics.

For more on the event, visit http://bit.ly/1rxoAGN.