

Report No. 18

**THE TEXTILE AND CLOTHING
INDUSTRY OF BANGLADESH:
IN A CHANGING WORLD ECONOMY**

Centre for Policy Dialogue

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*In support of the dialogue process the Centre is engaged in research programmes which are both serviced by and are intended to serve as inputs for particular dialogues organised by the Centre throughout the year. Some of the major research programmes of CPD include **The Independent Review of Bangladesh's Development (IRBD), Governance and Development, Population and Sustainable Development, Trade Policy Analysis and Multilateral Trading System and Leadership Programme for the Youth.** The CPD also carries out periodic public perception surveys on policy issues and developmental concerns.*

*As part of CPD's publication activities, a CPD Dialogue Report series is brought out in order to widely disseminate the summary of the discussions organised by the Centre. The present report contains the highlights of the dialogue on the theme of **The Textile and Clothing Industry of Bangladesh: In a Changing World Economy** held at the Centre on August 12, 1999.*

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Dialogue on
The Textile and Clothing Industry of Bangladesh: In a Changing World Economy

i. The Dialogue

An Inhouse Dialogue on the theme of *Textile and Clothing Industry of Bangladesh: In a Changing World Economy* was held at the Centre for Policy Dialogue on August 12, 1999. Dr. Sadequl Islam, Professor of Economics at the Laurentian University, Canada and Visiting Fellow, CPD performed the keynote presentation while the CPD Chairman, Professor Rehman Sobhan chaired the dialogue. (the list of participants is annexed)

ii. Keynote Presentation

Professor Islam in his presentation observed that textiles and clothing account for about 85% of total export earnings of Bangladesh. The share of clothing has increased dramatically from .2% of total exports in 1980 to about 74.8% in 1997-98. Exports of clothing from Bangladesh are characterized by (1) high concentration on low value-added products; (2) heavy dependence on imported intermediate inputs; and (3) high regional concentration of exports.

Liberalization of trade following the Uruguay Round agreement presents opportunities as well as challenges for a developing country such as Bangladesh. In the Post-Uruguay Round period, traditional instruments of trade policy such as tariffs, quotas, and subsidies will become less feasible and less relevant. In a liberalized trade regime, competition among textiles and clothing exporting countries is likely to become intense. For a developing country such as Bangladesh, low relative labour costs may not be sufficient for improving the competitive position of the clothing industry.

The patterns of comparative advantage and hence the structure of exports and imports depend on stage of economic development (Balassa, 1979). A country's comparative advantage is expected to change as a result of changes in factor endowments, accumulation of human capital, and technological innovations. Countries

move along a ladder of comparative advantage as development proceeds: relatively advanced countries will lose competitive advantages in product groups intensive in unskilled labour and will shift to products and processes intensive in capital, skilled labour, and innovations.

Bangladesh, being a labour-abundant country, started the process of industrialization by concentrating on labour-intensive products such as textiles and clothing. Since clothing is more labour intensive than textiles, it is logical for Bangladesh to demonstrate its comparative advantage in clothing. Over the last decade or so Bangladesh has substantially liberalized its trade regime, moving away from costly protectionist policy toward a more export-friendly trade regime. The Uruguay Round presents opportunities for Bangladesh by liberalizing trade in textiles and clothing over a ten-year transition period. Several factors however, generate uncertainty and present challenges for Bangladesh: trade diversion induced by regional trade blocs, special trade relationships between trade blocs and some non-member countries, safeguard mechanisms and stringent “rules of origin” introduced by developed countries, China’s accession to the World Trade Organization in the near future, greater competition from major developing countries such as China and India which have a well-integrated textiles and clothing industry.

Developing countries including Bangladesh, which are at a stage of low industrial development, face many questions and dilemmas:

1. Should such countries exploit its comparative advantage in labour-intensive clothing rather than develop textiles industries with government support, if necessary?
2. Should Bangladesh concentrate on augmenting human capital and acquire comparative advantage in high-value added clothing?
3. Does it make sense for Bangladesh to diversify its exports from textiles and clothing toward some high-tech products such as electronics?

The above questions and apparent dilemmas need to be addressed in the context of a changing world economy and supply constraints in the Bangladesh economy.

This paper analyzes textiles and clothing exports from Bangladesh in the context of globalization of the world economy and liberalization of world trade. The main objectives of the paper are:

1. To present an overview of international trade in textiles and clothing.
2. To examine the impact of the Uruguay Round period on the textiles and clothing industry in different regions based on an applied general equilibrium model, the Global Trade Analysis Project(GTAP) model.
3. To examine the competitive positions of Bangladesh and selected developing countries which are competitors of Bangladesh in textiles and clothing.
4. To explore the rationale for selection of optimal trade and industry policy instruments for the textile and clothing industry in the short-run and long-run.

2. **International Trade in Textiles and Clothing: An Overview**

International trade in textiles and clothing has changed substantially since 1980. The data on world trade show that the share of textile fibres in world trade declined from .95% in 1980 to .47% in 1996. In contrast, the share of apparel and clothing increased from 1.97% in 1980 to 3.28% in 1996. The share of yarn, fabrics, and made-up articles increased from 2.83% in 1980 to 3.27% in 1990 but declined to 3.05% in 1996. The paper presents data on market shares of developing countries and composition of textiles and clothing exports from developing and developed countries and observes that the market shares of developing countries increased for(1) textile fibres, (2)yarn, fabrics, made-up articles, and(3) clothing. The share of developing countries in yarn, fabrics, and made-up articles increased substantially from 31.60% in 1980 to 49.28% in 1996. The market share of developing countries in apparel and clothing rose from 50.84% in 1980 to 64.27% in 1996.The share of inter-developing country trade in exports of yarn, fabrics, and made-up articles went up from 52.39% in 1980 to 67.14% in 1996. Furthermore, in 1980, about 29.9% of exports of this category from developed countries were destined for developing countries. The figure decreased to 23.1% in 1990 but rose to 33.7% in 1996.

The data on the network of trade in clothing shows that developing countries are increasingly relying on developed countries for exporting clothing. In 1980, about 78% of developing countries' clothing exports were destined for developed countries. The figure increased to 82% and 83% in 1990 and 1996, respectively. It is also observed that inter-developed country trade in clothing decreased during 1980-96. In 1980, about 94% of developed countries' clothing exports were destined for developed countries. By 1996, the figure declined to 77.7%. In 1980, developing countries accounted for only 4.9% of developed countries' clothing exports. By 1996, the figure went up to about 22.3%.

3. Applied General Equilibrium Analysis

The empirical analysis is based on the Global Trade Analysis Project (GTAP), a standard general equilibrium model (Hertel, ed., 1997). The GTAP database, version 4, covers 50 sectors and 45 regions/countries and contains the benchmark data for the year 1995. The behavioural parameters of the model include, factor substitution elasticities (σ_{VA}), the source substitution or Armington elasticities, and consumer demand elasticities. The data base contains two sets of Armington elasticities: one relates to the substitution between domestic products and imports (σ_D), and the other to the substitution between imports from different regions (σ_M). The factor substitution elasticities are higher for textiles and clothing compared to primary sectors. The Armington elasticities are higher for clothing than for textiles, suggesting a greater degree of competition in clothing. In order to make the empirical analysis manageable, a 10X10 regional and sectoral aggregation is adopted.

Implementation of the comprehensive world trade agreement involves: (1) abolition of quotas under the multifibre arrangement (MFA); (2) reduction of tariffs on textiles and clothing of 21% for industrial countries and 14% for developing countries; and (3) reduction of agricultural output subsidies by 20% and export subsidies by 36%.

Before presenting the results concerning the impact of the world trade agreement on textiles and clothing sectors, the paper examines the data on tariffs on textiles and clothing and on the export tax equivalents of the MFA quotas. The main points from the

data on tariffs can be stated as follows. First, the "Rest of South Asia," India, and China have the highest tariff rates on textile imports. The tariff rates on imports of textiles from all countries in "Rest of South Asia," India, and China, are 93.1%, 60.2%, and 57.5%, respectively. This can be contrasted with Hong Kong which has a zero tariff on imports from every country. Second, the tariff rates on textiles are higher in the USA than in European countries and Japan. Third, in many countries, the dispersion of tariff rates across countries is considerable, because of differences in the composition of products and preferential tariff rates. For instance, the tariff rates on textiles in Canada range from zero on imports from USA and Mexico, because of the NAFTA, to 21% or more on imports from Sri Lanka and Vietnam. Fourth, in some developing countries such as India and China, the tariff rates on imports from developed countries may be lower than from developing countries. For instance, the tariff rates in China and India on imports from USA and the Rest of European Union(Reu) are lower than from several developing countries. Finally, tariff rates on textiles are higher than on clothing in most countries, including the United States, " Rest of European Union" (Reu), Japan, India, and China, Taiwan, and Korea.

A major component of the world trade agreement is elimination of the MFA quotas associated with trade in textiles and clothing. A large literature has emerged on quota rents and export tax equivalents(ETE) for quota-restricted exports from countries affected by the MFA(McDougall, R., et al., eds.,1998). The paper reports data on "ETE" for selected exporting countries. Several points can be noted. First, the ETE figures are higher in the USA than in Europe for textiles as well as clothing, suggesting that the US market is more restricted than the European market. Second, the ETE is generally higher for clothing than for textiles. For instance, the ETE for Indian exports to the USA is 9.8% for textiles and 34.2% for clothing. Finally, for the " Rest of South Asia" (which includes Bangladesh, Pakistan, and Nepal) the ETE is lower than for China and India in the USA and European countries. This suggests that Indian and Chinese exports are more restricted and more competitive compared to exports from Pakistan and Bangladesh. Accordingly, under a quota-free trade regime, a country such as Bangladesh would face greater competition from China and India.

An important component of any applied general equilibrium model is the set of general equilibrium income and price elasticities. These elasticities embody the response of all economic agents to a shock in the market price of given commodity or in incomes of a particular region. The empirical findings from this study suggests that if incomes increase by 1% in the European Union, the demand for output of clothing in South Asia rises by .25%. In contrast, if incomes rise by 1% in Japan, the demand for clothing in South Asia is only .02%. For China, the income elasticity involving Japan is .24%. As expected income elasticities for clothing in the four regions associated with increases in world incomes are higher. It is also observed that price elasticities are higher for clothing than for textiles. The paper also finds that the absolute value of price elasticity for clothing is highest for South Asia. This suggests that the demand for South Asian clothing is quite sensitive to price changes.

The study presents results from applied general equilibrium analysis concerning the impact of the world trade agreement on textiles and clothing sectors in a 10X10 model. Growth of output of textiles is predicted to be negative in developed countries such as Australia, New Zealand, the European Union, North America, and also in Latin America, and the Rest of the World. Output of textiles, in contrast, would grow substantially in Asean, China, the NIEs(Hong Kong, South Korea, and Taiwan), South Asia, and modestly in Japan. Exports of textiles would increase significantly from NIEs, Japan, China, and Asean while exports from the European Union would contract. In clothing, output as well as exports would decline in Aus-NZ, North America, EU, Japan, NIEs, Latin America, and the Rest of the World. The regions that would experience expansion of clothing output and exports are Asean, South Asia, and China. The results highlight the point that the world trade agreement would enhance the competitive positions of Asean, China, and South Asia in clothing at the expense of industrially advanced regions such as the European Union, North America, and Japan and marginally competitors from Latin America and the Rest of the World. In textiles, the picture is somewhat different: Gainers include not only Asean, China, South Asia but also NIEs and Japan while the EU is the only region which is predicted to experience contractions of output as well as

exports. These results are largely consistent with the findings of studies which used the previous version of the GTAP data base(Hertel,ed., 1997, Chapter 10).

4. The Trade Performance of Bangladesh in Clothing

4.1 Distribution and Composition of Exports

Bangladesh relies heavily on the United States and European Union for exporting clothing. The two regions/countries account for over 95% of exports in 1996. The shares of the United States and European Union fluctuated a great deal. In recent years, since 1993, the share of the United States declined while the share of the European union increased. The increased share of the European Union can be attributed to the fact that Bangladesh does not face any quota while it faces quota in the United States. In contrast, major competitors of Bangladesh face quantitative restrictions in the United States as well as the European Union.

A relevant question is whether the European Union is a more competitive market than the United States. One way to explore this is to ascertain volatility of ranks of leading clothing exporters in the two markets, with the help of the Kendall coefficient of Concordance(KCC) defined below((Siegel,1986).

$$KCC = \frac{\sum_{i=1}^N (\bar{R}_i - \bar{R})^2}{[N(N^2 - 1)/12]} \quad (1)$$

Where \bar{R}_i = average of the ranks assigned to the ith exporting country. The number of sets of rankings associated with this average in this context is the number of years for which data are available.

\bar{R} = the average(or grand mean) of the ranks assigned across all exporting countries

N = Number of exporting countries being ranked

The concordance coefficient lies between zero and unity. If the ranks of leading exporters change little over time, the coefficient will be close to unity. On the other hand, if ranks of leading exporters change substantially, the coefficient will be close to zero,

suggesting the existence of volatile comparative advantage or what Bhagwati and Dehejia(1994) called," kaleidoscope comparative advantage" in clothing. The KCC is computed for 17 years, covering the 1980-96 period. The number of leading clothing exporting countries in the US, European Union, and the world market considered is 25.

The paper reports the values of KCC for various clothing categories at the 4-digit level. The figures reveal a mixed picture. The European Union has higher KCC for 9 categories, and lower for 10 categories, and equal for two categories, compared to the United States. It is striking to note that for the three SITC categories(8429, 8441, and 8461) which are dominant in clothing exports from Bangladesh, the European Union has lower KCC. This suggests that for categories of clothing in which Bangladesh now specialize, the European market is more competitive and volatile, compared to the US market. Greater competition in the European market can be attributed to the facts that (1) this market is relatively less restricted by MFA quantitative measures, compared to the US market and(2) the presence of several clothing exporting member countries, for instance, Spain, Portugal, and Italy, which are competitors of developing countries. Note that the KCC values are higher for the total world market than for either the US or European market. This implies that rankings of leading exporting countries of clothing are more stable in the world market but less stable in the two regional markets.

The study explores the degree of concentration of clothing exports from Bangladesh based on the Herfindahl-Hirshman index among different countries rather than broad regions. The index is defined as follows.

$$HHI= [(\sum S_i^2)^{1/2} - (1/n)^{1/2}]/[1-(1/n)^{1/2}] \quad (2)$$

Where S_i is the share of the i th country in total clothing exports from Bangladesh and n is the total number of importing countries.

The study reports the HHI values for Bangladesh, China, and India for the 1980-96 period. It is apparent that the concentration index for Bangladesh has declined since 1980. However, the index for Bangladesh is still higher compared to India and China.

The study also examines the composition of clothing exports from Bangladesh at a disaggregate level. It is apparent that three categories (8441, 8429, and 8461) of clothing account for about 70% of total clothing exports. The shares of categories 8441 and 8429 in total world trade, however, have declined in recent years. Accordingly, Bangladesh needs to shift toward high-value-added categories whose demand is increasing. The concentration of clothing exports among different categories can be examined with help of the Herfindahl-Hirschman Index (HHI) as defined in equation 2. Here, S_i is the share of the i th category of exports in total exports of clothing and n is the number of categories of clothing. The data show that the concentration index declined for Bangladesh during 1980-96. However, the index for Bangladesh is higher, compared to that for India and China.

4.2 Export Similarity Index

To identify competitors of Bangladesh in clothing, one can compute the Export Similarity Index (ESI) involving Bangladesh and selected developing countries. The ESI is defined as follows:

$$ESI = \sum \text{Min}\{S_j(AC), S_j(BC)\} \quad (3)$$

Where A is Bangladesh, B is the selected comparator country, and C is the specific market (for example, the European Union) and S_j is the share of industry J's exports in the exporting country's total exports. The ESI can range from zero to unity. The paper provides values of the ESI for selected countries for 1990 and 1996 based on 4-digit level data on clothing exports. It is evident that the ESI values were higher in 1996 than in 1990. For the US market, the ESI values are higher for Sri Lanka, India, Indonesia, and Mexico, compared to for instance, Pakistan, Malaysia, and Jamaica. Accordingly, the leading competitors of Bangladesh in the US market are Sri Lanka, Indonesia, Mexico, India, Philippines, South Korea, Hong Kong, Thailand, and China. In the European market, the ESI values are higher for Sri Lanka, India, Indonesia, Hong Kong, Jamaica, and Thailand.

It is often mentioned that because of depreciations of several East Asian currencies following financial crises, these countries have managed to increase their market shares in major markets such as the USA. To explore this, the paper provides data on the rate of change in clothing exports from selected countries to the US market during 1997-98 and January-April 1998-99. The data however, present a mixed picture. The East Asian countries that clearly experienced increases in exports of knitted as well as non-knitted clothing are Korea and Malaysia. Indonesia's exports increased for non-knitted clothing but declined for knitted clothing. Thailand's exports increased substantially for knitted clothing during 1997-98. In knitted clothing exports declined for Bangladesh and Sri Lanka during 1998-99.

4.3 Dynamics of Comparative Advantage in Clothing: Revealed Comparative Advantage

Clothing includes a variety of products which differ substantially in terms of quality, unit prices, degree of standardization, and type of major inputs embodied. The comparative advantage of a country in clothing changes as factor endowments, technology, factor prices, and levels of income change. Accordingly, it is necessary to pay attention to changes in comparative advantages of countries in various categories of clothing. In this sub-section, this is done by examining the "revealed comparative advantage(RCA)" in clothing at 4-digit levels for Bangladesh and selected comparator countries for selected years. The RCA is defined as follows.

$$RCA = (X_{ib}/X_b)/(X_{iw}/X_w) \quad (4)$$

Where X_{ib} = Export of i th category of clothing from Bangladesh
 X_b = Total exports from Bangladesh
 X_{iw} = Export of i th category from all countries
 X_w = Total exports from all countries

If the RCA is greater than 1, the relevant country is considered to have a comparative advantage in the product concerned, while an RCA of less than 1 implies a comparative disadvantage in the product. The study presents data on the RCA for clothing at the 4-digit level during 1980,1985,1990, and 1996 for selected countries: Bangladesh, Sri Lanka, India, Pakistan, China, Indonesia, and South Korea. Bangladesh did not have a

comparative advantage in any category of clothing in 1980. The top five categories, in 1996, in terms of values of RCA are men's shirts(8441), headgear and fittings(8484), knitted undergarments(8461), outer garments(8429), and trousers(8423). The RCA has declined for men's overcoats since 1985. For Sri Lanka, the top five categories in 1996, in terms of values of RCA are women's dresses(8433), clothing accessories(8482), women's skirts(8434), men's shirts(8441), and outer garments(8429). The RCA for men's overcoats and men's suits, and women's suits have declined since 1990.

The data on the RCA for the selected countries reveal the pattern that as a country becomes more advanced economically, its comparative advantage in clothing changes. Countries such as Bangladesh and Sri Lanka which did not have comparative advantages in most of the categories of clothing in 1980, managed to achieve the advantages for most categories by 1996. However, the comparative advantages of these countries are still concentrated on low-value added categories. China is at a higher level with comparative advantages in all categories of clothing. By contrast, South Korea, a relatively advanced developing country, has lost comparative advantages in most categories of clothing.

5. Trade and Industrial Policy Toward Textile and Clothing Sectors

During the last decade or so, Bangladesh has substantially liberalized its trade regime, moving away from costly protectionist policy toward a more export-friendly trade regime. The current industrial policy(1999) and Export Policy(1997-2002) have identified the textile and clothing sector as one of the "thrust" sectors in Bangladesh. The patterns of comparative advantage and hence the structure of exports and imports involving textiles and clothing, as stated before, depend on stages of economic development in Bangladesh and other countries. Formulation of trade and industrial policy for the textiles and clothing sector must be based on a dynamic and broader perspective covering all the major components of the "textile cluster." The components are listed below.

1. Natural and synthetic fibres
2. Yarn
3. Grey fabrics
4. Finished fabrics

5. Garments and other made-up products
6. Textile machinery and parts
7. Chemicals for textiles
8. Marketing services
9. Research and training services
10. Financial, administrative, and physical Infrastructure

A country does not need to have comparative advantages in all the components. Similarly, a company does not have to produce or export all the components. An industrially advanced country like Japan may specialize in a few high value added components like fabrics, chemicals, and textile machinery. Because of extensive outsourcing activities by companies in developed countries, there has been a significant increase in "vertical de-integration" or what has been called "slicing the value chain"(Feenstra, 1998) in many products including textiles and clothing. Similarly, for a country like Bangladesh, it is logical to follow the traditional road to industrialization by concentrating on the labour-intensive component such as garments. Indeed, Bangladesh is one of the few developing countries which have emerged as significant exporters of clothing within a short-period of time. Yet, in recent years, concerns have been raised about the viability of the clothing sector of Bangladesh. Because of the heavy dependence on imported inputs, the contribution of the clothing sector in total manufacturing value added is far from spectacular in Bangladesh. The share of manufacturing value added in GDP increased only from 9.8% in 1980 to 10.3% in 1995. Given the current structure of government incentives, a "new dualism" has emerged in Bangladesh, with export-oriented sectors such as clothing, having little linkages with domestic-market-oriented sectors. It has been argued that Bangladesh may lose its competitive position relative to other South Asian and East Asian countries in a liberalized trade environment because the clothing sector of Bangladesh lacks "backward linkages."(UNCTAD, 1998). Promotion of industrial linkages is one of the major features of export, industrial, and textile policies of the government of Bangladesh. The textiles and garments manufacturers and exporters associations of Bangladesh also support the policy of promoting industrial linkages.

The question of backward linkages or more broadly industrial linkages involving forward and backward linkages raises many theoretical and policy-related issues. Several theoretical arguments for industrial linkages can be stated here. First, one rationale for industrial linkages is that for sustained international competitiveness, a cluster of upstream and downstream industries is essential (Porter, 1990). A cluster of supporting and related industries constitutes one of the four components of the Porter's "diamond" model of international competitiveness. Such clusters facilitate product and process innovations. Second, industrial linkages, especially involving firms and suppliers of inputs are consistent with the flexible specialization paradigm (Piore and Sabel, 1984). Inter-firm cooperation involving a firm and suppliers is likely to emerge when the firm and suppliers are closely complementary but dissimilar in capabilities. Inter-firm cooperation help exploit dynamic external economies, as emphasized in the literature on "Marshallian and Italian industrial districts" (Best, 1990 and Langlois et al., 1995). Finally, industrial linkages can facilitate learning by doing, endogenous product differentiation, incremental secondary innovations, as emphasized in the literature on new trade theories (Grossman and Helpman, 1991). Furthermore, development of linkages is likely to promote international trade in machinery, equipment, and specialized inputs with greater learning effects (Lee, 1995).

The view that development of a cluster of industries is essential for maintaining or improving the competitive position of the clothing industry is not free from criticisms. It can be argued that for a variety of reasons, Bangladesh does not have a comparative advantage in textiles such as yarn and fabrics. The reasons include substantial economies of scale and high capital intensity in textiles, the comparative disadvantage of Bangladesh in raw cotton, excess capacity in textiles in major textiles exporting countries. Accordingly, for the clothing industry of Bangladesh, it may be optimal to procure intermediate inputs such as fabrics and yarn from cheaper sources such as India, China, and East Asian countries (World Bank, 1997; IFC, 1999). Another argument is that if profitable, market forces will induce the private sector to develop industrial linkages. Alternatively, vertically integrated firms may emerge to minimize transaction costs. Accordingly, any government intervention, according to this argument, is unnecessary or

counterproductive. This laissez-faire approach however, ignores the presence of externalities in industrial linkages and in knowledge capital and imperfections in financial markets. In the presence of market failures, trade liberalization could induce a technologically less advanced country to specialize in product groups in which the potential for learning is limited(Young,1991).

In the presence of inter-locking externalities in many developing countries including Bangladesh, government can and should play some role in promoting symbiotic relationships between upstream and downstream industries through a coherent trade and industrial policy. Government policy instruments take the form of “input-related incentives,” “output-related incentives,” and other incentives such as infrastructure provision and credits for research and development. The list of government incentives may vary little across developing countries. The critical issues are the timing and duration of government incentives, coherence among policy instruments, and conditionalities underlying government incentives. Often in many developing countries, textiles industries are promoted through costly protectionist policies which hurt rather than help clothing industries.

5.1 Cost Structure of Textiles and Clothing Sectors

The cost structure of textiles may differ from that of clothing because of differences in input requirements. The cost structure of textiles or clothing may differ across countries because of differences in the composition of products and differences in factor prices. Analysis of the structure of these sectors should be useful in identifying major input supplying industries for these industries. The data on the cost structures of textiles and clothing reveal several points.

First, textiles constitute the major input in the textiles sector itself in most of the countries. Textile yarn, for instance, is used to produce textile fabrics. The proportion of textile inputs in total costs varies substantially across countries because of differences in the composition of textile products being produced. Second, the shares of skilled and

unskilled labour in textiles are lowest in China and highest in Singapore. Third, the share of labour including skilled and unskilled in the textiles sector in the Rest of South Asia which includes Bangladesh is higher than in most of the countries. Fourth, chemicals constitute a major component in most countries, especially in Taiwan, South Korea, and Indonesia. The share of chemicals is relatively low in the Rest of South Asia, India, and Sri Lanka. Fifth, the share of electricity in textiles is higher in South Asian countries/regions than in most countries. Sixth, it is clearly evident that textiles constitute the major input in the apparel sector in all countries. The share of textiles in total costs ranges from 22.2% in India to 63.2% in the Philippines. Finally, the data show that the share of labour including skilled and unskilled is lowest in China. The share of labour appears to be lower in South Asian countries/regions than in most other countries.

The paper examines the shares of imported inputs in textiles and clothing sectors for selected countries. Several points can be highlighted. First, India's dependence on imported inputs is quite low. In textiles as well as clothing, the share of imported inputs in India is only 3.8%. In contrast, in Sri Lanka, the shares of imported inputs are quite high. For instance, 99.9% of textiles and chemicals used in the textile sector of Sri Lanka are imported. Furthermore, 50.9% of all inputs used in the clothing sector of Sri Lanka are imported. Second, countries such as South Korea, the Philippines, Thailand, Hong Kong, and Taiwan depend heavily on imported fibres (plant-based). Third, the shares of imported inputs for the Rest of South Asia appear to be low because of the fact that Pakistan is less dependent on imported fibres, yarn, and fabrics. Fourth, overall, Hong Kong is more dependent on imported inputs than China. Finally, Thailand depends considerably less on imported inputs in the clothing sector, compared to other East Asian countries.

Comparable data for Bangladesh are not available. However, the study provides some information about the proportion of imported fabrics in the garments industries of Bangladesh. It is clearly evident that out of 127 categories of fabrics, in 115 categories the proportion of imported fabrics is over 70%.

5.2. *Self-Sufficiency and Export-Output Ratios*

Two other criteria, the self-sufficiency ratio(SSR) and the export-output ratio(XOR) can illuminate further to what extent textiles and clothing sectors cater to domestic and foreign markets. The self-sufficiency ratio(SSR) is defined as follows.

$$SSR= P/(P+M-X) \quad (5)$$

Where P= domestic production

X= exports

M= Imports

The denominator(P+M-X) can be designated as total availability.

The study presents data on the SSR and XOR for selected countries. The countries which have an SSR greater than 1 in textiles and clothing are India, South Korea, Indonesia, Thailand, and Taiwan. For China and Hong Kong, the SSR is less than 1 in textiles and fibres. The XOR provides an indication concerning the importance of foreign markets relative to the domestic market for these sectors. The XOR ranges from .01 for Argentina, Japan and Brazil to .95 for Sri Lanka in the clothing sector. The XOR for China in clothing is .75 but only .16 in textiles. In contrast the XOR for Singapore and Taiwan in textiles are .90 and .61, respectively.

The paper presents time series data on the SSR for Bangladesh in yarn and mill-made cloth. It is evident that the SSR has declined for Bangladesh in yarn since 1980-81. However, the ratio has increased in 1997-98 over the previous year. A similar pattern is observed for mill-made cloth which includes fabrics. It is striking to note the sharp downward trend in the production of mill-made cloth during 1993-94. Such a downward trend in the production of fabrics, in the presence of substantial tariffs, secondary tariffs, and non-tariffs suggests that illegal imports and leakage from the bonded warehouse system, might have significantly weakened the protective effects of trade barriers.

5.3 *Trade Balances in Textiles, Clothing, and Related Sectors*

Level of industrial development differs across countries. Accordingly, different countries are at different stages of "textile cycle." Trade balances in different components of the textile sector should highlight the positions of different countries. The paper shows trade balances in fibres, yarn, fabrics, clothing, textile machinery, and chemicals. Countries such as Bangladesh, Sri Lanka, Vietnam, the Philippines, the Dominican Republic, and Mexico apparently belong to the same stage with a trade surplus in only clothing while deficits in all other components. Pakistan, India, Thailand, Indonesia, and Malaysia have trade surpluses in two or more components. China and Hong Kong have trade surpluses in clothing only. However, deficits of China and Hong Kong in fabrics may be the result of a deliberate policy of greater emphasis on exporting clothing. Taiwan and South Korea apparently belong to a similar stage given the fact that both countries have huge trade surpluses in fabrics. However, Taiwan has trade surpluses in all components except chemicals. Advanced countries such as the USA and Japan have huge trade deficits in clothing but trade surpluses in chemicals. Japan, however, maintains a trade surplus in textile machinery and fabrics. Italy, although an industrial country, has huge trade surpluses in fabrics, clothing, and textile machinery.

The study also examines the dynamics of trade balances in clothing and textiles since 1965 for selected countries. Three points deserve to be mentioned. First, as the experiences of South Korea and Indonesia show, a country can achieve trade surpluses in textiles from the peak year of deficits through a policy of import substitution within a short period of time. Second, Textiles and clothing cycles are not synchronous. For instance, Indonesia witnessed a trade surplus in clothing in the 1977 while a surplus in textiles in 1987, with a time lag of 10 years. For Thailand, the time lag was only 4 years. Finally, for some countries, such as Singapore and Malaysia, textiles and clothing cycles appear to be short with trade deficits in textiles. Apparently, these countries have shifted away from textiles and clothing toward other industries.

5.4 *Instruments of Protection in Textiles and Clothing*

Measures of import protection in Bangladesh currently include non-tariff barriers or quantitative restrictions, tariffs, and "secondary tariffs" such as VAT and supplementary duties, and other taxes. Several issues deserve attention concerning tariffs

for different components of the "textile cluster." These are levels of tariffs, dispersion of tariffs across tariff lines for a product group or chapter of the Harmonized System, the pattern of tariff escalation, and tariff rates for different product groups which are substitutes, for instance, cotton products and products made from synthetic products.

The tariff rates in Bangladesh range from zero to 37.5%. Over the last decade or so the levels and dispersions of tariffs concerning textiles and clothing have declined in Bangladesh. The structure of tariffs for cotton and cotton products(HS chapter 52) shows the usual pattern of tariff escalation with zero duty on cotton, a 5% tariff rate on cotton yarn, and 37.5% on fabrics. In recent years, the tariff rates on yarn has declined substantially relative to the reduction of tariffs on fabrics and clothing. This policy would raise the effective rate of protection for importable fabrics and clothing . However, as noted earlier, illegal imports of fabrics and clothing may weaken the protective effects of tariff escalations. The tariff rate on knitted fabrics(HS chapter 60) is also 37.5%. The tariff rate on knitted apparel and non-knitted apparel is largely 37.5%. It should be noted that the tariff rates on grey and finished fabrics and articles of apparel are uniformly set at the 37.5% level. In some countries(for example, Indonesia), the tariff rates on finished fabrics and clothing are higher than on grey fabrics. In the recent budget(1999-2000) the tariff rates on textile machinery have been eliminated and on spare parts reduced. Apart from tariffs, there are "secondary tariffs" such as the 15% VAT on man-made fibre, yarn, and fabrics.

Since it is one of the major goals of the textile policy to achieve self-sufficiency in yarn and fabrics, a relevant question is whether the government should alter the tariff structure to protect the import competing yarn and fabrics sectors. The study by Bhuyan et al(1997) suggests that the tariff rates on yarn should be raised to protect the domestic industry. While import substitution of textile inputs may be desirable, in the post-Uruguay Round period, the relevance of tariffs as instruments of protection has weakened. Moreover, attempts to protect the yarn and fabrics sub-sectors through higher tariffs may be counter-productive because of illegal imports from other countries, especially India.

The lists of prohibited and restricted items have remained unchanged since 1995. Most of the quantitative restrictions and prohibitions apply to imports of fabrics. Despite these quantitative measures and tariffs on fabrics, the self-sufficiency ratio in fabrics has declined in Bangladesh over the years, as observed already. The production of woven cotton fabrics in Bangladesh has declined from 5.2 million metres to only .9 million metres in 1997. The sharp downward trend can be attributed to supply constraints in the textile sector, "illegal leakage" from the bonded warehouse system, and illegal imports from India. The "system loss" due to these illegal transactions, which are difficult to quantify, seriously reduces the effectiveness and credibility of trade and industrial policy instruments under corrupt political and economic regimes.

5.5 *Instruments of Export Promotion*

Instruments of export promotion concerning textiles and clothing can be categorized into: (1) input-related incentives, (2) output-related incentives, and (3) "externality-related" incentives. Input-related incentives consist of tariff and tax exemptions/rebates on imported inputs through the bonded warehouse system and the duty drawback schemes. Provisions for importing materials, with permission, normally restricted or prohibited. The output-related incentives consist of alternative cash incentives at the rate of 25%. "Externality-related incentives" consist of provision of infrastructure and export quality inspection.

Current policies to promote industrial linkages include a 25% cash incentives for export-oriented firms which use locally made intermediate inputs and minimum rates for value additions. For knitwear, non-quota -woven garments, and quota-restricted woven garments the minimum rate of value addition is 25%. However, for higher priced items (at least \$60 US), the minimum rates for quota and non-quota items are 20% and 15%, respectively. For babies' garments, the minimum rate is 20%. It should be noted that the cash incentives for for using locally made materials do not take into account the proportion of imported inputs embodied in locally made materials.

6. Policy Recommendations

Industrial and trade policy concerning the textile and clothing sectors must be formulated from a dynamic perspective. While the government has declared these sectors as "thrust" sectors and has stated the goals of achieving self-sufficiency in yarn and fabrics by the year 2005, the policy instruments are not quite consistent with the objectives. Over the years, the tariff rates on yarn have been significantly, relative to those on fabrics. The policy is justified if other policy instruments act as countervailing factors and improve the competitive position of the spinning sub-sector. Indeed, in the post-Uruguay Round period, the relevance of tariffs as an instrument to improve the competitive position of any sector or sub-sector is limited.

The question of competitiveness of the weaving sector has generated a lot of discussions. The objective of developing the weaving sector is often justified for a wrong reason. For instance, the study by the Ministry of Textiles(1996) argues that after 2005, when the MFA is completely eliminated, there may be shortages of fabrics, because countries which currently export fabrics will instead use their fabrics to produce and export clothing to North-America and Europe. The findings from the applied general equilibrium analysis suggest that output and exports of textiles will increase in South Korea, Taiwan, Hong Kong and also in Asean, China, South Asia, and Japan. Accordingly, the "fabric shortage" in the world market after 2005 does not constitute a strong argument for developing an integrated textiles and clothing industry. Instead, other arguments such as long-term benefits from establishing clusters of industries(Porter,1990) and exploitation of dynamic external economies, as mentioned already, deserve attention.

It is often mentioned(IFC, 1999) that since Bangladesh is not a major cotton producer, Bangladesh has a comparative disadvantage in cotton fabrics. However, comparative advantage in raw cotton is neither necessary nor sufficient for comparative advantage in cotton fabrics. Many cotton growing countries have failed to achieve competitive advantage in cotton fabrics or clothing while several countries especially in East Asia developed a competitive fabrics sub-sector. As already observed in the

previous section, countries like Thailand, Indonesia, and South Korea managed to establish a fabrics sub-sector within a short period of time.

Trade and industrial policy toward textiles and clothing sectors must be based on a long-term perspective. As the level of industrial development increases in Bangladesh, it will have to diversify its exports away from textiles and clothing toward high value added and high technology products for which demand is more income-elastic. Accumulation of human capital and technological innovations will facilitate diversification of exports. A relevant question is whether Bangladesh should follow the path of such countries as Singapore and Malaysia which have experienced a relatively short "textile cycle" and diversified their exports quickly or the path of those countries such as Hong Kong, Taiwan, and Italy which have maintained a strong textile and clothing industry for longer periods. Given the current factor endowments in Bangladesh, it would be optimal for Bangladesh to maintain an efficient textiles and clothing sector for a long period of time. As the technological sophistication of textiles and clothing industries improves in Bangladesh, it will be essential to develop other components of the "textile cluster" such as chemicals and textile machinery. Trade and industrial policy instruments need to be redesigned accordingly.

Textiles and garments manufacturers and exporters associations often call for massive government support in the form of investment, low interest rates, and cash incentives to facilitate establishment of industrial linkages. However, any government support must be performance based and must be tuned to appropriate phases of the "textile cycle." Representatives of clothing industries have also called for substantial devaluations of the currency or a separate exchange rate for garments exporters. However, devaluations by making imported intermediate inputs more expensive may not improve the competitive position of garments exporters. Accordingly, any substantial devaluation of the Taka is unwarranted.

Industrial and trade policy instruments, no matter how well designed, will not be credible or effective under a chaotic and corrupt regime. Accordingly, organizations and

think-tanks outside the government must play an active role in monitoring formulation and implementation of government trade and industrial policy instruments so that the government does not remain part of the problem.

iii. Discussion

Taking part in the discussion Professor Rehman Sobhan, Chairman, CPD stressed the urgent need for the development of backward linkages for the ready-made garment (RMG) industries of Bangladesh. He reemphasised the need for putting in place adequate capacities in backward linkage textile industries through adequate investment. He noted that most of Bangladesh's competitor countries in both North American and European markets have strong backward linkages for their RMG sector. In absence of such linkages Bangladesh's continued success in exports of RMG may come under real threat, he thought.

Mr. Salman Rahman, Chairman, BTMA, argued that Bangladesh have to rely on India and China for fabrics specially since quality maintenance is a critical factor in RMG sector. He apprehended that there was a danger that India and China will not be selling fabrics to Bangladesh in the post-WTO period since they will be reviewing higher returns by making RMG using the local fabrics. He mentioned that government of India has already created a 25 thousand crore taka fund for the technological upgradation of the textile sector of the country. He thought that inspite of enjoying a protected market for the development of the sector for the last 20 years the RMG exporters of Bangladesh has not succeeded in producing quality products which could be successfully marketted in developed countries. He opined that Bangladesh must accomplish two tasks for ensuring future prosperity of the country's RMG sector. The first one is to develop backward linkage industries in textile. The second one was to improve the quality of the garments products. He stressed the need for raising adequate capital for investment in the development of the backward linkages.

Mr. Zahiruddin Khan, former Minister for Industries, argued that quota facilities for RMG sector enjoyed by Bangladesh for the last 15 years was suppose to be a

breathing period for the country towards development of a textile base of her own. According to him Bangladesh was misusing the preferential treatment extended to her by the developed countries. He mentioned that historically Bangladesh had been the home of the finest textile in the world but the country has eventually lost out. He opined that think tanks such as CPD should specifically focus on this issue and should ensure participation of the civil society and the stakeholders in such a discourse.

Professor Rehman Sobhan pointed out that there had been a very dynamic growth of the RMG sector in Bangladesh, both employment and export earnings wise and that Bangladesh had been able to get a foothold in a captive market as well. He enquired why the domestic private sector in Bangladesh was not coming forward to capture the fabrics market by producing fabrics domestically. He wanted to know whether Bangladesh's fabrics producers were capable enough to produce and sell fabrics to the garment industries at a competitive price. He also stressed the need for putting in place appropriate and effective public policies in this regard.

In this connection Mr. Salman Rahman noted that during the 1980s there was hardly any private sector establishment in the textile sector. During the 1990s there had been significant rise in the number of industries producing fabrics. He opined that entrepreneurs have gone for fabric production because of low cost of capital in this sector.

Mr. Hafizuddin Ahmed from International Finance Corporation, expressed his doubts about the idea of China and India not selling fabrics to Bangladesh in the post-WTO era. He argued that given the present globalised world it is difficult to envisage that a scenario under which there might be shortfall of supply of fabrics. Another participant disagreeing with this view, argued that China and India might reconsider the option of exporting fabrics to Bangladesh in the post-MFA phase. He argued that RMG sector was able to register such a high growth rate because of low capital requirement and high turnover in the sector. However, he expressed his doubt over the possibility of sustainability of the growth of RMG sector in the face of quota withdrawal. He argued in

favour of massive investment in the textile sector. Mr. Hafizuddin mentioned that at least 300 crore taka was required to establish a composite textile mill. He regretted that no commercial Bank (whether state or private sector) was interested to lend money to the textile sector as this particular sector has been identified as a sick sector by the commercial banks. Moreover, the interest rates charged by the banks were also inexorbitantly high.

Mr. Salman Rahman accused both India and Pakistan for dumping their products in the domestic yarn market of Bangladesh. On the issue of the future development of the textile sector of Bangladesh he stressed the necessity of collaborative effort of all the concerned actors. He opined that a cluster of textile industries in the country could play a critically important role in terms of development of the textile sector of the country.

Identifying the need for development of backward linkage as quite crucial for the future prospect of the RMG sector, Professor Ali Rashid, from Tariff Commission stressed the need for formulating proper tariff policy for the development of backward linkages in the country.

Mr. Manzoor Elahi, Chairman, Apex Group, pointed out the need for raising the quality of governance as a prerequisite for the success of the RMG sector. He argued that without raising the quality of governance, good policies would not be able to necessarily bring about desired outcomes.

Concluding the dialogue Professor Rehman Sobhan observed that high price of domestically produced fabrics was, to a large extent, underwritten by the high cost of capital. He stressed the importance of appropriate policy interventions by the government for the purpose of lowering the cost of capital. He cited the example of the Korean model of industrialization in this regard. He argued for a proactive role of the government towards establishment of an efficient textile industry in the country. Professor Rehman Sobhan noted that under the current *laizes faire* system pursued by the government designing of such policies was hardly a realisable goal. He proposed that the government

should come forward as a *risk taking guarantor* and such an approach could encourage both foreign and domestic investment in Bangladesh's textile sector.

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