

The Political Economy of Bangladesh's Large and Growing Trade Deficits with India

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After remaining low throughout the 1970s and 1980s, Bangladesh's trade deficits (as percent of GDP) with India have been rising sharply since 1993. The size of its illegal trade deficits with India is also large and perceived to be rising since the early 1990s. Thus, instead of interdependence between two trading neighbours at the same stage of development, the Bangladesh-India trade relations suggest an absolute dependence of Bangladesh on India. The debate that has now generated in Bangladesh from such a one-sided trade flow has two polar themes. At one extreme are those commentators who consider Bangladesh's large and growing trade deficits with India as a "natural and positive development" on the grounds that India is believed to be at a higher stage of development and to have gained technological maturity in the production of those goods that Bangladesh imports from India. The alternative view is that Bangladesh's large and growing trade deficits are a recent phenomenon and have nothing to do with India's technological maturity or prowess. As an explanation, such deficits are considered to be the result both of India's deep devaluation policy and tariff and non-tariff barriers to Bangladesh's exports to its markets.

This paper examines the disaggregated structure of trade, as well as the revealed comparative advantage of Bangladesh and India and finds no support for the thesis of Bangladesh's technological imports from India on grounds of their maturity. It then examines the sensitivity of trade flows between the two countries to exchange rates and the possible role of trade liberalisation in generating trade deficits within the framework of intra-industry trade models for differentiated products. The available evidence suggests that through subsidies, interventions and deep devaluation policy, India has artificially created a comparative advantage over Bangladesh in differentiated products. India has also managed to keep its markets closed for Bangladesh's products despite trade negotiations, between the governments. This gives credence to the suggestion that Bangladesh's trade with India is neither fair nor competitive. Finally, the paper considers the political economy of the large and growing trade imbalances between them before drawing policy conclusions.

I. INTRODUCTION

Bangladesh has experienced persistent trade deficits with India since it gained independence in December 1971. In the early 1970s the governments of Bangladesh and India agreed that trade between them should take place on a state-to-state basis

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so as to regulate the trade balance, avoid trade friction and, eventually, eliminate illegal trade (smuggling). The reality was very different. In its official trade, Bangladesh experienced persistent trade deficits.¹ One reason was that the real exchange rate of Bangladesh's taka appreciated sharply with India's rupee² because of relatively high inflation in Bangladesh and this caused an increase in imports from India (legal and illegal). On the export side, Bangladesh encountered supply shortages in products that were selected for exports to India through official channels. Besides production shortfalls, whatever products were available for exporting to India were diverted to illegal trade which devaluation of Bangladesh's taka had made attractive [Lifschultz (1974, 1974a)]. The bilateral trade agreement for smooth trade flows was in shambles. India exported low quality products to Bangladesh, while Bangladesh exports to India (legal and illegal) were necessities like rice, fish and raw jute. So India soon earned the title of "economic imperialist".³ This shows that despite early euphoria on both sides, trade relations between them had a rocky start. As Bangladesh's economic condition deteriorated over the next few years [Hossain (1996)], the surviving economic goodwill evaporated with the fall of the then pro-Indian Mujib government on 15 August 1975.⁴

Having passed more than a decade without an improvement in trade relations, Bangladesh and India have now entered into a phase where they find themselves in the midst of open trade friction because of a sudden growth of trade deficits in favour of India. Appendix Table A.1 shows that Bangladesh's trade deficits with India were low (as percent of GDP) throughout the 1970s and 1980s, but they increased rapidly from 1993. In fact the trade deficit ratio rose from 0.5 percent of GDP in 1992 to 3.2

¹By October 1972, the size of trade imbalance was Rs 40 million in India's favour [Wright (1988)]. The illegal trade imbalance during 1972-1973 was probably in favour of India. In the years 1974 and 1975 it could have been in favour of Bangladesh as there was large scale illegal exports of raw jute, rice and other commodities from Bangladesh as part of capital flight [Ahmed (1984) and Rahim (1973)].

²After Bangladesh gained independence, the exchange rate of the newly created Bangladesh currency (taka) was set at parity with the Indian rupee.

³With the growth of anti-India feeling in Bangladesh immediately after its independence, a great many of India's low-quality products became the butt of jokes. It was widely believed that India took advantage of general scarcities in Bangladesh and dumped its unsaleable products on Bangladesh's markets with the connivance of the then pro-Indian Bangladesh government. Some opposition political leaders saw it as part of India's conspiracy to make Bangladesh a captive market of the Indian products. For example, at a public meeting in Chittagong in June 1973, the late Maulana Bhashani, then a prominent political figure, encouraged people to boycott all Indian made goods and to burn and picket shops selling them [Wright (1988)].

⁴Since the overthrow of the Mujib government, India was not a favourite source of Bangladesh's imports until the late 1980s. The post-Mujib government under Zia was not so friendly with India. Also, as the Zia government brought some stability in prices and adopted a relatively flexible exchange rate system, economic incentives behind imports from India (legal and illegal) were somewhat reduced.

percent in 1996. This latest figure represents about 40 percent of the global trade deficit in that year. In absolute figures, this was close to US\$ 1 billion—an unprecedented growth of Bangladesh's imports from India without a matching increase in exports. Bangladesh has now become India's third or fourth largest export destination. (See Appendix B for an application of the gravity model for Bangladesh's imports from India.) By sharp contrast, India's imports from Bangladesh remain small and erratic and constitute merely 0.5 percent of its global imports [Rahman (1997) and *The Independent* (10 August, 1998)].

Along side official trade, Bangladesh has a parallel illegal trade with India. The volume of Bangladesh's illegal imports from India is large and has been rising since the early 1990s.⁵ However the volume of its illegal exports to India remains small and has (perhaps) declined over the past few years. The resulting trade imbalance in favour of India is reported to be somewhere between US\$ 1 billion and US\$ 2 billion. Such large trade imbalance is settled using foreign hard currencies,⁶ gold, and both Bangladesh's taka and India's rupee [Rahman and Razzaq (1998) and World Bank (1996)]. Some consumer durables (such as electronic goods and luxury products) that are officially imported by Bangladesh from other countries are also smuggled to India as payment for illegal imports.

The summary information given above shows that instead of interdependence between two trading neighbours, the Bangladesh-India trade relations suggest an absolute dependence of Bangladesh on India. Bangladesh's trade deficits of \$ around 2 billion with India, is considered too severe a drain on scarce foreign exchange reserves. This sentiment is reflected in the print media that has lately become a lively debating forum.⁷ The debate has two polar themes. At one extreme are those commentators who consider Bangladesh's large and growing trade deficits with

⁵One should expect a decline in the volume of illegal trade after trade liberalisation in both these countries. In a recently conducted BIDS study by Rahman and Razzaq (1998), it was found that this did not happen in case of Bangladesh's illegal imports from India. Although Bangladesh has lowered the average unweighted tariff rate from about 58 percent in 1990 to 22 percent in 1996 and reduced quantitative trade restrictions from 315 in 1990 to 118 in 1996 [Bangladesh (1995,1996,1997)], these measures did not eliminate incentives behind illegal imports from India. Administrative inefficiency, various taxes, and pervasive corruption among custom and trade officials remain the primary reasons behind illegal imports from India. Given that an appreciation of Bangladesh's taka with India's rupee has created and maintained an excess demand for the Indian products, the volume of illegal import has increased. This is not a paradox, rather one should expect it for reasons suggested by Rahman and Razzaq (1998). They point out that the relative ease at which illegal import trade took place in recent years decreased, but not eliminated, the border price differences for most illegally imported commodities. As this lowered the profit margins, smugglers diversified the composition of their illegal import trade and increased the volume of such trade to such a level that ensured their expected high levels of profits.

⁶Smugglers acquire hard currencies from both domestic black markets and overseas Bangladeshi workers through informal channels, such as *hundies*.

⁷See the recent internet editions of the *Daily Star*, *Amitech: News from Bangladesh*, and *The Independent*. For an academic analysis, see Sobhan (1990, 1996); Khan (1995) and CPD (1995, 1996).

India as a “natural and positive development” on the ground of India’s higher stage of development and technological maturity in the production of those goods that Bangladesh imports from India [Sobhan (1990)].⁸ By contrast, critics follow a broad analytical theme that can be summarised as follows. Bangladesh’s large and growing trade deficits with India are a recent phenomenon and have nothing to do with India’s technological maturity or prowess. Such deficits are the result of India’s both deep, if not “beggar-thy-neighbour”, devaluation policy and tariff and non-tariff barriers to Bangladesh’s exports to its markets [Ahmed (1998); Khan (1995) and Rahman (1997)].

This paper conducts an in-depth investigation of the opposing views outlined above from both an empirical and a political economy perspective. While the trade imbalance between two countries by itself need not constitute an economic problem,⁹ Bangladesh’s trade deficits with India may need consideration as a special case. India’s dominant position in South Asia is acknowledged. But its arrogance in bilateral dealings has not endeared India to its small neighbours.¹⁰ On the Bangladesh side, India-bashing remains a popular political game. The reason is simple and clear. At a deeper level, the mistrust that exists between Pakistan and India for historical reasons also remains alive between Bangladesh and India.

All these factors explain why Bangladesh’s trade relations with India are more than an economic issue and have to be analysed within a political economy perspective. As a precursor to such an analysis based on empirical results, let us first review the structure of trade between them. By examining the disaggregated structure of trade, as well as the revealed comparative advantage of Bangladesh and

⁸For an early articulation of such a view, see Sobhan (1990:32):

India has acquired both the experience and capability to export a whole range of services which include the capability to manufacture and install plants on a turnkey basis in such areas as cotton and woollen textiles, cement, sugar, electrical power systems, blast furnaces, thermal power plants, fertiliser plants, general purpose machine tools, steel mills, railway systems and railway equipment. In the range of intermediate technology it has developed technology to produce plants for rice husking, extracting edible oils from rice husk, small sugar plants, canning processes, and a wide range of farm implements including irrigation pumps and diesel engines. It is moving into the micro-chip age as a growing exporter of computer software and inputs into the micro-electronic revolution.

⁹In general, bilateral trade balance is not a requirement for economic welfare and a multilateral trade balance is only a long-run objective to be achieved through appropriate macroeconomic policies, not trade policies. From this viewpoint, Bangladesh’s bilateral trade deficits with India may not seem to be an economic problem. One may even argue that given its geographic proximity and higher level of development, India becomes a natural source of Bangladesh’s imports. While these points have some validity, we will argue and show that Bangladesh’s trade imbalance with India should be considered a special case for both economic and political reasons.

India, we can judge how far the empirical evidence will support the thesis of India's technological maturity. Thereafter, we examine the evidence for sensitivity of trade to foreign exchange rates and the possible role of liberalisation. Finally, we consider the political economy of trade balances before reaching our conclusions.

II. STRUCTURE OF BANGLADESH'S IMPORTS FROM, AND EXPORTS TO, INDIA

Table 1 reports data for the percentage shares of Bangladesh's official imports from India, classified by commodity groups, during 1988-1996. It shows that live animals, animal products, vegetable products, mineral products, chemical products, textile and textile articles, and base metals are Bangladesh's major imports from India. Of these product groups, the Indian share of live animals, animal products and vegetable products showed a sharp rise from 7 percent in 1988 to 56 percent in 1996. The shares of textile and textile articles, mineral products, and base metals and articles of base metals also showed a rising trend from 1995. The share of machinery, electrical equipment, vehicles and transport equipment declined sharply from 34 percent in 1988 to just 5 percent in 1991. The share of these products increased again to the level of 31 percent in 1996. On the whole, it can be noticed that the percentage share figures for Indian products of most commodity groups increased significantly during the last two years. This is an indication that although live animals, animal products and vegetable products are Bangladesh's main imports from India, Indian products under other commodity groups have recently made inroads into Bangladesh's markets as well. In particular, India is in the process of becoming the major import source of textile and textile products, vehicles and transport equipment, and chemical products. Until the early 1990s, Bangladesh imported these products from other countries. This recent dramatic shift in import sourcing has increased the share of Bangladesh's imports from India from about 6 percent in 1990 to 16.6 percent in 1996. If smuggled goods are included then more than 25 percent of Bangladesh's current imports come from India alone.

¹⁰Razzaq (1998:1-2) aptly captures the popular sentiment as follows:

Given the past history, it is inconceivable that... a [friendly] relationship would develop between India and Bangladesh. In the 26 years of its existence, Bangladesh did not get its fair share: Be it Farakka or Talpotti, Berubari or Angarpata and Dahagram, border trade or international trade. India always wants to take and does not want to give...Whereas Indian goods finds its easy way to Bangladesh lawfully or unlawfully, there is a mountain of barrier for the Bangladeshi goods to enter into India. Bangladesh has become a free market of Indian goods. Bangladesh is too weak to declare a trade war against India as European Union could declare against America, or America against Japan without jeopardising the friendly relations. About the same time when Anup Chetia, an Indian rebel, was arrested in Dhaka, Shantu Larma, a Bangladeshi rebel, was kept in a guesthouse at Agartola and flown by military helicopter in Dhaka. This is why anti-Indian feeling runs high in Bangladesh....No politician, however loyal may be to India, would dare to sound pro-India publicly.

It is, indeed, intriguing that Tofael Ahmed, the influential Commerce and Industries Minister of the present pro-Indian Awami League government commented that "India is milking Bangladesh giving nothing in return" (*The Daily Star*, 27 July 1998).

Table 1
*Commodity-wise Percentage Shares of Bangladesh's
 Official Imports from India, 1988-1996*

Commodities	1987-88	1988-89	1989-90	1990-91	1991-92	1994-95	1995-96
(a) Live Animals; Animal Products; Vegetable Products, etc.	7.0	10.7	9.2	15.8	23.6	23.2	56.2
(b) Prepared Foodstuffs; Tobacco and Manufactured Tobacco Products	1.4	1.0	0.9	1.1	0.9	10.3	27.5
(c) Mineral Products	6.8	7.3	7.0	11.3	13.6	16.3	12.9
(d) Products of the Chemical or Allied Industries	6.6	4.9	5.1	6.6	7.6	18.1	18.3
(e) Plastics, Rubber and Articles thereof	5.1	5.1	5.3	7.2	6.2	12.0	8.8
(f) Raw Hides and Skins; Travel Goods etc. Wood and Articles of Wood	... ^a	... ^a	... ^a	... ^a	... ^a	20.0	... ^a
(g) Textiles and Textile Articles	3.1	3.6	2.7	1.5	1.7	18.3	19.3
(h) Articles of Stone, Plaster, and Cement; Ceramic Products; Glass and Glass Ware	2.2	2.1	2.8	0.8	1.1	24.3	22.9
(i) Base Metals and Articles of Base Metal	4.1	6.4	8.3	11.1	9.2	16.1	12.4
(j) Machinery and Mechanical Appliances; Electrical Equipment, etc.	19.6	15.6	2.1	2.2	1.5	9.9	10.9
(k) Vehicles, Aircraft Vessels, and Transport Equipment	14.5	9.6	10.8	6.6	3.6	20.9	20.3
(l) Optical Photographic, Cinematographic; Medical Surgical Instruments; Musical Instruments etc.	0.3	0.4	0.5	0.4	0.3	5.6	3.1
(m) Unclassified	29.3	33.3	45.3	35.4	30.7	30.4	29.7
Imports from:							
India							
Million Taka	4,106	5,428	7,038	9,445	8,824	27,679	44,926
Percent of Global Total	4.5	5.7	6.2	8.4	6.7	12.2	16.6
World							
Million Taka	91,588	95,075	11,3305	111,877	132,756	226,628	270,318

Source: Authors' computation based on BBS (Various Years) *Statistical Yearbook of Bangladesh*. Bangladesh Bank, Annual Import Payments 1996.

Notes: ...^a = negligible.

The share distribution of imports is commodity wise. Take for example, the first row-life animals and animal products. It shows that Bangladesh imported 7 percent of total life animal and animal product imports from India in 1988 and the remaining 93 percent were imported from the rest of the world. These two figures make 100 percent. In 1996 Bangladesh imported 56 percent of life animals and animal products from India and the remaining 44 percent from the rest of the world. These two figures also make 100 percent. In this way the 100 percent constraint for all the product categories is satisfied. These figures show that there has been a shift in import sourcing from the rest of the world to India. The lower part of the table shows the rise in aggregate import share from India vis-à-vis the rest of the world. In 1988 the share was 4.5 percent (that is, the remaining 95.5 percent from the rest of the world). The share increasing to 16.6 percent in 1996 (that is, the remaining 83.4 percent from the rest of the world).

Given such a structure of the import trade, Table 2 shows that there are only three major products—chemical fertiliser, raw jute, and frozen fish—that dominate Bangladesh's exports to India. Neither the value of exports nor the structure of export trade has changed significantly since the early 1970s.

Table 2

Structure of Bangladesh's Exports to India (Percent of Total)

Commodities	1994	1995	1996
(a) Chemical Fertiliser	20.6	57.0	60.7
(b) Raw Jute	48.8	33.1	16.1
(c) Frozen Fish	0.1	3.8	11.8
(d) Other Manufactured Goods	0.1	0.1	5.9
(e) Leather	12.7	4.1	3.3
(f) Tea	3.2	—	0.9
(g) Others	14.5	1.9	1.3

Source: Rahman (1997).

Note: Computed based on Export Promotion Bureau, Bangladesh.

Table 3 reports data for the composition of illegal trade between Bangladesh and India as obtained from the Bangladesh Institute of Development Studies (BIDS) Survey conducted in 1994. It shows that livestock, poultry, fish and related products, and other agricultural products constituted about 52 percent of Bangladesh's illegal imports from India. Processed food and tobacco, textiles, and other consumer goods constituted about 43 percent of such illegal imports. Copper, brass, other metals, and fish constituted about 91 percent of Bangladesh's illegal exports to India. Foreign electronic goods (including those assembled in Bangladesh), cigarettes, wine, fertiliser, gold, raw jute, and imported cement were some other illegal exports to India [Ghafur (1990)].

In a (just completed) BIDS follow-up study on smuggling, Rahman and Razzaq (1998) found that cattle, textile items, cotton and silk sari, sugar, salt, bicycle and truck parts are the most important illegal import items from India. They also reported that in terms of value, livestock, fisheries, and poultry dominate the illegal import trade, which are followed by textiles, agricultural products, and processed food. In the illegal export side, the dominant items include gold, high counts yarn (imported), copper, brass, and other metals.

In essence, the key information that one can glean from Tables 1 through 3 is that the bulk of Bangladesh's imports (legal and illegal) from India are consumer goods and materials for consumer goods. In addition, Bangladesh's exports (legal and illegal) to India include only those products which have some scarcity premiums, such as chemical fertiliser, raw jute, fresh fish, imported electronic goods, gold, copper, brass and other metals.

Table 3

Main Items in the Illegal Cross-border Trade between Bangladesh and India⁺

Commodities	Value (US\$ Million)	Share of Trade Exports/Imports	Restriction
Imports			
(a) Livestock, Poultry, Fish and Related Products	252.0	40.0	Restricted Export (India), Increased Tariff (Bangladesh)
Live Animals (Cattle)	216.0	34.2	
(b) Agricultural Products	78.0	12.4	
Sugar	35.0	5.6	Banned
(c) Processed Food and Tobacco	114.2	18.1	
(d) Textiles	76.2	12.1	
Sari (Cotton)	50.0	7.9	Banned
(e) Other Industrial Manufactures	26.9	4.3	
Bicycles and Parts	13.9	2.2	High Tariff+VAT
(f) Other Consumer Goods	83.6	13.2	
Electronics	43.1	6.8	
Total Imports	631.0	100.0	
Exports			
(a) Copper, Brass and Other Metals	61.7	58.0	
(b) Fish	35.1	33.0	
(c) Synthetic Textiles	4.6	4.3	Lower Import Duty in Bangladesh
Electronics, Spares	5.1	4.8	
Total Exports	106.0	100.0	
Total Illegal Trade	737.0		

Source: World Bank (1996).

Note: ⁺This table is based on NCAER-BIDS field survey conducted in 1994. The survey was conducted simultaneously at Indian and Bangladeshi borders using a common questionnaire and methodology.

Having reviewed the structure of trade, the following two sections are devoted to an investigation of its underlying economic rationale. The focus is on whether India has comparative or competitive advantage in the production and export of those products which Bangladesh imports (legally and illegally) from that country. As part of the investigation, the revealed comparative advantages of the two countries for various product categories are computed for comparison.

III. ECONOMIES OF BANGLADESH AND INDIA: ARE THEY STRUCTURALLY DIFFERENT?

Is the economy of Bangladesh structurally different from that of India? As indicated earlier, some authors, such as Sobhan (1990, 1996), think so and rationalise

Bangladesh's large and growing trade deficits with India in terms of actual or perceived technological gaps between these two countries. Their argument goes like this. By adopting an import-substituting strategy for industrialisation since its independence in 1947, India has developed a capital-intensive industrial/manufacturing production base. This, in line with suggestions by Amsden (1989) for South Korea and Blumenthal (1980) for Japan, has allowed India to gain "dynamic comparative advantage by forcing capital-intensive industry within a labour-surplus economy".¹¹ India has thus been able to produce and export both capital and manufactured consumer goods to relatively less developed countries, including Bangladesh. As Bangladesh has failed to develop a manufacturing production base, its comparative advantage remains stuck to the production and exporting of primary goods or raw material for manufacturing production. Given such different production structure, India and Bangladesh are a classic example in which both countries can derive benefits from growing trade flows. The crux of such a hypothesis is its reliance on the assumption that the economies of Bangladesh and India are structurally different with a built-in production-trade structure that favours India in an environment of freer trade. Can this be substantiated with statistical evidence?

The standard Hecksher-Ohlin-Samuelson model relies on relative factor endowments, such as land, labour, capital, natural resources, skill/human capital, and research and technology, to explain the comparative advantage of a country in the production and export of certain goods against the others. In explaining international trade flows, it is necessary to put emphasis on comparative advantage and the factors that determine it. The reason is that although it is widely acknowledged that the principle of comparative advantage is not adequate as an explanation for inter-country trade flows, most other explanations of trade flows are based, directly or indirectly, on this fundamental principle [Ethier (1995)]. For example, firms in a country can succeed internationally relative to their competitors if they possess what is called sustainable competitive advantage. There are two types of competitive advantage that firms can gain: lower cost and product differentiation. What are the factors that can create such competitive advantage? Porter (1990) suggests that the factors that shape the environment in which local firms gain competitive advantage include factors conditions (human resources, physical resources, knowledge resources, capital resources, infrastructure), demand conditions, related and supporting industries, and firm strategy, structure and rivalry. This shows that both the comparative advantage and competitive advantage in the production of exportable products are dependent on a set of domestic factor conditions. There are no apparent reasons to believe that trade between Bangladesh and India is independent of such factor conditions. Therefore, one must justify by applying the principle of comparative advantage or competitive advantage why the current trade flows are natural or a positive development from the viewpoint of Bangladesh.

¹¹We have borrowed these words from Lee (1995:1205).

Testing for comparative advantage of a nation is not easy and can be misleading [Wong (1995)]. Also, lack of detailed data for factor endowments for countries like Bangladesh and India are a major constraint to such an exercise. As an exploratory exercise, we examine this issue from two different ways. First, we examine the levels of socio-economic development of these countries. Second, we estimate the revealed comparative advantage (and disadvantage) of both these countries for a selected number of years since 1975.

Appendix Table A.2 lists the key socio-economic indicators of Bangladesh and India along with Bangladesh's other major trading partners. The idea is to examine whether India's economy reveals any structural differences from that of Bangladesh. Contrary to popular perceptions, Bangladesh's economy is more like that of India. Both are labour surplus agricultural economies and have achieved a low level of socio-economic development.¹² It raises doubt about the perception that India has achieved a higher stage of development and thereby acquired a comparative advantage relative to Bangladesh in the production and export of capital and technology-intensive products. Table A.2 shows that neither India nor Bangladesh has a comparative advantage in the production of capital and technology-intensive products.¹³ However, when the data for India are compared with those of Bangladesh's other trading partners in North and South East Asia, Europe and North America, it becomes obvious that the countries of these latter regions have achieved higher stages of development and thereby gained comparative advantage relative to both India and Bangladesh in the production and export of capital and technology-intensive products. In fact, this is reflected in the direction of Bangladesh's import trade of capital goods. Table 1 shows that despite India's deep

¹²Consider the following statistics. In 1993 the purchasing-power-parity estimates of GNP per capita for Bangladesh and India were 5.2 and 4.9 compared to 100 for USA. The data for income distribution in 1989-1990 show that the lowest 20 percent of population received 9.5 percent of income in Bangladesh compared to 8.8 percent in India. In the distribution of GDP, the share of agriculture was about 30 percent in both these countries, while the share of manufacturing was relatively higher in India and the share of services was relatively higher in Bangladesh. In the distribution of manufacturing value added, the shares of food beverages and clothing and textiles were relatively higher in Bangladesh and those of machineries and transport equipment were relatively higher in India. The demographic and literacy indicators, such as life expectancy, population growth rate, total fertility rate, infant mortality rate, literacy rate, and student enrolments, suggest that India was marginally ahead of Bangladesh in these respects.

¹³Following Salvatore (1995), the broad comparative advantage of a nation can be inferred from the excess in the percentage of total exports over the percentage of total imports in each major commodity group. The idea is that a country is considered to have a comparative advantage in a product group if it is net exporter for that commodity group; that is, the export/import ratio for that category exceeds unity. The percentage shares of exports and imports show that although Bangladesh, India and China have a comparative advantage in the export of labour-intensive manufactures, such as textiles and clothing, in capital and technology-intensive products, such as machinery and transport equipment, the comparative advantage belongs to Korea, Japan and USA.

currency devaluation, these countries have roughly maintained their shares in Bangladesh's imports of capital and technology-intensive products.

What could be the reason? Is it a prejudice against the Indian products or simply a reflection of India's lack of competitiveness in technology-intensive products? The fact is that India produces low-quality capital and technology-intensive goods under both tariff and non-tariff barriers. These products meet India's own domestic demand and have failed to make any headway in the international markets. Unlike its capital or technology-intensive products, India's agricultural products and low-quality consumer goods have made inroads into Bangladesh's markets. These goods are relatively cheap and most poor consumers purchase them, even though their quality is sub-standard. These products are cheaper not because India's firms have suddenly gained competitive cost advantage in the production of these goods, but the deep devaluation of its currency has made them cheaper in Bangladesh's markets. Most of India's products in Bangladesh's markets also enter illegally without paying any tariffs and other taxes. Therefore, a unique breakthrough of the Indian products into Bangladesh's markets does not validate the assertion that India has gained either comparative or competitive advantage in the production and export of consumer goods or materials for consumer goods.

IV. BANGLADESH AND INDIA'S REVEALED COMPARATIVE ADVANTAGE

In this section, we estimate the revealed comparative advantage (RCA),¹⁴ an indirect measure of comparative advantage, for both Bangladesh and India's SITC 1 and 2-digit industries for selected years beginning from 1975. The aim is to use this approach to test if the economies of Bangladesh and India are structurally different and if India has a comparative advantage over Bangladesh in the production and export of those agricultural and manufactured goods which Bangladesh imports from India. Abbott (1996) suggests that provided a country's export specialisation is not distorted by government policies, an index value above (below) unity would indicate a comparative advantage (disadvantage) relative to the rest of the world.

The RCA estimates in Table 4 show that Bangladesh and India's revealed comparative advantage and disadvantage are in similar types of products. Bangladesh has a revealed comparative advantage in food, beverages and tobacco, manufactured goods, textile fibres, textile yarn and fabrics, and clothing, and its revealed comparative disadvantage is in mineral fuels and

¹⁴The RCA is estimated by calculating the share of a particular commodity group in an economy's total exports and then dividing it by that commodity group's share of world exports. Formally, $RCA_{i,j} = [(X_{i,j}/X_{i,w})]/[(X_{i,w}/X_{i,w})]$ where $RCA_{i,j}$ are j country's revealed comparative advantage index for product group i , $X_{i,j}$ are exports of product i by exporting country j , $X_{i,j}$ are total exports by exporting country j , $X_{i,w}$ are world exports of product i and $X_{i,w}$ are world exports of all products. The interpretation of an index number of, say, 1.2 is that the export share of the country in the commodity i is about 20 percent higher than the share in the total exports of that product of the world [Lee (1995)].

Table 4

Bangladesh and India's Revealed Comparative Advantage, 1975-1993

SITC 1 and 2 Digits	1975	1980	1985	1990	1992	1993
Bangladesh						
0 and 1 Food, Beverages and Tobacco	0.53	1.24	2.04	1.54	1.12	1.34
2 and 4 Crude Materials (Excluding Fuels), Oils and Fats	2.83	2.72	2.25	1.25	0.97	0.74
3 Mineral Fuels and Related Materials	0.01	0.01	0.14	0.11	0.09	0.10
5 Chemicals	0.07	0.19	0.02	0.12	0.21	0.11
7 Machinery and Transport Equipment	0.01	0.05	0.05	0.02	0.05	0.10
6 and 8 Other Manufactured Goods	2.40	2.68	1.07	2.48	2.84	2.74
26 Textile Fibres	17.86	1.88	14.74	8.87	8.28	7.00
65 Textile Yarn and Fabrics	17.12	2.02	13.73	6.37	5.57	4.54
84 Clothing	n.a.	0.01	11.38	12.14	14.38	13.53
India						
0 and 1 Food, Beverages and Tobacco	2.97	2.43	2.75	1.75	1.42	1.85
2 and 4 Crude Materials (Excluding Fuels), Oils and Fats	1.80	1.70	1.77	1.95	1.32	1.32
3 Mineral Fuels and Related Materials	0.05	0.02	0.33	0.28	0.19	0.33
5 Chemicals	0.38	0.51	0.47	0.85	0.74	0.79
7 Machinery and Transport Equipment	0.26	0.29	0.21	0.21	0.16	0.20
6 and 8 Other Manufactured Goods	1.61	1.72	2.06	1.99	1.53	2.18
26 Textile Fibres	0.94	0.22	0.78	4.04	0.99	0.83
65 Textile Yarn and Fabrics	4.49	0.49	4.10	3.82	3.28	4.39
84 Clothing	2.31	0.04	4.24	4.51	3.19	4.31

Source: Authors' computation based on United Nations (Various Years). *International Trade Statistics Yearbook*.

related materials, chemicals and machinery and transport equipment. Similarly, India has a revealed comparative advantage in food, beverages and tobacco, manufactured goods, textile yarn and fabrics, and clothing, and its revealed comparative disadvantage is in mineral fuels and related materials, chemicals, and machinery and transport equipment. It is important to note that unlike Bangladesh, India does not show stable and strong revealed comparative advantage in textile fibres. Also, while Bangladesh appears to have lost recently its revealed comparative advantage in crude materials, oils and fats, India still maintains its revealed comparative advantage in these products. In short, as both countries' revealed comparative advantages are in similar types of labour-intensive, low-technology products, they are competitors in these products in international markets. Therefore, according to the traditional Heckscher-Ohlin-Samuelson model, which emphasises gains from trading products which embody different factor proportions, the scope for trade between Bangladesh and India is limited in these products.¹⁵

¹⁵Note that the RCA measure for SITC 1-2 digit industries may not reveal fully the true nature of comparative advantage.

If India does not necessarily have a comparative advantage over Bangladesh in the production and export of agricultural and labour-intensive, low-technology manufactured goods then why has it been so successful lately in penetrating Bangladesh's markets with such products? This question can be answered by invoking both the ideas of intra-industry trade of differentiated products and the political economy of currency devaluation. In the following two sections, we will show that Bangladesh's trade deficits with India are the result of both India's sharp devaluation of currency and the closed nature of its economy insofar as imports of differentiated products from Bangladesh are concerned.

V. THE REAL EXCHANGE RATE AND TRADE FLOWS

To examine the impact of the real exchange rate of Bangladesh's taka against India's rupee on trade flows between these countries, we specify and estimate an import demand function for Bangladesh in the following log-linear form:

$$\ln(IM^{bi}/P^m) = \alpha_0 + \alpha_1 \ln y + \alpha_3 \ln R^{bi}$$

where

IM^{bi}/P^m = Bangladesh's imports from India (million taka) (IM^{bi}), deflated by the import price index of Bangladesh (P^m);

y = Bangladesh's GDP at constant prices (million taka); and

R^{bi} = the real exchange rate of Bangladesh's taka with India's rupee, defined as $R^{bi} = E^{bi}(CPI^I/CPI^b)$ where E^{bi} = the nominal exchange rate of Bangladesh's taka with India's rupee, CPI^I = consumer price index in India and CPI^b = consumer price index in Dhaka, Bangladesh.

The time series properties of variables in this equation are reported in Appendix Table A.3. The DF and ADF test results show that all these variables have a unit root, although given the small sample size, these results are only indicative. However, the regression results reported in Table 5 may be treated as a long-run cointegral relation among real imports, real output, and the real exchange rate. Two sets of OLS regression results are reported for a number of sample periods beginning from 1974, and then the initial sample period is increased by one observation since 1988. (In one set of regressions, a dummy variable for trade liberalisation is introduced.)¹⁶ The idea of increasing the sample size by one observation since 1988 is to capture the impact of sharp appreciation of the real exchange rate of Bangladesh's taka with India's rupee on import flows from this country from that

¹⁶The equation was estimated with a trade liberalisation dummy. It takes a value 1 beginning from 1983 and zero for earlier years. However, note that as the regression results with the trade liberalisation dummy are not much different from the results without such dummy, it does not matter much which of the two set of results is used for analysis. The coefficient of trade liberalisation dummy is not significant in any of the estimated equations.

Table 5
Regression Results of Bangladesh's Imports from India

A. Regression Results without Trade Liberalisation Dummy							
Sample Period	Constant	Real Exchange			R^2	DW	Predictive Failure Test Statistic
		Real Output	Rate				
1974-1988	-37.29 ^a (3.32)	3.60 ^a (3.84)	-1.62 (1.34)	0.58	1.62	F(7,12)=0.26	
1974-1989	-41.07 ^a (4.50)	3.92 ^a (5.15)	-1.92 (1.78)	0.68 [†]	1.63	F(6,13)=0.25	
1974-1990	-38.63 ^a (5.95)	3.71 ^a (7.02)	-1.64 ^b (2.09)	0.75	1.62	F(5,14)=0.29	
1974-1991	-39.00 ^a (7.26)	3.74 ^a (8.71)	-1.68 ^b (2.49)	0.81	1.64	F(4,15)=0.40	
1974-1992	-36.75 ^a (7.64)	3.55 ^a (9.48)	-1.33 ^b (2.36)	0.84	1.55	F(3,16)=0.21	
1974-1993	-36.75 ^a (8.39)	3.55 ^a (10.58)	-1.33 ^b (2.66)	0.87	1.59	F(3,16)=0.33	
1974-1994	-36.53 ^a (8.87)	3.53 ^a (11.34)	-1.29 ^a (2.90)	0.89	1.57	F(3,16)=0.66	
1974-1995	-37.38 ^a (9.47)	3.60 ^a (12.19)	-1.38 ^a (3.22)	0.91	1.61		
B. Regression Results with Trade Liberalisation Dummy							
Sample Period	Constant	Real	Real	Trade	R^2	DW	Predictive Failure Test Statistic
		Output	Exchange Rate	Liberalisation Dummy			
1974-1988	-34.25 (1.87)	3.36 ^b (2.25)	-1.58 (1.25)	0.08 (0.22)	0.54	1.62	F(7,11)=0.24
1974-1989	-39.66 ^b (2.54)	3.81 ^a (3.01)	-1.91 (1.71)	0.04 (0.11)	0.65	1.64	F(6,12)=0.23
1974-1990	-36.56 ^a (2.97)	3.55 ^a (3.63)	-1.66 ^c (2.03)	0.07 (0.20)	0.74	1.63	F(5,13)=0.27
1974-1991	-37.29 ^a (3.47)	3.61 ^a (4.27)	-1.71 ^b (2.39)	0.06 (0.19)	0.80	1.65	F(4,14)=0.36
1974-1992	-34.16 ^a (3.39)	3.34 ^a (4.26)	-1.39 ^b (2.27)	0.09 (0.30)	0.83	1.58	F(3,15)=0.21
1974-1993	-34.30 ^a (3.68)	3.35 ^a (4.65)	-1.40 ^b (2.50)	0.09 (0.30)	0.86	1.61	F(2,16)=0.34
1974-1994	-33.97 ^a (3.85)	3.33 ^a (4.90)	-1.37 ^b (2.66)	0.10 (0.33)	0.89	1.61	F(1,17)=0.70
1974-1995	-36.06 ^a (4.30)	3.50 ^a (5.43)	-1.43 ^a (2.81)	0.05 (0.18)	0.91	1.62	

Source: As Appendix Table A.1.

Notes: + The figures in parentheses below the coefficients are *t*-ratios.

++ R^2 = adjusted coefficient of determination; DW = Durbin-Watson statistic.

! a,b,c, = significance at the 1,5,10 percent level.

year. In the regression results the real exchange rate enters with one period lag as it performs better in a statistical sense.

The regression results show that the coefficient of real income is significant and stable. The value of the income coefficient exceeds unity, implying that Bangladesh's imports from India are income-elastic; that is, they are luxuries! The coefficient of the real exchange rate bears a negative sign and becomes significant when the sample period of estimation is extended up to the 1990s. The coefficient value of the real exchange rate exceeds unity, implying that Bangladesh's imports from India are price-elastic. The high price responsiveness of imports from India reflects the fact that they compete with both Bangladesh's products and its imports from other countries.

The overall results indicate that the appreciation of the real exchange rate of Bangladesh's taka is the main reason for the rapid growth of imports from India since the early 1990.¹⁷ Other factors, such as the sharp reduction of tariffs, also played a critical role in imports from India. It may be noted that India has been successful in penetrating Bangladesh's markets since the early 1990s when Bangladesh accelerated liberalisation of its import trade. As part of trade liberalisation, Bangladesh reduced tariffs and withdrew various subsidies on import competing industries. Rahman (1997) points out that the Indian exporters have availed themselves of the opportunity of exporting to Bangladesh's markets particularly those items for which the tariff reductions were relatively radical. Table 6 shows that the average tariff rate for the Indian products was reduced from 31 percent in 1992 to 12 percent in 1996,

Table 6

Weighted Average Tariff Rates (Percent)⁺

	1992	1993	1994	1995	1996	1997 ⁺⁺
For Global Imports	24.14	23.56	24.09	20.79	17.01	17.71
Primary Commodities	23.37	23.21	27.15	17.26	13.16	16.62
Food and Vegetable Products	25.73	22.56	27.20	12.85	10.51	16.67
Mining Products	26.96	31.34	37.58	36.73	34.19	34.84
Animals, Forestry and Others	13.61	15.25	16.30	9.78	4.55	6.43
For Imports From India	31.16	23.48	25.09	13.77	12.05	n.a.

Source: Rahman (1997) and Bangladesh (1997).

Notes: ⁺Data for India are from Rahman (1997), who computed them based on National Bureau of Revenue, Bangladesh.

⁺⁺ July 1996 to February 1997.

n.a. = not available.

¹⁷Although Khan (1995:13) did not test his proposition, he made a similar argument:

...one must look for the economic reason behind the massive rise in imports from India...the Bangladesh taka has dramatically appreciated *vis-à-vis* the Indian Rupee, by as much as 32 percent since 1987. It is not at all surprising that the deficit of Bangladesh with India in aggregate trade, legal and illegal, has exploded.

whereas the average tariff rate for global imports was reduced from 24 percent to 17 percent during the same period. The reason for such a sharp reduction of tariffs for the Indian products is not known. It is possible that the policy-makers in Bangladesh intentionally or unintentionally acted in the interests of India when they lowered tariffs for products where India had already made inroads into Bangladesh's markets with the help of its deep currency devaluation. The low average tariff rate also reflects the fact that most Indian goods that enter into Bangladesh's markets through official channels are either consumer goods or materials for consumer goods, which are subject to very low or zero-rates of tariffs. Corruption at customs posts could be another factor. It could partly explain why there was an explosive growth of zero tariff imports of about 338 percent in 1995 and a relatively lower growth rate of 68 percent in 1996. The rapid growth of zero-tariff imports increased the share of such imports from 11 percent in 1992 to 27 percent in 1996 [Bangladesh (1997)].

With respect to the exchange rate policy, an important question is why was the taka not devalued sufficiently to neutralise the impact of India's devaluation. Since official publication is conspicuously silent on India-Bangladesh trade deficits and the causative factors (including exchange rates) the government's relative inaction on the exchange rate front can be explained as official reluctance to adopt an India-centric tit-for-tat devaluation policy to avoid antagonising its big neighbour. Second, since Bangladesh's exports to India are negligible anyway, the appreciation of the taka was not going to have any impact on its exports to that country. (There is no powerful pressure group in Bangladesh to lobby for devaluing currency sufficiently as a means to promote exports to India.) Third, it is routinely accepted by decision makers in Bangladesh that currency devaluation raises inflation,¹⁸ which may cause political instability.

Regression Results of India's Imports from Bangladesh

A regression equation of the form specified above was used to estimate a demand function for India's imports from Bangladesh. We experimented with and without lags of variables but the regression results always turned out to be statistically unsatisfactory. For an example, we report the following estimated equation for the sample period 1974-1993.

$$\ln (IM^{ib}/P^{mi})_t = 10.49 - 0.64 \ln y_t^i + 0.40 \ln R^{bi}_t$$

(1.13) (0.76) (0.27)

Estimator: OLS $R^2 = -0.06$, $DW = 1.94$

¹⁸On the other hand, despite deep currency devaluation, India's inflation rate decelerated from about 13 percent during the two years 1991-1992 to about 8 percent during the three years 1993-1995. This reflects the fact that any link between currency devaluation and inflation is weak. Whatever link is there, it should not be assumed but tested for policy-making.

In the results the figures in parentheses are absolute t -ratios, R^2 is the adjusted coefficient of determination and DW is Durbin-Watson statistic. The variables are defined as follows: IM^{ih}/P^{mi} = Bangladesh's exports to India (million rupee) deflated by India's import unit value index (P^{mi}), y^i = India's GDP at constant prices (billion rupee), and R^{hi} = the real exchange rate of Bangladesh's taka with India's rupee. The overall results confirm what is evident from casual observation of raw data: that Bangladesh's exports to India are not sensitive to India's income and/or the relative price movement. This is taken to be indicative of the presence of prohibitive tariff and non-tariff barriers.

VI. TRADE LIBERALISATION AND INTRA-INDUSTRY TRADE

The intra-industry trade models suggest that large-scale trade is possible among countries with similar factor endowments provided that these countries engage in the exchange of differentiated products of the same industry or broad product group. In general, intra-industry trade arises in order to take advantage of economies of scale in production. In a free trade economy, international competition forces firms to produce one or at most a few varieties and styles of the same product, rather than many different varieties and styles, in order to keep unit costs low. Such market-enforced specialisation in certain varieties and styles allow a country to import other varieties and styles from abroad. The importance of intra-industry trade becomes apparent when tariffs and other obstructions to trade flows are removed, implying an increase in intra-industry trade following the opening up of an economy [Salvatore (1995)]. Intra-industry trade creates closer links among the countries involved in such trade by providing more positive gains to all of them than what inter-industry trade provides. This proposition remains valid in the context of reform and internationalisation of manufacturing activities, which enhance assembly production from imported parts and components in different countries [Dixit and Grossman (1982)]. Under these circumstances, political opposition to such a market-driven economic cooperation is expected to be minimal. Further, in the literature it is argued that changes in income distribution induced by trade liberalisation would be less alarming if structural adjustment in industries took the form of intra-industry rather than inter-industry characteristics. In short, the prospect of closer economic cooperation among a group of countries can be determined by analysing the status of intra-industry trade within the concerned group of countries.

From this viewpoint, Bangladesh and India should not be much different. We have shown earlier that these countries have a greater scope for intra-industry trade than inter-industry trade given their similar factor conditions. Appendix Tables A.4–A.6 show that intra-industry trade with the rest of the world has increased in both Bangladesh and India for some groups of commodities following trade liberalisation. However such trade did not take place for India insofar as Bangladesh's products are concerned. Bangladesh still exports some traditional specialised products to India

and has totally failed to export any differentiated products to this country. Unlike India, most of Bangladesh's imports from India are differentiated products of the same industry or commodity group that Bangladesh produces and exports. This has happened because Bangladesh has opened up its economy at a more rapid rate than India and allowed the differentiated Indian products to enter into its markets. India did not reciprocate.

Why did India fail to import differentiated products from Bangladesh? There are two plausible explanations. First, although India has specialised, and reaped economies of scale, in both agricultural-based products and low-quality, low-priced manufactured goods for Bangladesh's markets, Bangladesh has failed to specialise in any differentiated products for exports to India. Second, although India has somewhat opened up its economy, there are both tariff and non-tariff barriers to Bangladesh's exports of differentiated products to India.

In general, the tariff rates in India for most products are much higher than those in Bangladesh. For example, the average tariff rate in India decreased from 128 percent in 1991 to 53 percent in 1994 compared with the decrease in the average tariff rate in Bangladesh from 85 percent to 26 percent during the same period [Bangladesh (1995)]. Although India provides some tariff concessions to certain specialised products from other South Asian countries (including Bangladesh) under South Asian Preferential Trade Agreements (SAPTA), these facilities remain unutilised as Bangladesh does not produce such specialised products. The 40 percent value added restriction imposed by India on South Asian products eliminate most exportable products of these countries from receiving India's concessional tariff facilities. In short, as Chopra *et al.* (1995:3,54) write, despite its trade liberalisation, India remains the most protected economy in Asia:

Tariff rates remain relatively high by international standards, while imports of consumer goods and trade in agricultural commodities continue to be subject to quantitative restrictions.... India's trade regime remains one of the most protected in Asia and progress in trade liberalisation lags behind most other developing economies.

Along with tariff barriers, India has designed and perpetuated almost unpenetrable non-tariff barriers to imports from other countries such as the import licensing system, canalisation, the actual user policy, phased manufacturing programmes that provide for progressive import substitution, industrial licensing, and government purchase preferences given to domestic producers. The rationale of some of these non-tariff barriers to imports can be traced to the wartime (World War II) criteria of "essentiality" and "indigenous availability" as guiding principles of import policy. India's restrictive attitude towards imports is reinforced by a variety of other ideas, policies, and interests, namely: the belief that direct controls over imports are an integral part of planned economic development; policies to protect

artisan and small-scale industries from foreign competition; industrial dispersal policies; widespread and deeply rooted anti-trader sentiments; the requirements of dealing with other countries with tightly controlled trade regimes (for example, the former Soviet Union and East European countries); the desire to insulate low-income producers and consumers from price fluctuations; ideas about infant industries; and pessimism about the prospects for commodity exports [Pursell (1992)].

While Bangladesh's exporters have been successful in exporting non-traditional products to both developed and developing countries since the mid-1980s [Hossain and Rashid (1996)], they have the view that India has kept its markets closed for them through such non-tariff barriers for all differentiated products. Table 7 shows a list of India's non-trade barriers that have been prohibitive in Bangladesh's exports to India. Some of these non-tariff barriers are policy-induced and the others are institutional. It appears that there is a big gap between what is agreed in principle between the governments of Bangladesh and India at the political levels and is practised by trade and custom officials at the ground level. One constant complaint of Bangladesh's exporters is that the Indian custom officials are notoriously slow in clearing any imports originating from Bangladesh. There is also lack of transparency and clarity as to the application of rules or barriers to imports from Bangladesh because much is left to the discretion of customs authorities [Rahman (1997)]. Let us report a number of representative comments on this issue:

...it is not the high nominal tariff rate that is blocking Bangladesh's exports to India, rather it is India's non-tariff barriers (local government's rules and regulations, officials rejection of goods at the entry point on flimsy grounds etc.) that has become the major obstacle to Bangladesh's exports. It becomes a matter of long battle at the entry point with the officials. Ministerial negotiations on tariff cuts are irrelevant here.

K. U. Ahmed (1998:2)

it was 'really impossible for Bangladesh to export anything unless Indian bureaucrats change their attitude. We have a lot of cosmetics, a lot many industrial products which are much better than Indian goods'.

Golam Mostafa, President of the Bangladesh Frozen Foods Exporters Association, (*The Daily Star*, 27 July, 1998)

... the level playing field we are talking about is not level between India and Bangladesh...irrespective of zero-tariff or concessional tariff facility, the access of Bangladeshi products to the Indian market would be difficult without resolution of non-tariff handicaps. We suggest that our foreign office negotiators and their advisers take a more incisive look into the matter beyond the surface of tariff equations.

(*The Independent Editorial*, 27 November, 1997).

Table 7

India: Non-tariff Barriers

Types of Non-tariff Barriers	Sectors Involved
(a) Imports of commodities which are permitted only under restrictive license or in accordance with a public notice.	Most consumer, intermediate, and capital goods
(b) Canalised imports permitted only through the state trading agencies	Crude oil and petroleum products, iron and steel, non-ferrous metals, fertilisers, edible oils, cereals, cotton, natural rubber, newsprint, cement, sugar, scrap metals, specified chemicals, electronic products, and drugs
(c) Imports permitted only against a license on the recommendation of various concerned departments	For example, frozen semen allowed only under permission of department of agriculture
(d) Imports which are not allowed except in accordance with a public notice notifying permission	Applicable in case of some non-consumer commodities (for example, fish meal)
(e) Actual user policy that disallows imports for resale by intermediaries	Almost all types of products which have some scarcity premiums
(f) Indigenous availability criterion which requires a certificate that a product of satisfactory specifications and quality cannot be supplied in a reasonable time by an Indian firm	Almost all types of products, especially restrictive for consumer goods
(g) Phased manufacturing programmes in which importing firms agree to progressively replace imported materials, parts or components with materials, parts and components produced in-house or by other Indian firms.	Most raw materials and capital goods
(h) Restrictions on the use of foreign exchange by firms to pay the royalties and license fees	Mainly capital goods and technology products
(i) Imports of inputs to export-oriented units against a license or in accordance with a public notice which is issued favouring such imports	For example, crude granite which is only applicable for export purposes
(j) Government purchase preferences given to domestic firms	All types of products used by the central government, state governments and state enterprises
(k) Prohibited	Some particular commodities and drugs

Source: Authors' compilation based on Pursell (1992) and Rahman (1997).

Some Indian officials may have retained their historically protectionist attitude that India should import only those products which it cannot produce domestically or when India is really required to import anything, it should import from countries other than its own neighbours. On both grounds, Bangladesh can be excluded as a source of India's imports. Someone not familiar with the rationale of intra-industry trade can question why India should import those products from Bangladesh which are available in India or could be produced in that country anyway or perceived to be of low quality. Such prejudice towards international trade has

been expressed by none other than West Bengal's premier, Joyti Basu, who reportedly made the remark that Bangladesh cannot rely on 'hilsha fish and jamdani sari but should produce something which India needs'.¹⁹

Unable to achieve reciprocity from India, Bangladesh exporters have put their energies and resources to make inroads into other markets, especially in Europe and North America [Rahman (1997) and Ahmed (1998, 1998a)]. Ahmed (1998a) even argues that this is a sensible and positive development, as he does not see any prospect of Bangladesh's exports to the competitive and slow-growing economies of South Asian subcontinent under the proposed South Asian Free Trade Arrangement (SAFTA) in 2001.

VII. POLITICAL ECONOMY OF BANGLADESH- INDIA TRADE RELATIONS

Bangladesh's economic and political relations with India remain complex and unstable [Choudhury (1998)]. A rational line of reasoning is that, given its geographic proximity and socio-cultural links, Bangladesh should develop well-articulated and mature relations with its big neighbour. Bangladesh cannot do so by itself. India must respond positively to Bangladesh's gestures and be sensitive to its interests.

Having examined the economics of trade flows, we are now in a position to summarise the main points and draw policy implications from them within a political economy perspective.

(i) India's Deep Currency Devaluation Policy

Bangladesh's large and growing trade deficits with India appear to have been caused largely by India's deep currency devaluation rather than because of its technological maturity or higher stage of development. Both Bangladesh and India have a revealed comparative advantage in similar groups of products (supply conditions) and identical income and taste patterns (demand conditions). This suggests that the scope for inter-industry trade between them is limited. Whether it was intentional or not, India's deep currency devaluation has worked against Bangladesh's interests—economic, social and political. To be precise, it has reduced Bangladesh's foreign exchange reserves, created a black economy, encouraged capital flight, distorted domestic relative prices, and lowered income and employment. The size of the black economy is now so large that it undermines the government's monetary and fiscal policy [Kamaluddin (1998)]. The social and political impact of black money has also been enormous. A nexus has already developed between smugglers, extortionists, businessmen, bureaucrats and

¹⁹The first author read about this comment in a report from Calcutta, which was published most probably in the *Amitech: News from Bangladesh* [<http://bangladesh-web.com/news>] sometime in June-July 1997. Later, despite his search, he could not locate the report or the precise date of its publication.

politicians. It has corrupted the polity. With decline in the quality of governance, investor confidence has also slumped at a time when the continuous inflow of illegal imports has been forcing the closure of many small and medium-size enterprises, including those in the flag-bearing textile industry [Islam (1998)]. Some emerging labour-intensive, albeit standardised technology industries, such as consumer electronics, are also struggling to survive under imposition of heavy taxes on such products and their raw materials. On the fiscal side, the introduction of myriad of taxes has been to fill in the shortfalls of government's tariff revenues created by large scale smuggling from India that replaced taxable imports from other countries.

(ii) India's Dumping of Low Quality Products Driving Out Good Substitutes

As emphasised earlier, in Bangladesh's markets, India has gained an artificial competitive advantage in its products over other suppliers through deep currency devaluation. Most of its products are of low quality and not globally competitive.²⁰ Many suggest that Bangladesh has basically become a dumping ground of India's otherwise unexportable products. For example, it was reported in the *Daily Star* (9 July 1998) that the prices of some of the Indian products are even lower than the prices of raw materials used to manufacture them, indicating the possibility of dumping. There are other reasons why the Indian products are cheaper than their substitutes. As indicated earlier, most of India's products enter into Bangladesh's markets illegally without paying any import tariffs, development surcharge, sales tax/value added tax, advance income tax, and so on. Even most legal imports from India are subject to very low or zero rates of tariffs. Therefore the Indian products are attractive to those poor consumers who are either less willing or cannot afford to pay high prices for quality. Along with low-quality products, there are of course some good-quality, high-priced products from India. Due to restrictions on imports from India introduced in the 1950s and 1960s, some of India's products, irrespective of their quality, carried scarcity premiums. That snobbery among other non-economic factors feeds on. Many rich and middle income consumers patronise Indian products for such reasons.

Given a wide range of products and the different groups of consumers, it is not easy to determine the net consumer welfare from such products. Along with

²⁰Following is a news report from New Delhi on the quality of Indian products published in *The Independent* (2 September, 1988:7):

There have been enough press reports of fungus-infected IV [intravenous] fluid, synthetic milk, adulterated sweets, contaminated species and spurious liquor. Not to speak of the developed world, even in the developing countries the Indian goods have become a suspect with regard to their quality...Sri Lanka suspended the import of the DPT vaccine from India last year after a batch was found to be sub-standard. Rampant adulteration of black pepper has led to Indian pepper being banned in many countries. An Indian Council of Medical Research Survey of food contaminants a few years ago made frightening reading. Among other things, it found that turmeric, which is commonly used in Indian food, contained cadmium, arsenic and lead.

dumped cheap products, many fake, drugs and narcotics enter into Bangladesh's markets. As Ahmed (1998a) remarks, the latter are *bads*, not *goods* and a travesty of welfare improvement through free trade! The main concern arises from the impact of low quality imports of intermediate and capital goods on the production of goods and services. As such imports replace better quality substitutes that may have a negative impact on the quality and hence reputation of Bangladesh's products made for export markets in developed countries. Some critics go to the extent of suggesting that India, by dumping its low quality products (both consumer and capital), tends to destroy Bangladesh's emerging export potential in those products where both countries either compete or expect to compete in the future. Although this may at best be a wild guess. But for any success of export-oriented strategy of development, a small open economy like Bangladesh cannot afford to sacrifice quality of its products whether they are sold domestically or internationally. The quality of consumer goods, especially health-related products, should also not be ignored.²¹

How is it possible for India to dump low-quality products into Bangladesh's markets? For one thing, there are hundreds of ghost exporters who supply (legally and illegally) hundreds of products with exotic or fake brand names into Bangladesh's markets and who have joined in the rush to make quick profits. These backyard products are sold without any quality control on either India's or Bangladesh's side. Whatever regulations exist on paper are ignored in practice.

As Rashid (1988) has shown with historical evidence, product quality has a defined tendency to deteriorate in contestable markets [Baumol (1982)] with many small producers, free entry and costless exit. Heal (1976) points out that the danger to quality comes primarily from "upstarts" and "fly-by-nights" who are in the market only for a quick gain. When consumers have either limited information on suppliers or difficulties in identifying good products from bad and there is no institution to ensure that buyers and sellers would frequently meet each other, it is likely that Gresham's Law—that bad products drive out good—would prevail in the market. Akerlof (1970) has shown this in his classic model of "lemons". He further points out that the cost of dishonesty in the business of "lemons" lies not only in the amount by which the purchaser is cheated, but it also includes the loss incurred from driving legitimate business out of existence.

²¹Following is an editorial in *The Independent* (23 September, 1998) under the caption "oil or poison?":

...21 people [in Pabna have fallen ill] within the span of a week after consuming food containing adulterated mustard oil. It is reported that in Pabna district the majority of the mill owners and oil traders are mixing a few drops of an essence with the oil produced from till, tishi, rai, soyabean, ground nut and other materials. The mixture is then sold as mustard oil. The essence is reportedly being smuggled in from India. A bottle of this toxic essence is supposed to cost a few hundred taka but the extra return from the tins and barrels of spurious mustard oil is calculated to amount to thousand.

(iii) Agricultural Imports and Diversification

More than 70 percent of Bangladesh's illegal imports from India are on account of livestock, fish and poultry-related products, agri-products, and processed food and tobacco. These imports have an adverse impact on agricultural development and modernisation in Bangladesh. Bangladesh agriculture is dominated by food crops and a sustainable agricultural growth needs diversification in favour of non-crop products, for example, livestock, fisheries and poultry [Abdullah and Shahabuddin (1997)]. To the extent that the production of such products has both internal and external economies of scale, a large-scale illegal importation of them would slow down or even halt the process of agricultural diversification. To rectify the situation, the government may introduce agricultural development measures, including agricultural production subsidy, research and extension services and infrastructural development, in order to raise farm productivity.

Bangladesh is still an agricultural economy and the agricultural sector has a major role to play in its economic transformation. The agri-products of India, such as cattle, milk, edible oil, and spices, that enter into Bangladesh are not indispensable in the sense that they cannot be produced domestically without high adjustment costs [Bochove (1982)]. There are large social and economic gains in promoting such products as part of agricultural modernisation and diversification. If it is necessary the government should encourage their production by providing some explicit subsidies for a well-defined transition period. Rather than following such a strategic agricultural development, the political leaders even play politics with cattle smuggling, for example. In general, illegal cattle imports from India are allowed to keep the city consumers happy, especially when political agitation heats up! When government is not willing to provide agricultural subsidies, a competitive exchange rate policy may be adequate to stop most illegal agri-imports from India. This will increase the domestic production of non-crop agricultural products when the relative demand shifts to such products with the rise in income levels.

(iv) Smuggling and Foreign Investment

Despite persistent efforts and encouragement since the mid-1980s, Bangladesh has attracted only a little foreign investment as compared with other South Asian countries [Bangladesh (1997)]. There are many factors that retard foreign investment. Massive illegal imports from India is one of them. For example, foreign investors in either primary or manufacturing sectors take into account potential competition from illegal imports from India. As India effectively maintains its tariff and non-tariff barriers to exports from Bangladesh when Bangladesh's own markets remain open, it is India, not Bangladesh, that would continue to receive foreign direct investment. Foreign portfolio investors are also reluctant to invest in Bangladesh's financial assets with long holding periods because of the large foreign exchange risk arising from artificially overvalued currency, kept as a means to control inflation.

(v) Economic Overdependence and Politics

While Bangladesh's trade relations with rich countries, such as Japan and the United States, are primarily commercial, its trade relations with India have economic and political implications. Being a small, vulnerable country, there is an emerging view that Bangladesh should not become heavily dependent on India either economically or politically because India's economic and political interests are not necessarily in harmony with those of Bangladesh. The polity in Bangladesh is strongly divided on Bangladesh's current and future relations with India. Although the present ruling Awami League maintains a good relationship with India, the major opposition parties, such as the Bangladesh Nationalist Party (BNP) and the Jammati-Islami, remain suspicious about India's long-term political motives. Its economic structure being not fundamentally different from that of India, Bangladesh has scant need to give India the kind of trade benefits that economically advanced countries, such as Japan, USA, South Korea, and European Union, may like to have from Bangladesh on the basis of their comparative advantage in capital and technology-intensive products. Besides technological spillovers from such products of industrialised countries, Bangladesh can gain enormously if it develops extensive trade (and other economic) relations with those countries. This follows the argument of the new endogenous growth theory that a developing economy open to trade with industrialised countries can derive a larger marginal benefit on its productivity from a marginal increase in imports.

(vi) Economies of Scale and Intra-industry Trade

It is not suggested that Bangladesh should not engage in trade with India. What is emphasised is that as Bangladesh and India produce similar or substitutable products, it is desirable that they expand trade in differentiated products for mutual benefit. But Bangladesh has so far been able to export only a few specialised commodities to India. For lack of access to India's market, Bangladesh's exporters have not specialised in many differentiated products for Indian consumers. This shows that despite the repeated official pronouncement of the Indian government at regional forums, Bangladesh has had limited or no economic cooperation from India in its efforts toward regional economic integration. The present popular resentment against India's trade domination is not necessarily because of Bangladesh's large imports from India. It is primarily due to India's unwillingness to allow Bangladesh's products to enter into its markets. If India intends to maintain trade relations with Bangladesh, it must open up its markets for Bangladesh's products. It should accept the fact that if Bangladesh can produce and export products worth about US\$ 4 billion to the rest of the world, it can produce goods to meet some demand of the Indian consumers. Even if Bangladesh's products are of low quality India certainly has a few hundred million poor consumers who would like to purchase them if they find such products price competitive.

In essence, intra-industry trade, not inter-industry specialisation, should be the rule of the game between Bangladesh and India. It is to be recognised that in an open deregulated environment, the large size of India's economy does not necessarily give it an advantage of external economies of scale for all the differentiated products. The smaller economies, such as Bangladesh's, can engage in foreign trade, reap the external economies of scale and even underse[[the large economies [Salvatore (1995)]. This is one of the implications of the intra-industry trade models developed by Helpman (1981), Krugman (1980) and others. Looking from this viewpoint, Sobhan's justification that Bangladesh's large and growing trade deficits with India are implicit under a free-trade regime. Since the pattern of trade in the presence of external economies of scale (static and dynamic) remains indeterminate, Bangladesh would have reason not to accept the present state of its trade with India as a *fait accompli*. In fact, when multiple equilibria arise under increasing returns, identical economies can have trade, and indeed beneficial trade. Reversed trade patterns are also demonstrable as possible multiple equilibria states [Kemp (1964) and Bhagwati (1991)].

VIII. CONCLUSION

This paper has examined aspects of Bangladesh's large and growing trade deficits with India. Although bilateral trade deficits do not necessarily constitute an economic problem, it needs examination whether such deficits are natural or a problem that requires remedial measures. A one-way trade flow between two countries at the same stage of development cannot be described as "natural". It was India's deep currency devaluation rather than advanced technology or competitive advantage that opened the floodgates for Indian products into Bangladesh's markets. Through subsidies and interventions, India has artificially created a comparative advantage over Bangladesh in differentiated products. India has also kept its markets closed for Bangladesh's products. In short, it would appear that Bangladesh's trade with India is neither "fair nor competitive".

What should the government of Bangladesh do? It can devalue the taka to remove India's competitive advantage, prevent wholesale smuggling, and enter into negotiations with India to reduce non-tariff barriers for its products. Alternatives to devaluation like country-specific high tariffs²² will not only slow liberalisation but will also be ineffective in curbing corruption. Why maintain high tariffs on products that enter into Bangladesh's markets illegally? Such tariffs neither raise government revenues nor protect domestic industries [Rahman and Razzaq (1998)]. What about

²²Adam Smith (1937) found it reasonable to impose retaliatory duties on imports from a foreign nation that restrains imports by high duties or prohibitions only when there was a probability that such an action would lead to a repeal of the high duties and prohibitions complained of. When there was no probability that such a repeal could be procured through retaliation, he favoured unilateral free trade [Bhagwati (1991)].

the sealing of borders with India to stop wholesale smuggling? The members of the Bangladesh Rifles (BDR), who are supposed to stop smuggling, are allegedly themselves involved in the illegal trade [Rahman and Razzaq (1998)]. The removal of India's non-tariff barriers to Bangladesh's exports through persuasion or diplomacy is perhaps wishful thinking.²³ Raising the issue before the World Trade Organisation²⁴ is an option, Bangladesh has not so far considered.

This explains why a practical solution to any large trade deficits with India should rely primarily on eliminating economic incentives for the imbalance. This can be effectively done if Bangladesh's taka is devalued to the extent that it neutralises India's advantage against Bangladesh's products. Next, the government may follow a flexible exchange rate policy in accordance with either a real targets approach or a nominal anchor approach [Corden (1991)]. The exchange rate policy of India should also be carefully and frequently evaluated to determine its impact on Bangladesh's trade flows. The simple fact is that Bangladesh cannot remain indifferent to the conduct of India's exchange rate policy. As Khan (1995) rightly points out, no amount of tariff and non-tariff barriers would have succeeded in preventing an improvement in Bangladesh's balance of trade with India if the relative prices were right. He further adds that India's aggressive currency devaluation is an essential part of its strategy to outcompete its actual and potential competitors, including Bangladesh.²⁵

Would India introduce a tit-for-tat devaluation strategy or allow Bangladesh to regain its relative competitiveness? It is understandable that India is unlikely to match any large devaluation of Bangladesh's taka as it has already made a substantial devaluation of its currency. In fact, facing a situation of competitive currency devaluation, India may find it more attractive to open up its markets for Bangladesh's products as an inducement to stop Bangladesh from continuing with devaluing its currency. Having realised the potential loss of Bangladesh's markets, Indian exporters may pressure their government to open up the market for Bangladesh's products. The simple fact is that Bangladesh has now become too good a market for India to lose.

The above is no doubt a hypothetical scenario. While there is some risk for Bangladesh if India follows a tit-for-tat devaluation strategy, its alternative *policy*

²³Choudhury (1998) reports that in response to Dhaka's request at a recent secretary level meeting to implement measures that may reduce trade deficit with India, New Delhi's suggestion was to "sell transit and port facilities". This is an arrogant response and a crude method of playing the politics of power with the intention of blackmailing Bangladesh—economically and politically [Ahmed (1998a)]. This reinforces the growing perception that India wants Bangladesh to remain an economically vulnerable country so that it can manipulate this country for its own interests. Such an apprehension has been heightened since India's recent nuclear tests.

²⁴We thank a commentator for pointing out this option.

²⁵Some critics even go further to suggest that this is part of the so-called Gujral doctrine, which in all intents and purposes is a blueprint of India's becoming an undisputed regional hegemon as a stepping stone to become a global, if not a super, power.

option is to maintain the status quo, which will only lead to a dead end. For example, if Bangladesh continues with its present policy of maintaining an overvalued currency, India's low-quality products will effectively drive quality products out of the market. In the process, Bangladesh's production base will shrink and be weakened. This will fuel demands for protectionism and raise questions about the legitimacy of freer trade.²⁶ Along with it, the danger will come from the political side. India has influence in Bangladesh. There is little doubt that it would continue its efforts to maintain and enhance its economic and political interests.²⁷ Since nobody in Bangladesh wants it, it would be a national tragedy if the economic independence of Bangladesh becomes only as effective as that of Nepal or Bhutan.

²⁶For example, Bhagwati (1991:10) writes about such a consequence of foreign cheap products:

While... an economist is right to claim that, if foreign governments subsidise their exports, this is simply marvellous as we get cheaper goods and we should unilaterally continue our free trade policy, he must equally recognise that the acceptance of this position will fuel demands for protection and imperil the possibility of maintaining the legitimacy, and hence the continuation, of free trade. A free trade regime that does not reign in, or seek to regulate, artificial subventions will likely help trigger its own demise... [In the same way as Milton Friedman asked, he raised a question]: Would one be wise to receive stolen property simply because it is cheaper, or would one rather vote to prohibit such transactions because of their systematic consequences?

²⁷Bribes of one form or another are an integral part of business lobbying and, in a country where there are no strong checks and balances in public administration, the personal interests of policy-makers, politicians and other influential groups, whether they act jointly or individually, can override the national interests. There is a rich body of literature on lobbying and corruption under the rubric of what Jagdish Bhagwati calls directly unproductive profit-seeking activities. For details, see Bhagwati (1991) and the references therein.

STATISTICAL TABLES

Appendix Table A.1

Bangladesh-India Bilateral Trade Deficits (Million Taka), 1974-1996

Period Average/ Fiscal Year	Trade Deficits (% of GDP)					Real Exchange Rate of Taka Against	
	Exports	Imports	Deficits	India	Total	Indian Rupee (↑/↓ = Depreciation/Appreciation)	US Dollar
1971-72	n.a.	n.a.	n.a.	n.a.	n.a.	2.52	27.61
1972-73	n.a.	n.a.	n.a.	n.a.	n.a.	1.98	20.09
1974-75	65.1	542.5	-477.4	-0.49	-5.7	1.86	17.66
1976-81	95.5	1146.1	-1050.6	-0.69	-10.3	2.33	26.63
1982-85	401.7	1818.1	-2219.8	-0.41	-12.1	2.55	35.64
1986-90	103.0	4648.5	-4545.5	-0.74	-9.6	2.25	34.63
1990-91	1095.3	9444.9	-8349.6	-0.83	-7.1	1.71	35.57
1991-92	78.9	8823.7	-8744.8	-0.47	-6.5	1.71	35.48
1992-93	382.5	13384.7	-13002.2	-1.05	-7.5	1.57	39.13
1993-94	669.7	16579.5	-15909.8	-1.54	-7.1	1.65	39.37
1994-95	1811.6	27679.4	-25868.1	-2.20	-6.8	1.67	38.34
1995-96	2964.8	44926.0	-41961.2	-3.24	-8.5	1.21	39.87

Sources: Authors' computations/compilations based on the following sources:

BBS (Several Years) *Statistical Yearbook of Bangladesh*. Dhaka: BBS.

BBS (1993) *Twenty Years of National Accounting of Bangladesh*. Dhaka: BBS.

BB (Various Issues) *Economic Trends*. Dhaka: Bangladesh Bank.

IMF (Various Years) *IFS Yearbook*. Washington, D.C.: IMF.

Rahman (1997).

Bangladesh (1996) *Bangladesh Economic Survey*. Dhaka: Ministry of Finance.

Note: The real exchange rate is defined as the nominal exchange rate of the taka with the relevant foreign currency (that is, the Indian rupee or the US dollar) multiplied by the ratio of foreign consumer price index to the domestic price index with 1990 = 1 as base.

n.a. = not available.

Appendix Table A.2

Structural Characteristics of the Economies of Bangladesh and its Trading Partners

	Bangladesh	India	China	Thailand	Malaysia	Indonesia	Korea, S.	Japan	USA	UK
GNP Per Capita (\$US1993)	220	300	490	2110	3140	740	7660	31490	24740	18060
Average Annual Growth of Real GNP Per Capita (%) (1980-1993)	2.1	3.0	8.2	6.4	3.5	4.2	8.2	3.4	1.7	2.3
PPP Estimates of GNP Per Capita (1993) (USA = 100)	5.2	4.9	9.4	25.3	32.1	12.7	38.9	84.3	100.0	69.6
Percentage Share of Income Lowest 20 Percent	9.5(1989)	8.8(1990)	6.4(1990)	6.1(1988)	4.6(1989)	8.7(1990)	7.4(1988)	8.7(1979)	4.7(1985)	4.6(1988)
Life Expectancy at Birth (Years) (1993)	56	61	69	69	71	63	71	80	76	76
Total Fertility Rate (1993)	4.3	3.7	2.0	2.1	3.5	2.8	1.7	1.5	2.1	1.8
Population Growth Rate (%) (1980-1993)	2.1	2.0	1.4	1.7	2.5	1.7	1.1	0.5	1.0	0.2
Infant Mortality Rate (Per 1000 Live Births) (1993)	106	80	30	36	13	56	11	4	9	7
Adult Illiteracy (Total) (%) (1990)	65	52	27	7	22	23	<5	<5	<5	<5
Percentage of Age Group Enrolled in Education (1992)										
Primary	77	102	121	97	93	115	105	102	104	104
Secondary	19	44	51	33	58	38	90	n.a.	n.a.	86
Tertiary	4	n.a.	2	19	7	10	42	32	76	28
Urban Population (Percent of Total Population, 1993)	17	26	29	19	52	33	78	77	76	89
Distribution of Production (1993)										
Agriculture	30	31	19	10	16	19	7	2	2	2
Industry	18	27	48	39	44	39	43	41	29	33
Services	52	41	33	51	40	42	50	57	69	65
Distribution of Manufacturing Value Added (%) (1992 or Close)										
Food, Beverages, and Tobacco	24	12	13	16	10	23	26	23	13	15
Textiles and Clothing	38	12	13	16	6	16	17	4	5	5

Continued-

Appendix Table A.2—(Continued)

Machinery, Transport Equipment	7	26	27	40	34	14	12	23	31	30
Chemicals	17	17	12	5	11	7	9	12	12	13
Others	15	33	35	23	39	40	35	38	38	37
Distribution of the Work Force (%)	1989	1991	1993	1989	1988	1993	1991	1991	1991	1990
Agriculture	65.5	63.2	61.0	66.3	30.6	50.4	16.7	6.7	2.9	2.1
Industry	15.5	14.2	18.0	11.9	22.6	15.8	35.6	35.5	25.8	28.7
Services	19.6	22.6	21.0	21.8	46.7	33.8	47.7	58.8	71.3	69.3
Percentage Share of Merchandise Imports (1993)										
Food	15	4	3	5	7	7	6	13	5	11
Fuels	14	30	6	8	4	8	18	6	10	5
Other Primary Commodities	30	10	7	7	4	9	13	5	4	6
Machinery and Transport Equipment	13	14	42	45	54	42	34	29	43	39
Other Manufactures	28	42	43	36	30	34	29	46	38	39
Percentage Share of Merchandise Exports (1993)										
Fuels, Minerals, Metals	0	7	6	2	14	32	3	2	4	10
Other Primary Commodities	18	18	13	26	21	15	4	1	14	9
Machinery and Transport Equipment	0	7	16	28	41	5	43	68	49	41
Other Manufactures	81	68	65	45	24	48	51	29	33	40
Textile Fibres, Textiles, and Clothing	78	30	31	15	6	17	19	2	3	5
Average Annual Rate of Inflation (%) (1980-1993)	8.6	8.7	7.0	4.3	2.2	8.5	6.3	1.5	3.8	5.6

Sources: Authors' compilation based on World Bank, *World Development Report*, 1995 and ADB, *Asian Development Outlook*, 1995 and 1996.

Appendix Table A.3

Time Series Properties of Variables Used in the Import Demand Function

Period	Series	DF	ADF(1)
1975-1995	$\ln[E^b(CPI^i/CPI^b)]$	-1.50	-2.89
1976-1995	$\ln [rim^{hi}]$	-1.88	-1.48
1975-1995	$\ln RGDP$	-3.67	-3.18
1975-1995	$\Delta \ln[E^b(CPI^i/CPI^b)]$	-5.19	
1976-1995	$\Delta \ln [rim^{hi}]$	-5.07	
1975-1995	$\Delta \ln RGDP$	-8.65	

Source: IMF, *IFS Yearbook 1995* plus monthly issues of later dates.

Notes: *DF=Dickey-Fuller test; ADF = Augmented Dickey-Fuller test. The testing procedure was discussed in detail in Hossain (1999).

|a,b,c = represents significance at the 1, 5, and 10 percent level.

Appendix Table A.4

Bangladesh: Intra-Industry Trade Index (T)⁺

SITC	Commodities	1980	1990	1993	Comment
0	Food and Live Animals	0.46	0.63	0.86	Intra-industry trade has been rising following trade liberalisation
01	Meat and Preparations	0 ^a	None	None	Trade ceased following trade liberalisation
02	Dairy Products, Birds' Eggs	0 ^b	0 ^b	0 ^b	Only imports
022	Milk and Cream	0 ^b	0 ^b	0 ^b	Only imports
03	Fish and Preparations	0 ^a	0 ^a	0 ^a	Only exports
04	Cereals and Preparations	0.26	0 ^b	0 ^b	Intra-industry trade has declined following trade liberalisation; now only imports
05	Vegetables and Fruit	0.18	0.18	0.37	Intra-industry trade has been rising following trade liberalisation
06	Sugar and Preparations, Honey	0 ^b	0 ^b	0 ^b	Only imports
07	Coffee, Tea, Cocoa, Spices etc.	0.18	0.52	0.77	Intra-industry trade has been rising following trade liberalisation
1	Beverages and Tobacco	0 ^b	0 ^b	0 ^b	Only imports
2	Crude Materials, Excluding Fuels	0.91	0.59	0.46	Intra-industry trade has declined following trade liberalisation
22	Oil Seeds, Oleaginous Fruit	0 ^b	0 ^b	0 ^b	Only imports
24	Cork and Wood	0 ^b	0 ^b	0 ^b	Only imports
251	Pulp and Waste Paper	0 ^b	0 ^b	0 ^b	Only imports
26	Textile Fibres and Waste	0.86	0.85	0.74	Intra-industry trade has declined following trade liberalisation
264	Jute, Other Fibres	0 ^a	0 ^a	0 ^a	Only exports
27	Crude Fertiliser, Minerals	0 ^b	0 ^b	0 ^b	Only imports
28	Metalliferous Ores, Scrap	0 ^b	0 ^b	0 ^b	Only imports
29	Crude Animal, Vegetable Materials	0 ^a	None	None	Trade ceased following trade liberalisation
3	Mineral Fuels etc.	0 ^b	0.07	0.09	Intra-industry trade has been rising following trade liberalisation
33	Petroleum and Products	0.01	0.07	0.09	Intra-industry trade has been rising following trade liberalisation
4	Animal, Vegetable Oil, Fat	0 ^b	0 ^b	0 ^b	Only imports
5	Chemical, Related Products	0.08	0.12	0.28	Intra-industry trade has been rising following trade liberalisation
51	Organic Chemicals	0.37	0 ^b	0 ^b	Intra-industry trade has declined following trade liberalisation; now only imports
52	Inorganic Chemicals	0 ^b	0 ^b	0 ^b	Only imports
53	Dyes, Tanning, Colour Productions	0 ^b	0 ^b	0 ^b	Only imports
541	Medicine, Pharmaceutical Products	0 ^b	0 ^b	0 ^b	Only imports
562	Fertilisers, Manufacture	0.06	0.47	0.99	Intra-industry trade has risen to the maximum following trade liberalisation
58	Plastic Materials etc.	0 ^b	0 ^b	0 ^b	Only imports
59	Chemical Materials	0 ^b	0 ^b	0 ^b	Only imports
6	Basic Manufactures	0.90	0.72	0.57	Intra-industry trade has declined following trade liberalisation

Continued—

Appendix Table A.4—(Continued)

SITC	Commodities	1980	1990	1993	Comment
61	Leather, Dressed Fur, etc.	0 ^a	0 ^a	0 ^a	Only exports
62	Rubber Manufactures	0 ^b	0 ^b	0 ^b	Only imports
64	Paper, Paperboard and Manufacturing	0.64	0 ^b	0 ^b	Intra-industry trade has declined following trade liberalisation; now only imports
65	Textile Yarn, Fabrics, etc.	0.37	0.86	0.66	Intra-industry trade shows a falling trend after reaching high
66	Nonmetal Mineral Manufactures	0 ^b	0 ^b	0 ^b	Only imports
661	Lime, Cement, Building Products	0 ^b	0 ^b	0 ^b	Only imports
67	Iron and Steel	0 ^b	0 ^b	0 ^b	Only imports
68	Non-ferrous Metals	0 ^b	0 ^b	0 ^b	Only imports
69	Metal Manufactures	0 ^b	0 ^b	0 ^b	Only imports
7	Machines, Transport Equipment	0.04	0.04	0.07	Intra-industry trade has been rising following trade liberalisation
71	Power Generating Equipment	0 ^b	0 ^b	0 ^b	Only imports
72	Machines for Special Industries	0.08	0.07	0.08	Did not change the extent of intra-industry trade following trade liberalisation
73	Metalworking Machinery	0 ^b	0.37	0.01	Intra-industry trade increased after trade liberalisation, but has fallen sharply; now only imports
74	General Industrial Machinery	0.10	0.01	0.28	Intra-industry trade has increased following trade liberalisation
75	Office Machines	None	0 ^b	0 ^b	Only imports
76	Telecommunications Equipment	0 ^b	0 ^b	0 ^b	Only imports
77	Electric Machinery	0 ^b	0 ^b	0 ^b	Only imports
78	Road Vehicles	0 ^b	0 ^b	0 ^b	Only imports
79	Other Transport Equipment	0.01	0 ^b	0 ^b	Only imports
8	Miscellaneous Manufactured Goods	0.13	0.32	0.22	Intra-industry trade increased after trade liberalisation, but has fallen recently
84	Clothing and Accessories	0 ^a	0.04	0.01	Intra-industry trade did not increase much following trade liberalisation; mainly exports
87	Precision Instruments	0 ^b	0 ^b	0 ^b	Only imports
88	Photoequipment, Optical Goods	0 ^b	0 ^b	0 ^b	Only imports
89	Miscellaneous Manufactured Goods	0.12	0.07	0.15	Intra-industry trade has increased following trade liberalisation
9	Goods not Classified by Kind	0.56	None	None	

Source: Authors' calculation based on UN *International Trade Statistics Yearbook* (Various Years).

Notes: * The intra-industry trade Index (T) – sometimes called the Grubel-Lloyd index—is calculated as: $T = 1 - \frac{|X-M|}{X+M}$ where X and M represent, respectively the value of exports and imports of a particular commodity and the vertical bars in the numerator denotes the absolute value. The value of T ranges from 0 to 1. T = 0 when a country only exports or only imports the commodity in question, that is, there is no intra-industry trade. On the other hand, if the exports and imports of a commodity are equal, T = 1, that is, the intra-industry trade is maximum.

^a = Only exports.

^b = Only imports.

Appendix Table A.5

India: Intra-Industry Trade Index (T)⁺

SITC	Commodities	1980	1990	1993	Comment
0	Food and Live Animals	0.36	0.37	0.55	Intra-industry trade has been rising following trade liberalisation
01	Meat and Preparations	0 ^a	0 ^a	0 ^a	Only exports
02	Dairy Products, Birds' Eggs	0 ^b	0 ^b	None	Trade ceased following trade liberalisation
022	Milk and Cream	0 ^b	None	None	Trade ceased following trade liberalisation
03	Fish and Preparations	0 ^a	0 ^a	0 ^a	Only exports
04	Cereals and Preparations	0.73	0.52	0.35	Intra-industry trade has declined following trade liberalisation
05	Vegetables and Fruit	0.38	0.96	0.86	Intra-industry trade increased after trade liberalisation but has fallen recently
06	Sugar and Preparations, Honey	0.61	0 ^b	0.19	Intra-industry trade has declined since the 1980s
07	Coffee, Tea, Cocoa, Spices	0 ^a	0 ^a	0 ^a	Only exports
1	Beverages and Tobacco	0 ^a	0 ^a	0 ^a	Only exports
2	Crude Materials, Excluding Fuels	0.75	0.87	0.92	Intra-industry trade has increased following trade liberalisation
22	Oil Seeds, Oleaginous Fruit	0.48	0 ^a	0 ^a	Only exports following trade liberalisation
24	Cork and Wood	0 ^a	0 ^b	0 ^b	Only imports following trade liberalisation
251	Pulp and Waste Paper	0 ^b	0 ^b	0 ^b	Only imports
26	Textile Fibres and Waste	0.99	0.66	0.83	Intra-industry trade has been falling following trade liberalisation
264	Jute, Other Fibres	None	None	None	No trade exists
27	Crude Fertiliser, Minerals	0.57	0.55	0.82	Intra-industry trade has increased following trade liberalisation
28	Metalliferous Ores, Scrap	0.40	0.95	0.86	Intra-industry trade sharply increased following trade liberalisation but has declined recently
29	Crude Animal, Vegetable Materials	0 ^a	0 ^a	0 ^a	Only exports
3	Mineral Fuels etc.	0.92	0.15	0.15	Intra-industry trade has declined following trade liberalisation
33	Petroleum and Products	0.01	0.16	0.13	Intra-industry trade increased following trade liberalisation but has declined recently
4	Animal, Vegetable Oil, Fat	0.08	0 ^b	0.98	Intra-industry trade has increased following trade liberalisation
5	Chemical, Related Products	0.36	0.60	0.68	Intra-industry trade has increased following trade liberalisation
51	Organic Chemicals	0 ^b	0.45	0.58	Intra-industry trade has increased following trade liberalisation
52	Inorganic Chemicals	0.24	0.23	0.24	Intra-industry trade has remained unchanged following trade liberalisation
53	Dyes, Tanning, Colour Productions	0.55	0.56	0.44	Intra-industry trade has decreased following trade liberalisation
541	Medicine, Pharmaceutical Products	0.93	0.73	0.70	Intra-industry trade has decreased following trade liberalisation
562	Fertilisers, Manufacture	0 ^b	0 ^b	0 ^b	Only imports
58	Plastic Materials etc.	0 ^b	0 ^b	0.18	Intra-industry trade has increased following trade liberalisation

Continued—

Appendix Table A.5—(Continued)

SITC	Commodities	1980	1990	1993	Comment
59	Chemical Materials	0 ^b	0.64	0.72	Intra-industry trade has increased following trade liberalisation
6	Basic Manufactures	0.97	0.83	0.69	Intra-industry trade has been falling following trade liberalisation
61	Leather, Dressed Fur, etc.	0 ^a	0.18	0.33	Intra-industry trade has increased following trade liberalisation
62	Rubber Manufactures	0 ^a	0 ^a	0 ^a	Only exports
64	Paper, Paperboard and Manufacturing	0 ^b	0 ^b	0 ^b	Only imports
65	Textile Yarn, Fabrics, etc.	0.12	0.20	0.15	Intra-industry trade increased following trade liberalisation but has declined recently
66	Nonmetal Mineral Manufactures	0.95	0.88	0.82	Intra-industry trade has decreased following trade liberalisation
661	Lime, Cement, Building Products	0 ^b	None	0 ^a	Trade pattern has changed from only imports to only exports following trade liberalisation
67	Iron and Steel	0.19	0.39	0.99	Intra-industry trade has reached to the maximum following trade liberalisation
68	Non-ferrous Metals	0.07	0.26	0.43	Intra-industry trade has increased following trade liberalisation
69	Metal Manufactures	0.55	0.65	0.54	Intra-industry trade increased following trade liberalisation but has decreased recently
7	Machines, Transport Equipment	0.51	0.48	0.52	Intra-industry trade has remained unchanged following trade liberalisation
71	Power Generating Equipment	0.81	0.57	0.69	Intra-industry trade decreased following trade liberalisation but has increased recently
72	Machines for Special Industries	0.34	0.49	0.31	Intra-industry trade increased following trade liberalisation but has decreased recently
73	Metalworking Machinery	0.40	0.35	0 ^b	Intra-industry trade decreased following trade liberalisation and now only imports
74	General Industrial Machinery	0.28	0.29	0.36	Intra-industry trade has increased following trade liberalisation
75	Office Machines	0 ^b	0.64	0.73	Intra-industry trade has increased following trade liberalisation
76	Telecommunications Equipment	0 ^b	0 ^b	0 ^b	Only imports
77	Electric Machinery	0.73	0.49	0.52	Intra-industry trade decreased following trade liberalisation
78	Road Vehicles	0.54	0.91	0.51	Intra-industry trade increased following trade liberalisation but has decreased recently
79	Other Transport Equipment				
8	Miscellaneous Manufactured Goods	0.39	0.39	0.28	Intra-industry trade has decreased following trade liberalisation
84	Clothing and Accessories	0 ^a	0 ^a	0 ^a	Only exports
87	Precision Instruments Necessary	0 ^b	0 ^b	0 ^b	Only imports
88	Photoequipment, Optical Goods	0.70	0 ^b	0 ^b	Intra-industry trade has ceased following trade liberalisation; now only imports
89	Miscellaneous Manufactured Goods	0.28	0.74	0.41	Intra-industry trade increased after trade liberalisation and has declined recently
9	Goods not Classified by Kind	0.16	0.39	0.32	Intra-industry trade increased following trade liberalisation

Notes and Source: As Table A.4.

Appendix Table A.6

Bangladesh's Intra-industry Trade with India, 1992

Harmonised Commodity Description and Coding System (H.S.)	1989	1992
1 Live Animals; Animal Products	0 ^h	0.01
2 Vegetable Products	0.01	... ^b
3 Animal or Vegetable Fats and Oils and Their Cleavage Products; Prepared Edible Fats; Animal or Vegetable Waxes	0 ^a	0.19
4 Prepared Foodstuffs; Beverages, Spirits and Vinegar; Tobacco and Manufactured Tobacco Substitutes	0.02	0.04
5 Mineral Products	... ^b	0.01
6 Products of the Chemical or Allied Industries	0.18	0 ^b
7 Plastics and Articles thereof; Rubber and Articles thereof	0 ^b	0 ^b
8. Raw Hides and Skins, Leather Furskins and Articles thereof; Saddlery and Harness; Travel Goods, Handbags and Similar Containers; Articles of Animal Gut (Other than Silk Work Gut)	0.06	0.16
9 Wood and Articles of Wood; Wood Charcoal; Cork and Articles of Cork; Manufactures of Straw of Esparto or of other Plaiting Materials; Basketware and Wike Work	0 ^b	0 ^b
10 Pulp of Wood or of other Fibrous Cellulosic Material; Waste and Scrap of Paper or Paper Board; Paper and Paperboard Articles thereof	0.01	0 ^b
11 Textiles and Textile Articles	0.04	0.01
12 Footwear Headgear, Umbrellas, Sun Umbrellas, Walking Sticks, Seat Sticks, Whips, Riding-crops and Parts thereof; Prepared Feathers and Articles Make therewith; Artificial Flowers; Articles of Human Hair	0 ^b	0 ^b
13 Articles of Stone, Plaster, Cement, Asbestos, Mica or Similar Materials; Ceramic Products; Glass and Glassware	0 ^b	0 ^b
14 Natural or Cultured Pearls, Precious or Semi-precious Stones, Precious Metals Clad with Precious Metal and Articles thereof, Imitation Jewellery; Coin	0 ^b	0 ^b
15 Base Metals and Articles of Base Metal	0.01	0.01
16 Machinery and Mechanical Appliances, Electrical Equipment, Parts thereof; Sound Recorders and Reproducers, Television Image and Sound Recorders and Reproducers and Parts and Accessories of Such Articles	0.01	... ^b
17 Vehicles, Aircraft Vessels, and Associated Transport Equipment	... ^b	... ^b
18 Optical Photographic, Cinematographic, Measuring, Checking, Precision, Medical Surgical Instruments and Apparatus; Clocks and Watches; Musical Instruments, Parts and Accessories thereof	0 ^b	0 ^b
19 Arms and Ammunition, Parts and Accessories thereof	None	None
20 Miscellaneous Manufactured Articles	0 ^b	0 ^b
21 Work of Art, Collectors, Pieces and Antiques	0.20	0.48
Total	0.04	0.01

Source: Authors' computation based on BBS, SYBB, 1995.

Note: ...^b = only imports; negligible exports.

BANGLADESH'S IMPORTS FROM INDIA: AN APPLICATION OF THE GRAVITY MODEL

We use a simple variant of the gravity model, pioneered by Tinbergen (1962), Poyhonen (1963) and Linnemann (1966) and recently used by Frankel (1991) and Leamer (1993), to estimate the normal or standardised or theoretical levels of imports of Bangladesh from India (and other countries) based on the actual import flows to Bangladesh from its 28 major trading partners since it started import-liberalisation in the year of 1982. The estimates of normal imports are then used to compute deviations from actual import flows to determine whether such deviations indicate discriminatory trade impediments against or preferential trade stimuli in favour of a trading partner.

The basic model is specified in the following logarithmic form in which three variables are assumed to determine the import flows to Bangladesh from its trading partners:

$$\ln rim^j = \beta_0 + \beta_1 \ln y^b + \beta_2 \ln y^j + \beta_3 \ln d^j + u$$

where

- rim^j = Bangladesh's imports from country j (million US\$) at 1990 prices;
- y^b = Bangladesh's GDP (billion US\$) at 1990 prices;
- y^j = GDP (billion US\$) of Bangladesh's trading partner j at 1990 prices;
- d^j = distance between Dhaka and a major city of Bangladesh's trading partner j ;
- u = random error term; and
- β s = structural parameters to be estimated.

In this model y^b is a measure of both the purchasing power and the productive potential of Bangladesh. The higher the productive potential of Bangladesh the lower is expected to be the level of its imports from any trading partner. By contrast, the higher the level of purchasing power of Bangladesh the higher is expected to be the level of its imports from any trading partner. As these two effects work in opposite directions, the sign of the coefficient of y^b is indeterminate in theory but may be determined empirically. y^j is a measure of exporting potential of country j to Bangladesh and the coefficient of it is expected to have a positive sign. The distance variable (d^j) captures transportation costs, geographical proximity and regional preferences or groupings and the coefficient of it is expected to have a negative sign [Leamer and Levinsohn (1995)]. The error term is assumed to satisfy all the standard classical properties.

For estimating the numerical values of β s, annual data for 28 countries over the period 1982–1995 have been used. The included countries are Australia, Belgium, Canada, China, P.R., Denmark, Egypt, Finland, France, Germany, India,

Indonesia, Iran, Italy, Japan, Korea, Malaysia, Myanmar, Netherlands, Norway, Pakistan, Saudi Arabia, Singapore, Sweden, Switzerland, Thailand, United Arab Emirates, United Kingdom, and the United States. These countries cover all the major regions of the world and they supply more than 80 percent of Bangladesh's total imports. As Bangladesh does not have imposed any trade impediments to any particular country (except Israel) after it started trade liberalisation, we can assume that its imports from most countries closely follow the normal or standard pattern. The specified model if estimated with a large number of observations will capture the normal or theoretical trade pattern and then allow us to explain unusual or systematic deviations of imports from any individual country in terms of trade impediments for stimuli.

Data for import flows are taken from the Bangladesh Bank, Annual Import Payments (Various Years). Using the yearly average exchange rate of taka against the US dollar, the import figures in taka are converted into US dollars. The dollar figures are then deflated by the producer price index of the United States with the base of 1.00 for 1990. Data for country-specific GDP in domestic currency are first converted into US dollar using the yearly average exchange rate of domestic currency per unit of US dollar and then deflated the resulting output figures by the producer price index of the United States with the base of 1.00 for 1990. All these basic data are taken from IMF, IFS Yearbook 1997. The Jayes Travel (Newcastle) has kindly supplied us with the data for dj in kilometres.

We have estimated the model with 392 observations (28×14) for each variable using AR1 (exact maximum likelihood method) to correct for the first-order autocorrelation. The regression results are reported below:

$$\ln rim^i = \quad 3.66 \quad +0.30 \ln y^b \quad +0.39 \ln y^j \quad -0.31 \ln D^i$$

(absolute t -ratios) (1.74) (1.96) (5.57) (1.27)

$$\text{Adjusted } R^2 = 0.73 \quad DW = 2.59$$

$$\text{Autoregressive error specification: } u = 0.82 u(-1) + \text{error}$$

(t -ratio) (28.56)

Following the estimation of the model, the deviations of actual imports from the fitted imports are generated for all the countries in the sample. For analytical convenience, the actual and fitted values of imports, which are in logarithms, are converted into US dollar. Given our limited purpose, Table B.1 reports these figures only for India. It shows that the actual imports of Bangladesh from India since 1988 have been considerably higher from the normal or theoretical levels. The gaps have shown an increasing trend since the early 1990s, reaching to 48 percent of actual imports in 1995 from 16 percent in 1988. This is exhibited in the accompanied Figure B.1, which plots the actual and fitted values of imports for the sample period. Our findings here are thus consistent with the argument in the text that the sharp devaluation of India's rupee since the late 1980s led to the growth of Bangladesh's imports from India in excess of what can be considered normal or standard by the gravity model.

Appendix Table B.1

Actual and Fitted Values of Bangladesh's Imports from India, 1982-1995

Year	Actual Imports (Million US\$)	Fitted Imports (Million US\$)	Import Deviation	
			(Million \$US)	% of Actual Imports
1982	62.12	101.83	-39.71	-63.92
1983	38.05	65.82	-27.77	-72.98
1984	54.60	44.58	10.02	18.35
1985	70.32	60.65	9.67	13.75
1986	68.72	77.98	-9.26	-13.47
1987	71.81	76.64	-4.83	-6.73
1988	93.41	78.28	15.13	16.20
1989	106.80	93.23	13.57	12.71
1990	138.38	107.43	30.95	22.37
1991	175.74	127.00	48.74	27.73
1992	224.75	158.72	66.03	29.38
1993	330.63	191.60	139.03	42.05
1994	397.82	283.07	114.75	28.84
1995	640.34	330.51	309.83	48.39

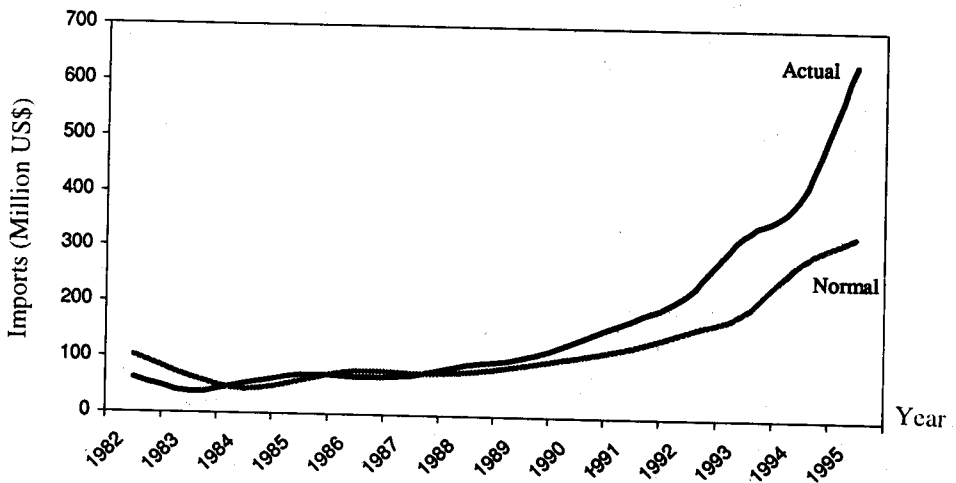


Fig. B.1. Bangladesh: Actual and Normal Imports from India.

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