Estimated Effects on the United States and Bangladesh of Liberalizing U.S. Barriers to Apparel Imports

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Executive Summary

- Bangladesh is one of the poorest countries in the world. World Bank data report its average income per capita at less than that of Pakistan, India or even Haiti. It is also the second-largest moderate Muslim democracy in the world. However, that democracy is still in its infancy, feeling its way among a myriad of pressures and problems.

- Despite these economic and political constraints, Bangladesh is positively engaged in the international arena. It is officially committed to promoting free markets and welcomes foreign investment. The State Department calls Bangladesh a "world leader" in the effort to end the use of child labor in apparel factories. It is a party to a number of international agreements and treaties that protect the environment. Bangladesh is the largest contributor of peacekeeping troops to the United Nations.

- Bangladesh's apparel sector is its most important manufacturing sector. The sector employs 1.8 million workers, most of whom are women. It promotes the development of other key sectors of the economy, including textiles, banking, transportation, and insurance. Several million more jobs in Bangladesh are linked to the clothing sector.

- After the European Union, the United States is the second-largest market for Bangladesh's apparel exports. However, exports to the United States face U.S. tariffs and quotas that add approximately 46 perent to their cost. In contrast, apparel imported from countries in the Caribbean, sub-Saharan Africa, Jordan, Mexico and Israel can enter the United States duty-free and quota-free, with consequent cost savings. In particular since the implementation of the benefits for producers in the Caribbean and sub-Saharan Africa, Bangladeshi producers have seen a large number of orders from U.S. customers evaporate.

- The loss of business has been accompanied by a loss of jobs -- so far over 300,000 workers, mostly women, in the apparel sector alone, with more job losses expected. These losses threaten to destabilize Bangladesh's democracy; this is not in the U.S. interest.

- To forestall such destabilization, the United States could provide Bangladesh with duty-free, or quota-free, access to the U.S. apparel market. Either option would have little to no negative impact on U.S. jobs. Both options would continue to benefit U.S. cotton exports to Bangladesh, which are used to produce apparel in Bangladesh. Each option would allow Bangladeshi producers to maintain employment in this important sector of the economy.

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I. Introduction

As Administration and Congressional leaders struggle with rapidly-changing political and economic environ ments in the United States, it is increasingly clear that those environments are inexorably linked to equally-rapid and unexpected changes abroad. Moreover, many of these changes are occurring in regions of the world and countries only marginally of interest to most American policy makers in the past. Bangladesh is one such country.

Bangladesh is facing new, pressing difficulties that necessitate U.S. action.

Bangladesh is facing new, pressing difficulties that necessitate U.S. action. The U.S. economic outlook and, just as significantly, the global economic outlook is not good. Trade benefits provided now by the United States to countries in sub-Saharan Africa, the Caribbean, Mexico, Israel and Jordan are diverting exports of Bangladesh's most important product toward producers on those regions. The ramifications for export earnings, employment, even economic and political stability are not insignificant.

This study describes in Chapters II and III what is happening in Bangladesh and its most important manufacturing industry, apparel, and the ramifications of current developments for Bangladesh's economic and political stability. It then describes in Chapter IV two possible options for action that could effectively undergird this stability, and the economic effects of these actions on the United States and on Bangladesh. A Conclusion (Chapter V) details why it is imperative for the United States to act. A Technical Appendix describes in detail how the analysis in Chapter IV was conducted.

II. About Bangladesh

Bangladesh struggles with a heavy load of poverty; recent developments pose new challenges.

After Hong Kong and Singapore, Bangladesh is the most densely-populated country in the world. Imagine about 128 million people (a little less than half the population of the United States) living and working in an area about the size of Wisconsin. Located in southern Asia, bordering the Bay of Bengal between Burma and India, Bangladesh is flat, semitropical, and occasionally buffeted by droughts or severe monsoons that kill thousands. Eighty-three percent of the population is Muslim, 16 percent Hindu, and the rest Christian, Buddhist or other.

A Struggling Economy

Bangladesh is one of the poorest countries in the world. According to the World Bank, the average income per capita is just $380, less than that of Pakistan ($470), India ($460) or even Haiti ($510).[1] Bangladesh therefore depends heavily on international aid. According to the Economist Intelligence Unit, such aid financed 44 percent of the country's fiscal deficit in 2000/1.[2] The United States has provided Bangladesh with a total of $4.2 billion in food and economic aid since 1971.[3] As it struggles with this heavy load, recent developments pose new challenges. Foreign exchange reserves have declined steadily, from $1.9 billion in 1998 to about $1 billion in November 2001.

Bangladesh is a relatively new parliamentary democracy.

According to the World Bank, one quarter of Bangladesh's total economic output comes from agriculture – rice and jute cultivation are the most significant crops; manufacturing adds another 24 percent to the total.[4] Also important, however, are large reserves of natural gas and limited reserves of coal and oil.

A Fledgling Democracy

Parliamentary democracy was restored in Bangladesh in February 1991.[5] It has a President (a largely ceremonial chief of state), Prime Minister (the actual head of government), unicameral Parliament (with 300 members), and a civil court system based on the British model. Although some 40 political parties are active, three parties -- the Awami League, the BNP and the Jatiya Party -- have dominated the political scene. Begum Zia (a woman) was Prime Minister from 1991 to 1996; Sheikh Hasina (also a woman) was Prime Minister from 1996 to 2001. Bangladesh just completed a new round of elections, bringing back to office Begum Zia for another five years. The elections were acrimonious[6] but successful. Prime Minister Zia will need to form a government that wins the confidence of a public much disenchanted with corruption and unfulfilled promises. The task has been made immensely more difficult because of the serious economic crisis facing the country, the crux of which is the sudden drop in exports to the United States.

Despite these economic and political constraints, Bangladesh is positively engaged in the international arena. The State Department calls Bangladesh a "world leader" in the effort to end the use of child labor in apparel factories.

An Active Participant in the International Arena

Despite these economic and political constraints, Bangladesh is positively engaged in the international arena. It is officially committed to promoting free markets and welcomes foreign investment (U.S. investments in the country totaled $750 million in 1999[7]). The State Department calls Bangladesh a "world leader" in the effort to end the use of child labor in apparel factories.[8] On July 4, 1995, the Bangladesh Garment Manufacturers Export Association (BGMEA), the International Labor Organization and UNICEF signed a memorandum of understanding on the elimination of child labor in the apparel sector. By the end of 1999, child labor in the apparel trade had been virtually eliminated.

Bangladesh is also a party to international environmental treaties and agreements affecting biodiversity, climate change, desertification, endangered species, hazardous wastes, nuclear test bans, ozone layer protection, wetlands protection, and others.

Bangladesh is a party to international environmental treaties and agreements, and the single largest contributor to peace-keeping troops to the United Nations.

Bangladesh is the single-largest contributor of peace-keeping troops to the United Nations, sending missions to Haiti, Sierra Leone, Rwanda, Bosnia, East Timor and Somalia. It was among the few Muslim countries to send troops to the Middle East during the Gulf War and played a leading role in the mine-clearing operations in Kuwait at the end of the war.

Bangladesh is currently on the United Nations Security Council; until recently was chairman of the group of eight largest Muslim countries (the "D-8"); was chairman of the "Group of 77," an informal association of the world's developing nations; has taken a leading role in the group of 49 Least Developed Countries, and was responsible for the establishment of the South Asia Association for Regional Cooperation (SAARC).

III. Textile and Apparel Trade

Apparel and related products
today represent nearly 75 percent of Bangladesh's export earnings. The sector employs about 1.8 million people, more than 80 percent of whom are women.

Bangladesh's apparel sector is its most important manufacturing sector. Apparel and related products today represent nearly 75 percent of Bangladesh's export earnings, up from less than 4 percent in 1983/84.[9] Just under 3,600 garment manufacturers and exporters employ about 1.8 million people, more than 80 percent of whom are women.[10] The employment of women has been the key to the success of Bangladesh in such critical areas as female education, family planning and health care. Indeed, primary school enrollment in Bangladesh was up over 25 percent in the late 1990s compared to the early 1980s, when the export potential of clothing exports was just in the process of being examined by Bangladeshi producers.[11] Above all it has been instrumental in creating a new awareness among women of their rights and their role in society. In addition, the sector provides business to, and thus promotes the development of, other key sectors of the economy, including banking, transportation, insurance, and even the housing and hotel industries. The apparel sector is estimated to generate another $2.0 billion of domestic economic activity in these sectors, half of it associated with exports to the United States.[12] The jobs of several million more people in Bangladesh are linked to the clothing sector.

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The European Union is Bangladesh's largest apparel market. According to the Bangladesh Export Promotion Bureau, in 2000, exports to the EU represented about 50 percent of Bangladesh's total apparel. The country's exports to the EU have been growing faster than those to the United States, and the EU replaced the United States as Bangladesh's most important apparel market in 1994. It should be noted that the EU provides Bangladesh with quota-free access to its apparel markets, and, since 1992, tariff exemptions under its Generalized System of Preferences (GSP) scheme. However, Bangladeshi producers report that the GSP duty benefits are not of great help because the rules of origin require that the garment be made from fabric woven or knit in Bangladesh or a small number of other countries. Bangladesh does not yet have well-developed textile or yarn industries. In addition, the European Union's "Everything But Arms" initiatives, through which it plans to extend duty-free treatment to all products but arms (and some others) exported by developing countries to the EU, would hardly benefit Bangladesh garment exports because of the strict rules of origin. Bangladesh products would benefit from duty-free access only if they are made with Bangladeshi fabrics. However, the country's woven apparel sector depends heavily on imported fabric – 80 percent of its raw materials for woven apparel and 30 percent for knit apparel are imported.[13]

The United States is the second largest market for Bangladesh's apparel exports, accounting for 43 percent of the country's total apparel exports

The United States is the second largest market for Bangladesh's apparel exports, accounting for 43 percent of the country's total apparel exports,[14] and about one-fourth of Bangladesh's exports of knit apparel, and about half of its exports of woven apparel.[15] Not only is the U.S. apparel market important to Bangladesh, but Bangladesh is an important supplier of apparel products to the United States. Until recent months, its share of total U.S. apparel imports had been growing (Table III.1). (Bangladesh is not a major exporter to the United States of yarns or fabric.)

Table III.1

U.S. Textile and Apparel Imports from Bangladesh, 1995-2000,

(Millions of Square Meter Equivalents)

	1995	1996	1997	1998	1999	2000
Apparel	519.2	529.4	671.8	743.5	773.1	966.6
Non-Apparel	84.0	95.9	92.7	122.0	137.4	164.2
Yarns	0	0	0	0	0	0.5
Fabric	0.8	0.9	0.7	3.3	6.2	11.7
Printcloth	0.8	0.9	0.7	0.8	5.2	10.4
Made-ups/Misc.	83.2	94.9	92.0	118.7	131.2	152.0

(Millions of Dollars)

	1995	1996	1997	1998	1999	2000
Apparel	$1,000.4	$1,018.5	$1,324.1	$1,497.9	$1,529.1	$1,940.2
Non-Apparel	32.2	37.2	37.3	58.5	75.6	87.9
Yarns	0	0	0	0	0	0.2
Fabric	0.7	0.5	0.4	1.4	1.9	4.2
Made-ups/Misc.	31.6	36.7	36.9	57.1	73.6	83.4

Source: U.S. Department of Commerce, Office of Textiles and Apparel (volume); U.S. International Trade Commission (value).

U.S. Import Protection

Apparel imports from Bangladesh face high tariffs when they enter the United States. In addition, quotas limit the volume of apparel and made-up products that may be imported from Bangladesh.

Apparel imports from Bangladesh face high tariffs when they enter the United States. In 2000, the 16 categories of apparel that represented more than 80 percent of total apparel imports from Bangladesh were assessed a trade-weighted average tariff of 15.5 percent (Table III.2). Rates ranged from 8 percent to over 30 percent. (Tariffs affecting fabric imports averaged 9.7 percent in 2000; tariffs on yarn, 11.5 percent.) These tariffs, which are in effect taxes applied to imports from Bangladesh at the U.S. border, raise the cost of apparel imported from Bangladesh.

Apparel and made-up products (e.g., sheets, towels, and miscellaneous products) imported from Bangladesh also face U.S. quotas that limit the volume that may be imported into the United States. Twenty-nine specific limits affected nearly three-quarters of the value of apparel imported from

Table III.2
U.S. Duties Assessed on Apparel Imported from Bangladesh, 2000
(Calculated Duties/Customs Value of Imports, in Percent)

Babies' garments (Category 239)	12.1%
Men's, boys' cotton woven shirts (340)	20.2
Women's, girls' cotton woven blouses (341)	15.5
Cotton sweaters (345)	18.2
Men's, boys' cotton trousers (347)	17.0
Women's, girls' cotton slacks (348)	17.0
Cotton nightwear (351)	8.8
Cotton underwear (352)	8.7
Other cotton apparel (359)	8.3
Other men's, boys' man-made fiber coats (634)	8.8
Women's, girls' man-made fiber coats (635)	11.4
Man-made fiber dresses (636)	16.4
Men's, boys' man-made fiber knit shirts (638)	32.9
Men's, boys' man-made fiber trousers (647)	20.3
Man-made fiber underwear (652)	15.7
Other man-made fiber apparel (659)	18.1
Subtotal	15.5
All Apparel	16.4

Source: U.S. Bureau of the Census, from U.S. International Trade Commission Dataweb.

Bangladesh in 2000. Quotas also raise the prices of apparel bought by American consumers. One recent analysis found that U.S. apparel quotas generally (applied to all suppliers, not just Bangladesh) are equivalent to a tariff, or tax, of 30.4 percent.[16] (This would be in addition to the actual apparel tariffs noted above).

Despite liberalization mandated by the Uruguay Round, quotas will continue to limit apparel improted from Bangladesh through 2004.

The Uruguay Round's Agreement on Textiles and Clothing phases out quotas over a 10-year period that ends on December 31, 2004. The next phase of selected quotas elimination takes effect on January 1, 2002; however, the quotas selected by the United States for elimination on that date largely do not affect imports from Bangladesh. Only two categories of products will see some benefit in 2002. In short, U.S. quotas will continue to limit apparel imported from Bangladesh through 2004.

Bangladesh is a strong market for U.S. cotton; much of the apparel imported from Bangladesh is made with U.S. cotton.

As for made-up products, the United States imposes quotas on imports from Bangladesh of cotton towels and "other" cotton manufactures. These quotas affect 44 percent of the value of imports from Bangladesh of made-ups in 2000. The quota on "other" manufactures is scheduled to be partly eliminated on January 1, 2002. (Because Bangladesh exports very little yarn or fabric to the United States, the United States imposes no quotas on fabrics or yarns imported from Bangladesh.)

Table III.3
U.S. Cotton Exports to Bangladesh, 1997-2001
(Dollars and Percent)

	Value	Growth
1997	$62,239,735	
1998	70,858,969	13.8%
1999	28,521,739	-59.7
2000	49,241,227	72.6
January-August 2000	35,724,613	
January-August 2001	52,712,286	47.6
Average annual growth, 1997-2000		8.9

Source: U.S. International Trade Commission.

U.S. Cotton Exports to Bangladesh

The fact that Bangladesh is able to export apparel to the United States, albeit limited by quotas and tariffs, makes it a strong market for U.S. cotton. Although the level of exports fluctuates from year to year, U.S. cotton exports to Bangladesh have been increasing strongly since 1999 (see Table III.3). It is safe to presume that much of the cotton apparel imported into the United States from Bangladesh is made with U.S. cotton. It is therefore also safe to conclude that, by restricting how much apparel U.S. consumers may buy from Bangladesh, U.S. import restraints – tariffs and quotas – indirectly limit

In recent months shipments, and orders for future shipments are down significantly. Factories are closing and workers are losing their jobs.

U.S. cotton exports to Bangladesh.

Recent Developments

Strong apparel growth trends have taken a sudden turn for the worse. Although overall apparel imports have been rising in 2001, two thirds of total U.S. apparel imports from Bangladesh in 1999, the year before the Trade and Development Act (TDA) of 2000 went into effect, experienced declines in volume from January through September, 2001, compared to January through September, 2000. This period compares imports prior to implementation of the TDA[17] and the U.S.-Jordan free trade agreement to that after implementation and the drop-off in consumer spending.

Table III.4
U.S. Apparel Imports* from Bangladesh Experiencing Declines, January-September 2000 to January-September 2001
(Percent Change)

Cotton gloves, mittens (331)	-28.31%
Women's, girls' cotton coats (335)	-9.00
Women's, girls' woven blouses (341)	-4.74
Cotton skirts (342)	-29.91
Men's, boys' cotton trousers (347)	-19.79
Cotton nightwear/pajamas (351)	-2.27
Cotton underwear (352)	-0.26
Other cotton apparel (359)	-2.99
Men's, boys' wool suit-type coats (433)	-27.74
Men's, boys' other wool coats (434)	-49.06
Women's, girls' wool coats (435)	-3.87
Wool knit shirts, blouses (438)	-69.53
Wool skirts (442)	-41.88
Men's, boys' wool sweaters (445)	-51.73
Women's, girls' wool sweaters (446)	-6.03
Men's, boys' wool trousers (447)	-76.55
Other wool apparel (459)	-36.31
Men's, boys' man-made fiber knit shirts (638)	-18.02
Women's, girls' MMF knit blouses (639)	-18.74
Man-made fiber skirts (642)	-52.45
Women's, girls' MMF suits (644)	-60.70
Men's, boys' MMF sweaters (645)	-48.03
Women's, girls/MMF sweaters (646)	-9.43
Women's, girls; MMF slacks (648)	-6.21
MMF bras, other body-supporting garm. (649)	-20.05
Women's, girls' down coats (654)	-20.95
Other MMF apparel (659)	-15.25
Silk/veg. fiber coats, men's, boys' (834)	-30.11
Silk/veg. fiber babies' garments (839)	-12.73
Silk/veg. fiber skirts (842)	-2.82
Men's, boys' silk/veg. fiber trousers (847)	-10.73

* Textile/apparel category number in parentheses)
Source: U.S. Department of Commerce, Office of Textiles and Apparel

More significantly, U.S. companies place orders in the fall (through December 1) for next year's spring and summer seasons. Those orders are off significantly.[18] A survey of factories by the Bangladesh Garment Manufacturers Association conducted at the end of October 2001 determined that 31 percent had closed, putting out of work nearly 350,000 workers.[19] Another 1,200,000 people who depend on those workers are also adversely affected by these closures and layoffs. More than two-thirds (36.5 percent) of the factories that had previously received orders from U.S. buyers or which were doing contract work for other factories have no work orders.[20]

A number of factors contribute to this decline in orders. Bangladeshi producers report that their U.S. customers most frequently tell them they are shifting orders from Bangladesh to factories in sub-Saharan Africa, the Caribbean or Jordan to take advantage of duty-free, quota-free benefits available for apparel exported to the United States from those regions. One recent analysis of the potential impacts of these special preference programs on Bangladesh found that at least 15 categories of apparel exported from Bangladesh to the United States are also exported from countries in the Caribbean or sub-Saharan Africa.[21] They include cotton shirts (Categories 338 and 340), cotton trousers (Cats. 347 and 348), babies' garments (Cat. 239), miscellaneous cotton apparel (Cat. 359), and man-made fiber coats (Cat. 634). So producers in the Caribbean and, more modestly, in sub-Saharan Africa are direct competitors for many apparel products exported from Bangladesh. While it is true that it has taken some time for the actual trade under the new benefits programs to accelerate (given some still unsettled implementation problems), producers report that the impact of the two programs is nevertheless being felt in Bangladesh on orders for next Spring and Summer.

Producers in countries or regions with preferential textile/ apparel trade arrangements with the United States have a cost advantage over Bangladeshi producers of nearly 50 percent.

This is because producers in countries or regions with preferential textile/apparel trade arrangements with the United States have a significant cost advantage over Bangladeshi producers. They can sell apparel for about 46 percent less (the 16 percent duty advantage plus the 30 percent quota advantage) thanks to the lack of tariffs and quotas applied to their imports into the United States. Such shifts in sourcing are expected to accelerate with time. Diverting exports to Europe from the United States is not an option because, as already noted, the rules of origin Bangladeshi producers are required to meet to get duty-free and quota-free benefits from Europe are not surmountable in the short term.

IV. Options for the United States

The sudden collapse of U.S. orders for apparel has many producers in Bangladesh justifiably concerned. Three options for effective action have been suggested:

- The United States could extend to Bangladesh benefits similar to those granted to countries in sub-Saharan Africa under the Africa Growth and Opportunity Act (AGOA), namely duty-free and quota-free access to the U.S. apparel market.

- Alternatively, the United States could grant Bangladesh duty-free access to the U.S. apparel market, leaving existing quotas in place.

- Yet another option would be to eliminate U.S. quotas imposed on Bangladesh, leaving tariffs entact.

In weighing these options, the question naturally arises regarding their potential impact on the U.S. apparel sector. Therefore, this chapter presents the results of a comprehensive analysis of the economic effects on Bangladesh and on the United States of each proposal. The details of the methodology used to undertake the analysis are provided in the Technical Appendix. Briefly, the impact was calculated using a computable general equilibrium (CGE) model known as the Global Trade Analysis Project (GTAP). This model is maintained jointly through a consortium involving the World Trade Organization, the World Bank, the Organization for Economic Cooperation and Development, the U.S. International Trade Commission, the U.S. Department of Agriculture, the European Commission, the Australian Competitiveness Commission, and others. The U.S. government itself employs it for assessing regional and WTO-based initiatives.

The actual results are presented in Table IV.1a and IV.1b. The important technical point to note now is that these results are based on the broadest possible rule of origin for each proposal. The benefits are not restricted only to apparel made with U.S. yarn and/or U.S. fabric, or even local yarns and fabrics. As such, the results represent the largest possible impact on the United States of each proposal.

Elimination of import duties applied to apparel imported into the United States from Bangladesh would have no measurable negative impact on American workers, but a significant positive benefit on Bangladeshi workers by forestalling job losses in that sector (the zero impact on jobs in Bangladesh in Table IV.1b represents this). Because the quotas continue to cap those Bangladeshi apparel exports that would most likely increase in the event U.S. duties were eliminated, the quantity of imports does not increase and therefore their impact on U.S. producers is no different than imports would be under current circumstances.[22] But the cost to U.S. importers of Bangladeshi products would decline sufficiently to enable Bangladesh to maintain its competitive-

Eliminating import duties applied to apparel imported into the United States from Bangladesh would have no measurable negative impact on American workers.

Table IV.1a
Impact of Proposals on the United States

	Apparel Duty-Free Benefits Only	Apparel Quota-Free Benefits Only	Apparel Duty-Free & Quota-Free Benefits
Change in national income (%)	0	0	0
Change in apparel employment (%)	0	-0.8	-2.3
Change in textile employment (%)	0	-0.1	-0.4
Change in tariff revenue (million)	-$169.6	+$57.0	-333.4

Table IV.1b
Impact of the Proposals on Bangladesh

	Apparel Duty-Free Benefits Only	Apparel Quota-Free Benefits Only	Apparel Duty-Free & Quota-Free Benefits
Change in national income (%)	+1.0%	+2.1%	+8.8%
Change in apparel employment (%)	no change	+27.5	+88.8
Change in textile employment (%)	no change	4.6	11.8

Source: Trade Partnership Worldwide, LLC ness relative to other countries that now have duty-free and quota-free access to the U.S. market. Basically, Bangladesh would maintain, not increase, its share of the U.S. market and workers employed in the industry would be able to retain their jobs.

The impact of quota-free benefits for Bangladeshi apparel is somewhat larger because Bangladesh could potentially increase its presence in the U.S. market in the absence of import limits. The analysis estimates that quota-free benefits for apparel (with tariffs remaining intact) would result in U.S. apparel job losses of less than 1 percent, and textile job losses of 0.1 percent.[23] The benefits to workers in Bangladesh would be significant. Apparel employment would increase by 89 percent, and textile employment by 12 percent. National income in Bangladesh would grow by 9 percent.

Under a duty-free option, Bangladesh would be able to protect the jobs of those who have been employed in the apparel industry from lost orders.

Thus, from a U.S. employment perspective, either duty-free treatment or quota-free treatment for apparel imported from Bangladesh would be neutral in its impact. The "cost" to the Treasury in foregone tariff revenue from the duty-free option would be $170 million; the Treasury would actually raise revenue from the quota-free option, $57 million (this is because imports would increase and tariffs would still be assessed). Bangladesh benefits the most from a quota-free option, both in terms of employment and growth in national income, again because total exports could increase. Under a duty-free option, Bangladesh would be able to protect the jobs of those who have been employed in the apparel industry from lost orders.

V. Conclusion: Why Should the United States Act?

A serious downturn in Bangladesh's textile and apparel sectors would ultimately have negative repercussions for strengthening Bangladesh's nascent democracy.

Prospects for Bangladesh are not good. The slow down in U.S. apparel orders portends a decidedly negative impact on the country's exports that has already started to have a serious negative impact on the country's apparel sector. In addition, a drop off in apparel exports will further reduce the country's foreign exchange reserves and the downstream benefits of exports to a host of other sectors. Foreign currency shortages makes it increasingly difficult for the Bangladesh government to make profit-sharing payments to U.S. investors in the country's oil and gas sector. Prospects for apparel and made-up exports are further diminished by the imminent accession of China to the World Trade Organization, which will result in immediate elimination of quota of some products exported by China to the United States (e.g., man-made fiber flat goods like luggage and other manufactures like tents), to the disadvantage of Bangladeshi exporters of those products. Compounding the apparel export problem is the generally bad economic outlook in Bangladesh's major export markets, the United States and Europe. A recent report by the Institute of International Finance projects that the flow of private funds to emerging economies is drying up so fast that it will plunge in 2002 to levels not seen in a decade, threatening to deprive those economies of the foreign exchange they need to pay for imports, pay debt and finance development.[24]

Sudden loss of jobs of more than a million workers, many if not most of them women, would undermine the strong progress Bangladesh has made in the area of worker rights.

But why should U.S. policy makers care? Is this not Bangladesh's internal problem? No. A serious downturn in Bangladesh's textile and apparel sectors would ultimately have negative repercussions for strengthening Bangladesh's nascent democracy. It is quite difficult for a new government to confront discontent arising from growing unemployment. A failure of the government to meet quickly and effectively workers' pressure to "do something" – especially when there are no alternative employment opportunities in an economy that now relies so heavily on its apparel sector — could create major social and political unrest. The United States has long sought and supported the shift in Bangladesh to a democracy, and economic instability would not be helpful to the process.

Moreover, the United States has also long promoted the development of workers rights and, and in particular, a productive role of women in the Bangladeshi economy. Sudden loss of jobs of more than a million workers, many if not most of them women, would undermine the strong progress Bangladesh has made in this area. It would also jeopardize the successful effort to move children out of the workplace and into schools.

Finally, Bangladesh is one of the few Muslim majority countries committed to moderation and democracy. Since 1991, free and fair elections have resulted in a change of government every five years. The current Prime Minister, Begum Zia, won a landslide victory in the general election on October 1, 2001. Bangladesh's path of moderation and its economic stability have enabled it in the past to be a dependable friend and ally of the United States for many years. It sent troops to the Gulf War and extended its full support and cooperation in the current war against terrorism. A prosperous Bangladesh could serve as an example to other Muslim countries to follow the path of democracy, which will be the most effective way to combat terrorism in the long run.

Technical Appendix

An Overview of the Computational Model

A. Introduction

This Technical Appendix provides an overview of the basic structure of the global computable general equilibrium (CGE) model employed for assessment of granting Bangladesh preferential access to the U.S. market for textiles and clothing. The model is a somewhat modified version of an otherwise standard multi-region CGE model. The reader is referred to Hertel (1996: http://www.agecon.purdue.edu/gtap/model/Chap2.pdf) for a detailed discussion of the basic algebraic model structure represented by the GEMPACK code. The model is implemented in GEMPACK — a software package designed for solving large applied general equilibrium models. The model is solved as an explicit non-linear system of equations, through techniques described by Harrison and Pearson (1994). More information can be obtained at the following URL — http://www.monash.edu.au/policy/gempack.htm. Social accounting data are based on Version 5 of the Global Trade Analysis Project (GTAP) data set (GTAP 2001), with an update to reflect Uruguay Round commitments.

The national accounts data have been organized to 23 sectors and 25 regions. (Note that we have included some detail on the value added chain linking fibers into textiles and clothing production, to better capture the initial impact of protection in the textiles and clothing trade along the value chain.) The sectors and regions for this 23x25 aggregation of the data are detailed in A.1 below.

The data come from a number of sources. Data on production and trade are based on national accounting data linked through trade flows and drawn directly from GTAP version 5 dataset (GTAP 2001; see Reinert and Roland-Holst 1997 for a discussion of the organization of such data for CGE models). The GTAP version 5 data set includes detailed national input-output, trade, and final demand structures. Significant modifications have been made to the basic GTAP database. The basic social accounting and trade data are supplemented with trade policy data, including additional data on tariffs and non-tariff barriers. We have updated the data set to better reflect actual import protection for goods and services. (The basic GTAP database includes no information at all on trade barriers for services).

B. General structure

The general conceptual structure of a regional economy in the model is represented in Figure A.1. Within each region, firms produce output, employing land, labor, and capital, and combining these with intermediate inputs. Firm output is purchased by consumers, government, the investment sector, and by other firms. Firm output can also be sold for export. Land is only employed in the agricultural sectors, while capital and labor (both skilled and unskilled) are mobile between all production sectors. Capital is fully mobile within regions. However, capital movements between regions are not modeled, but rather are held fixed in all simulations. Labor mobility is discussed below.

All demand sources combine imports with domestic goods to produce a composite good, as indicated in Figure A.1. In constant returns sectors, these are Armington composites. In increasing returns sectors, these are composites of firm-differentiated goods. Trade elasticities are also presented in Table 2. The functional representation of demand is a constant elasticity of substitution (CES) function.

C. Taxes and policy variables

Taxes are included in the theory of the model at several levels. Production taxes are placed on intermediate or primary inputs, or on output. Some trade taxes are modeled at the border. Additional internal taxes can be placed on domestic or imported intermediate inputs, and may be applied at differential rates that discriminate against imports. Where relevant, taxes are also placed on exports, and on primary factor income. Finally, where relevant (as indicated by social accounting data) taxes are placed on final consumption, and can be applied differentially to consumption of domestic and imported goods.

Trade policy instruments are represented as import or export taxes/subsidies. This includes applied most-favored nation (MFN) tariffs, antidumping duties, countervailing duties, price undertakings, export quotas, and other trade restrictions. The one exception is service-sector trading costs, which are discussed in the next section.

Basic data on current tariff rates come from the UNCTAD and WTO data on applied and bound tariff rates. These are integrated into the core GTAP database. These are supplemented with data from USTR and USITC on regional preference schemes in the Western Hemisphere. For agriculture, protection is based on OECD and USDA estimates of agricultural protection, as integrated into the GTAP core database. Tariff and non-tariff barrier estimates are further adjusted to reflect remaining Uruguay Round commitments, including the phase-out of remaining textile and clothing quotas under the Agreement on Textiles and Clothing (the ATC). Data on post-Uruguay Round tariffs are taken from recent estimates reported by Francois and Strutt (1999). These are taken primarily from the WTO's integrated database, with supplemental information from the World Bank's recent assessment of detailed pre- and post-Uruguay Round tariff schedules. All of this tariff information has been concorded to our model sectors. Services trade barriers are based on the estimates described below.

Export quotas in the GTAP modeling framework are generally modeled as export taxes. We have modified the approach for this exercise, with clothing exports between

Bangladesh and the United States governed by explicit quantity constraints.

D. Trade and transportation costs

International trade is modeled as a process that explicitly involves trading costs, which include both trade and transportation services. These trading costs reflect the transaction costs involved in international trade, as well as the physical activity of transportation itself. Those trading costs related to international movement of goods and related logistic services are met by composite services purchased from a global trade services sector, where the composite “international trade services” activity is produced as a Cobb-Douglas composite of regional exports of trade and transport service exports. Trade-cost margins are based on reconciled f.o.b. and c.i.f. trade data, as reported in version 5 of the GTAP dataset.

A second form of trade costs is known in the literature as frictional trading costs. These are implemented in the service sector. They represent real resource costs associated with producing a service for sale in an export market instead of the domestic market. Conceptually, we have implemented a linear transformation technology between domestic and export services.

E. Production structure

The basic structure of production is depicted in Figure A.2. Intermediate inputs are combined, and this composite intermediate is in turn combined in fixed proportions with value added. This yields sectoral output. The value-added substitution elasticities (between capital and labor) are presented in Table A.1.

F. The composite household and final demand structure

Final demand is determined by an upper-tier Cobb-Douglas preference function, which allocates income in fixed shares to current consumption, investment, and government services. This yields a fixed savings rate. Government services are produced by a Leontief technology, with household/government transfers being endogenous. The lower-tier nest for current consumption is also specified as a Cobb-Douglas. The regional capital markets adjust so that changes in savings match changes in regional investment expenditures. (Note that the Cobb-Douglas demand function is a special case of the constant difference elasticity (CDE) demand function employed in the model code. It is implemented through GEMPACK parameter files.)

Table A.1

The Sectoring Scheme of the Model

Model Regions

abbreviations	*description*
Australia	Australia
New Zealand	New Zealand
China	Mainland China
Hong Kong	Hong Kong
Japan	Japan
Korea	Korea
Taiwan	Chinese Taipei (Taiwan)
ASEAN5	ASEAN5 member states 1/
Vietnam	Vietnam
Bangladesh	Bangladesh
India	India
South Asia	South Asia
Canada	Canada
Mexico	Mexico
USA	United States of America
CBI	Caribbean Basin Initiative countries
ATP	Andean Trade Pact countries
Brazil	Brazil
MERCOSUR	MERCOSUR 2/
Chile	Chile
Other LatAm	Other Latin America
Europ Union	European Union
Turkey	Turkey
Africa ME	Africa and the Middle East
ROW	Rest of World

Model Sectors

abbreviations	*description*
Wool	Wool
NatFibers	Natural fibers (cotton etc.)
PrimFood	Primary food production
OthPrimary	Other primary production
Sugar	Sugar
ProcFood	Processed food, tobacco, and beverages
Textiles	Textiles
Clothing	Wearing apparel
Leather	Leather products
ChemRef	Chemicals, refinery prod ucts, rubber, plastics
Steel	Steel refinery products
Nfmetals	Non-ferrous metal products
MotorVehs	Motor vehicles and parts
Electronics	Electronic machinery and equipment
OthrMach	Other machinery and equipment
MnfcsNEC	Other manufactured goods
Trade	Wholesale and retail trade services
Transport	Transportation services (land, water, air)
Communic	Communications services
Construction	Construction
FIRE	Finance, insurance, and real estate services
CommServ	Other commercial services
OtherServ	Other services (public, health, etc.)

1/ ASEAN5 includes Philippines, Thailand, Indonesia, Singapore, and Malaysia
2/ MERCOSUR includes Argentina, Paraguay, Uruguay. Brazil is represented separately

Table A.2
Model Parameters

Description	Elasticity of Substitution in Value Added	Armington Elasticity
Wool	0.24	4.4
Natural fibers (cotton etc.)	0.24	4.4
Primary food production	0.23	4.61
Other primary production	0.2	5.6
Sugar	0.63	4.4
Processed food, tobacco, and beverages	1.12	4.72
Textiles	1.26	4.4
Wearing apparel	1.26	8.8
Leather products	1.26	8.8
Chemicals, refinery products, rubber, plastics	1.26	3.8
Steel refinery products	1.26	5.6
Non-ferrous metal products	1.26	5.6
Motor vehicles and parts	1.26	10.4
Electronic machinery and equipment	1.26	5.6
Other machinery and equipment	1.26	6.25
Other manufactured goods	1.26	5.16
Wholesale and retail trade services	1.68	3.8
Transportation services (land, water, air)	1.68	3.8
Communications services	1.26	3.8
Construction	1.4	3.8
Finance, insurance, and real e state services	1.26	3.8
Other commercial services	1.26	3.8
Other services (public, health, etc.)	1.26	4.06

Figure A.1

Armington Aggregation Nest

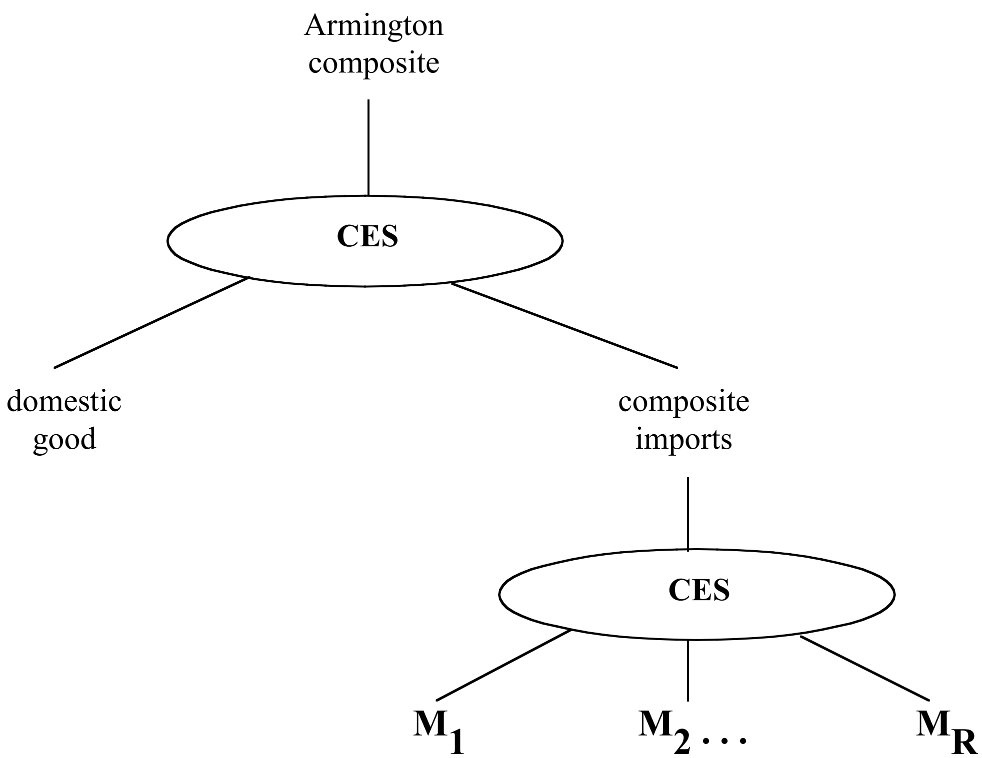
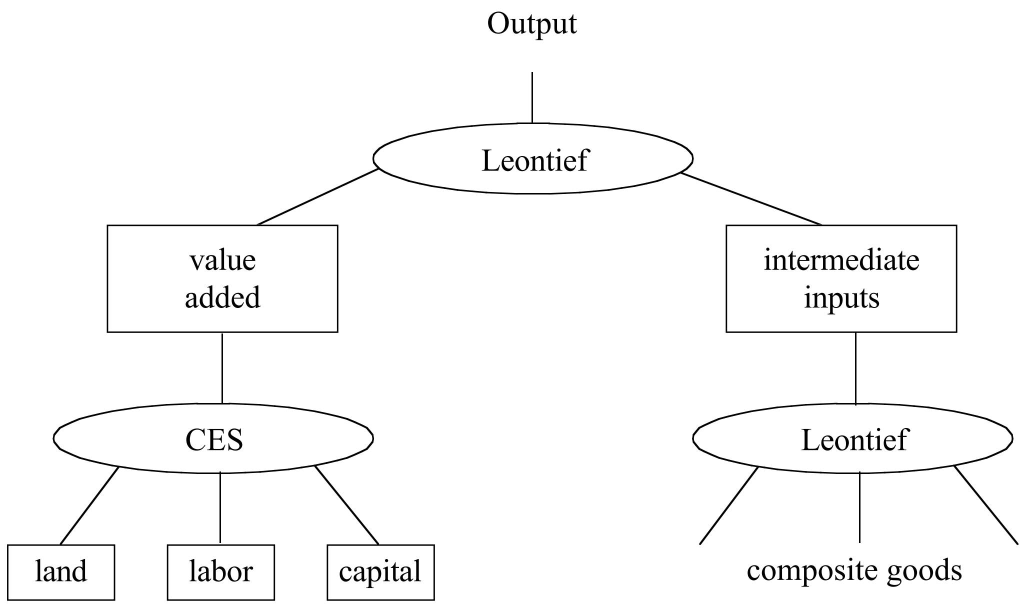


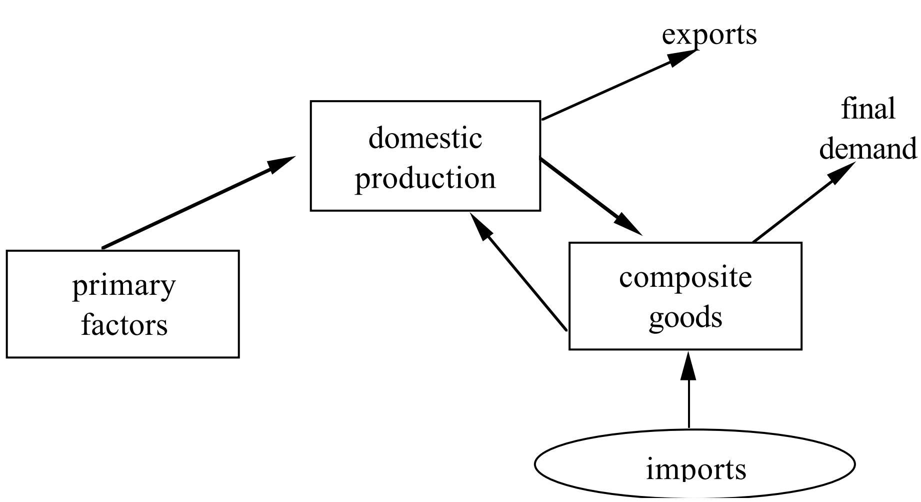
Figure A.2

Basic Features of the Simulation Model

Specification of production in a representative sector



Production and trade flows



ENDNOTES

[1] World Bank, World Development Report 2002, Table 1: Key indicators of development.

[2] Economist Intelligence Unit, "Country Report: Bangladesh" (July 2001), p. 8.

[3] U.S. Department of State, Bureau of South Asian Affairs, "Background Note: Bangladesh," March 2000.

[4] World Bank, World Development Indicators database, July 2000.

[5] Bangladesh won its independence from Pakistan in 1971.

[6] The Ministers have been political rivals for many years.

[7] U.S. State Department, Bureau of South Asian Affairs, "Background Note: Bangladesh," March 2000.

[8] Ibid.

[9] The Asia Foundation, "Bangladesh's Export-Apparel Industry, Into the 21st Century-the Next Challenges," October 4, 2000, p. 11.

[10] According to the World Bank, in 1999 42 percent of Bangladesh's labor force were women, up from 7 percent in 1991. The World Bank, World Bank Atlas, 1992 and 2001.

[11] The World Bank, World Development Report 2000.

[12] Centre for Policy Dialogue, "Enhanced Market Access for Bangladesh's RMG Exports: A Reinforced Case in the Contect of Terrorist Attacks in the USA," A Policy Paper, forthcoming, p. 3.

[13] "RMG exports fall by 15 pc in March as global recession hits country,: *The Daily Star*, May 6, 2001.

[14] Bangladesh Export Promotion Bureau.

[15] Debapriya Bhattacharya and Mustafizur Rahman, "USA Trade and Development Act 2000: A Response from Bangladesh Perspective," Centre for Policy Dialogue Paper 6, July 2000.

[16] Centre for International Economics and The Trade Partnership, Barriers to Wool Fibre Products Trade: Cost to U.S. Consumers and Australian Woolgrowers," April 2000, p. 35.

[17] The Trade and Development Act of 2000 includes the Africa Growth and Opportunity Act (AGOA), which liberalizes U.S. textile and apparel import barriers for products imported from qualifying countries in sub-Saharan Africa. It also includes the Caribbean Basin Trade Partnership Act (CBTPA), which provides similar benefits to qualifying countries in the Caribbean.

[18] "RMG exports fall by 15 pc in March as global recession hits country," *The Daily Star*, May 6, 2001; "RMG faces formidable challenges from CBI, SSA," *The Financial Express*, June 24, 2001.

[19] Centre for Policy Dialogue, "Enhanced Market Access for Bangladesh's RMG Exports: A Reinforced Case in the Contect of Terrorist Attacks in the USA," A Policy Paper, forthcoming, p. 8.

[20] Bangladesh Garment Exporters Association, "Impact of the 11th September Incident in USA and Trade Development Act (TDA) 2000 on Bangladesh Economy" (no date).

[21] Debapriya Bhattacharya and Mustafizur Rahman, "USA Trade and Development Act 2000: A Response from Bangladesh Perspective," Centre for Policy Dialogue Paper 6, July 2000.

[22] The model assumes that the apparel products most likely to increase market share in response to a price change are those now under quota and, indeed, this is why those products are limited by quota. The apparel products imported from Bangladesh quota-free are not as likely to increase in the absence of duties (i.e., to a price change).

[23] This amounts to 3,966 apparel jobs and 442 textile jobs. It must be remembered, however, that these job losses pale in comparison to the job losses in the industry generally that have been ongoing for decades. For example, since 1991 U.S. apparel employment has dropped by 345,000, or 41 percent.

[24] Institute of International Finance, Inc., "Capital Flows to Emerging Market Economies," September 20, 2001.