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AN EMPIRICAL INVESTIGATION INTO THE CAUSALITY AND IMPLICATIONS OF BANGLADESH'S RAPID IMPORT GROWTH WITH INDIA

Abstract

The paper makes an empirical analysis of the causality and implications of rapid growth for Bangladesh's import intensity with India during the last two decades. It argues that rapid import growth from India is basically associated with diversion of the country's import sources. Major factors behind the phenomenal growth of import from India are the real appreciation of Bangladesh's domestic currency in relation to that of India along with real devaluation with most of its other import sources, growth of land trade due to improvement in road infrastructure, and increase in import of cereals from India following the government relaxation on private import of food-grain. Diversion of import source in favor of India has enabled the country to import intermediate, capital and consumer goods at a relatively cheaper cost, and enhanced country's food security. The paper also argues that despite the country's growing bilateral trade deficit, overall trade deficit is well stabilized within a sustainable range. If, however, bilateral trade deficit with India is of any concern, measures should be undertaken to enhance Bangladesh's export to India. In this regard, harmonisation of exchange rates, among other measures, merits active consideration.

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I. INTRODUCTION

The characteristic feature of Bangladesh's trade with India has been rapid growth of import intensity over the last two decades, resulting in an escalating bilateral trade deficit against Bangladesh. According to standard trade literature, a country's overall trade balance warrants ultimate concern as opposed to bilateral trade deficit with any trade partner. Nevertheless, country's growing trade imbalance against India has raised concern among a cross-section of businessmen, academics and development practitioners. Beyond the domain of economics, the issue has imparted significant spill over effects in other areas of Indo-Bangladesh bilateral relations. A popular idea tends to argue that growing import from India is displacing domestic production, and impinging upon country's welfare position.

Much of the prevailing mercantilist perceptions could be attributable to lack of systematic analysis on causality of such rapid growth of import intensity and its implications for the country's welfare status. Most of the earlier studies primarily focused on exploring the trends and reciprocity of bilateral trade,[1] with minor attention on causal nexus of import growth within a long-term time span. Few studies have discussed on causality of Bangladesh's bilateral trade deficit against India in a less systematic manner[2]. However, orderly analysis on causality of Bangladesh's import growth from India within appropriate analytical framework is yet to be undertaken. Another strand of literature has studied the issue of Indo-Bangladesh trade pattern within South Asian

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[1]   See, CPR (1995); M. Dubey (1995); J.B.C (1996); SCCI (1996); S. Rahman (1997); M. Rahman (1998); I. N. Mukherjee (1998); Z. Eusufzai (2000).

[2]   See, S. Rahman (1997); M. Rahman (1998); I. N. Mukherjee (1998); Z. Eusufzai (2000).

regional/subregional trade framework[3]. Due to their broader scope, the studies have not legitimately dealt with the above-mentioned causal issue separately. Under the circumstances, analysis on causality of Bangladesh's rapid and growing import growth from India over an intertemporal time span rests on multiple rationale. Apart from its academic merit, it has potential positive utility in appropriate policy formulation.

The paper has two key objectives. First, it attempts to identify the causal explanations of country's rapid growth of import intensity with India during the past decades within a time series framework. Second, it aims at exploring the implications of the proposed causal analysis on country's welfare status. Section II explores trends and dynamics of Bangladesh's official import from India. Section III attempts to examine both analytical and empirical merits of plausible explanations of such rapid import growth. Section IV delineates the major welfare implications of the empirical results. Concluding remarks reiterate major findings and identify areas of further research.

II. TREND AND DYNAMICS OF BANGLADESH'S IMPORT GROWTH WITH INDIA

Trend of Country's Bilateral Trade with India

Table-1 provides a macro overview of Bangladesh-India official bilateral trade of merchandises during 1981-99 to identify the long run trends. It may be mentioned that Bangladesh initiated trade liberalization since the early 1980s under the Structural Adjustment Program (SAP), though real phase of trade liberalization began since

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[3] See, SAARC (1993b); Srinivasan and Canonero (1993a, 1993b); S.N. Raghvan (1995); SCCI (1996); A.R. Bhutan (1996); P.S. Barua (1996); Z. Bakht (1997); I.N. Mukherjee (1996, 1999); RIS (1999)

the early 1990s. A popular argument is that Bangladesh's sweeping trade liberalization is attributable to rapid import growth from India. From the latter understanding as well, selection of the above study period seems to be appropriate. The major observations of the table are following:

- During the last two decades, country's aggregate official import volume from India has increased from US$ 63.94 million in 1981 to US$ 1178.83 million in 1998, a more than 18 times increase in absolute terms. Accordingly, import share from India has experienced similar increase. One can discern the trend of India's import share in country's aggregate trade as 2.4 percent in 1981, 4.66 percent in 1990, 10.18 percent in 1994 and 16.12 percent in 1998.

- Despite steady growth of import intensity throughout the entire 1981-1998, it experienced a quantum increase beginning with the 1990s. Thereafter, it is growing along a higher expansion path.

- The uneven pace of import growth has rapidly increased country's bilateral import/export ratio (from 3.16 in 1981 to 21.41 in 1998), bilateral trade deficit (2.35 percent of aggregate trade deficit in 1981 to 32.20 percent in 1998, and import intensity index with India (from 5.54 in 1981 to 26.68 in 1998).

- Looking at the import intensity index, again one can find that it has recorded an upward shift since the beginning of the 1990s with an unabated rising trend.

The above observations amply demonstrate a growing bilateral trade deficit against Bangladesh. However, it will be later shown that country's overall trade deficit did not proceed in the same direction with the former.

Changes in Country's Bilateral and Aggregate Trade Structures

Causal analysis of rapid import increase from India warrants a careful scrutiny into country's aggregate as well as bilateral trade structures. In this context, we are interested to probe into a host of factors, particularly i) changes in country's import profile with respect to India; ii) changes in country's aggregate trade structure; iii) changes in country's major import sources over time. Table-2 provides information on Bangladesh's import composition with India during the 1990s. Since, beginning with the 1990s import from India shifted towards a higher expansion path, it seems reasonable to examine relevant trade structures during the 1990s. The summary observations of Table-2 are following:

- Out of 21 major commodity groups, 7 commodity sections account for about 80 percent of the country's total annual import from India. Average share of import of textiles and textile articles during 1998-99 constitutes 39.90 percent. It is followed by vegetables group with 18.47 percent, mineral products with 9.92 percent, chemicals and allied goods with 6.43 percent, machinery and mechanical appliances with 6.74 percent, vehicles and aircraft with 4.60 percent, base metal with 4.82 percent and plastic articles with 3.12 percent.

- Looking into trends of major commodity groups, textiles' share is slightly declining in recent years, despite retaining the major share. Import of vegetables group increased its share, particularly during 1998 and 1999. Import of minerals does not show major deviation from the mean, except for a modest decline in 1999. For machinery, compared to the early 1990s, its relative share undergone moderate decline during 1998 and 1999. Chemicals' share steadily increased up to 1997. Thereafter, like other

commodity groups (except vegetables) it experienced a modest decline. Only in case of plastic products, its relative share steadily declined throughout 1991-99.

Decline of import of all commodity groups during 1998 and 1999, except for vegetables, is due to the devastating flood that took place during the last quarter of 1998. Severe domestic production shortfall owing to flood caused large import of cereals from India, major item within vegetables group. This observation has import ramification on causal analysis on rapid import intensity growth with India.

Table-3 shows share of major commodity groups imported from India with respect to country's total import of individual commodity groups. It would reveal India's relative position in the country's global import across commodity level. The data clearly show that in most of the commodity groups, import from India records a growing trend throughout 1991-1999. Share of live animal and animal products uninterruptedly increased from 0.76 percent in 1991 to 14.90 percent in 1999. Likewise, share of vegetables group increased from 9.98 percent in 1991 to 24.75 percent in 1995, and 60.04 percent in 1999. Share of prepared foodstuff continuously increased except for 1999. Similar observations are found for minerals, chemicals, pulp of wood, textiles, articles of stones, pearls, base metal, machinery and mechanical appliances, vehicles and aircraft, and optical, photographic and cinematographic products. In other commodity groups, share of import from India is quite small. However, for plastic goods, raw hides and skins, and animal or vegetable fats and oils, relative position of India undergone gradual decline.

We emphasize on three major observations from the previous tables for further reference during the subsequent discussion. First, at commodity level, share of import from India consistently increased in majority of the commodity groups. Secondly, relative share of country's major import items remains roughly stable. Finally, due to sudden increase in imports of cereals within the vegetables group, relative share of other commodity groups experienced modest decline in 1998 and 1999.

Figure1 : Trend of Country's Aggregate Import and Trade Deficit, 1988-98
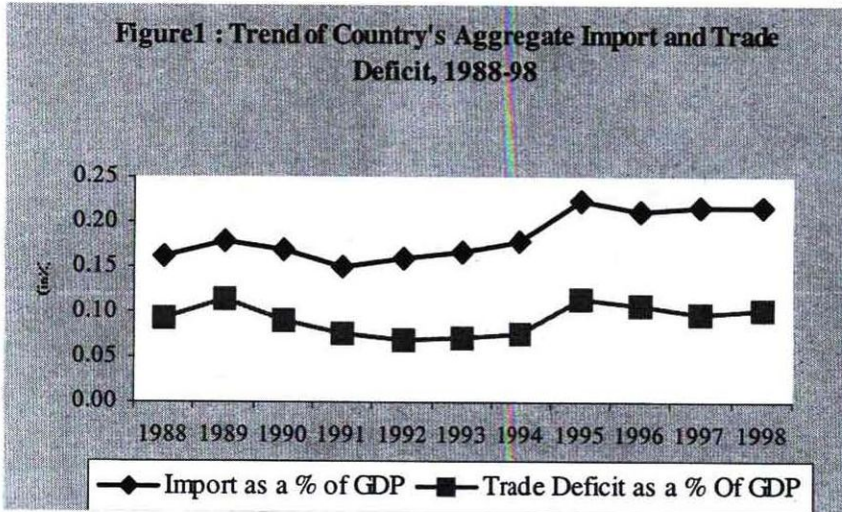
Trend of Country's Aggregate Import and Trade Deficit

Having explored trends and dynamics of country's import from India, let us briefly examine major trends of country's aggregate import and overall trade balance position. Figure-1 shows that country's aggregate trade ratio in GDP is almost stable around 0.20 to .22 percent since the mid-1990s, despite rapid increase of bilateral trade deficit. The plausible reason for this appears to be the substitution of country's import source in favor of India. We will probe into this matter in detail in the subsequent discussion. Importantly, country's overall trade balance appears to be sustainable

despite worsening bilateral trade balance. In 1994-95, country's overall trade deficit has increased from 0.8 percent of GDP to 0.11 percent. However, thereafter it remains almost stable. The observation suggests that deterioration of bilateral trade balance has not yet caused any major external balance disequilibrium. Again, it is indicative to substitution of country's import source in favor of India.

Further Evidence on Import Source Substitution

Box 1 : Commodity-wise major sources of import

Major Product Groups	1985-86	1990-91	1995-96	1997-98	1998-99
Textile	1. Korea 2. Hongkong 3. Japan 4. Pakistan	1. Hongkong 2. Korea 3. India 4. Pakistan	1. Hongkong 2. India 3. Korea 4. China	1. Taiwan 2. Hongkong 3. China 4. Korea	1. Hongkong 2. China 3. Taiwan 4. India
Vegetable Products	1. USA 2. UK 3. Singapore 4. Switzerland	1.Australia 2.USA 3.Hungary 4.India	1. India 2. USA 3. Australia 4. Pakistan	1.India 2.Australia 3.France 4. Nepal	1.India 2.Australia 3.Canada 4.Pakistan
Mineral Products	1. UAE 2. Singapore 3. Kuwait 4. KSA	1. Singapore 2. UAE 3. KSA 4.India	1. Singapore 2. China 3. India 4. KSA	1.China 2.KSA 3.India 4.Singapore	1.Singapore 2. India 3.Indonesia 4.USA
Machinery Products	1. Japan 2. UK 3. USA 4. Germany	1. Japan 2. China 3. Switzerland 4. Germany	1. China 2. India 3. Japan 4. Germany	1. China 2. India 3.Japan 4.UK	1.Sigapore 2.China 3. India 4. Japan
Products of the Chemicals or Allied Industries	1. Germany 2. Switzerland 3. China 4. Japan	1. Germany 2. Singapore 3. China 4. Netherlands	1. India 2. China 3. Germany 4. Singapore	1. India 2. Singapore 3. China 4. UK	1. India 2. China 3. USA 4. Singapore

Source : Derived from Bangladesh Bank data

In order to further examine substitution of country's import sources, Box-1 provides information on changes in country's major import sources since mid-1980s for goods constituting major import items from India in recent times. Cursory glance at the box clearly shows substitution of former import sources in favor of India over

time. In similar vein, Table-4 provides information at disaggregate commodity level since the beginning of the 1990s. In case of textiles, India's relative position has marginally declined. For cotton, which is the major item under textiles group, India became the country's principal import source, between 1991-98 with a concurrent decline of import share of other countries, except China. We have earlier seen that vegetables group is a major item in country's import portfolio where cereals is the single most important item. Interestingly in 1991, there was no official import of cereals from India. The United States (41.53 percent), Hungary (39.20 percent), Canada (14.44 percent) and Australia (4.65 percent) constituted almost the entire cereal import (99.42). Whereas in 1998, India's share went up to 81.03 percent and 73.78 percent in 1999. Clearly there has been a significant diversion of import source in favour of India. Similar increase is evident in case of minerals where India's share graduated from 4.14 percent in 1991 to 12.15 percent in 1999. For fuel, compared to only 0.83 percent in 1991, import share of India reached 11.36 percent in 1999. Again, one can find significant diversion of import sources for these products. For machinery products, from 6.01 percent in 1991, India's share reached at 11.36 percent in 1999. In case of major sub-group in this group, namely, boilers, India's relative position has improved at the expense of all previous import sources. Similar substitution is evident for import of electrical machinery. For chemicals, India's position increased from only 3.10 percent in 1991 to 13.41 percent in 1999. At subgroup level, in all major categories, namely inorganic chemicals, organic chemicals, pharmaceutical products, tanning or dying, both India's relative ranking and percentage share have significantly improved. While share of some previous major sources undergone concomitant decline. Likewise, India's import share recorded quantum increases

in metal category and major items under this section. Similar substitution of import source is evident for plastic products.

From the above discussion, it is clearly evident that over the years, there had been major diversion of country's import sources in favor of India. Given this important observation, current causal analysis primarily boils down to the issue of identifying appropriate answers for observed import diversion in favor of India. In this order a relevant question is whether the observed import source diversion is compatible with changing profile of India's comparative advantage. Especially, is there any evidence on whether India has developed comparative advantage in commodities which used to be imported by Bangladesh from other sources, currently being imported from India. A corollary area of scrutiny is the status of Bangladesh's comparative advantage in major imported goods from India. If Bangladesh is found to have higher comparative advantage in commodities those are being imported from India, it would be indicative to displacement of potential domestic production capacity at the expense of import from India. We address these issues in detail in the subsequent discussion.

III CAUSAL ANALYSIS OF RAPID IMPORT GROWTH FROM INDIA

Our previous observations overwhelmingly suggest that causes of country's rapid import growth from India during last decades is inexorably interwoven with changes of its import sources. Appropriate answer to causes of country's import source diversion over time would reveal proximate causes of its rapid import growth from India during the corresponding time period. Accordingly we attempt to explore our causal exploration focusing on plausible reasons for such import source diversion in the following.

Reviewing standard trade theory, empirical observations on country's trade dynamics, and popular perceptions, one may identify a host of plausible casual explanations associated with country's import source diversion towards India. The issues are:

i)   price competitiveness of India's export to Bangladesh;

ii) exchange rate competitiveness;

iii) changes in India's comparative advantage profile;

iv) growth of country's road infrastructure, and corresponding increase of trade through land;

v)   food import from India due to liberalization of country's food import regime;

vi) rapid growth of country's RMG supported by back to back L/C from India; and

vii) preferential trade liberalization with India under SAPTA.

Admittedly, all the above-listed issues are mutually overreaching. We begin our detail analysis examining plausibility of prevailing popular perceptions.   It should be mentioned that Bangladesh's across-the-board trade liberalisation measures would not create any extra competitive edge for India compared to other exporting countries. India can only exert additional advantage over imports of Bangladesh through preferential trade arrangements under the SAPTA framework.

Major Popular Perceptions
Impact of SAPTA

Potential impact of SAPTA on country's import from India is contingent upon the coverage and intensity of tariff preference afforded to India. Till to date, there had been three rounds of trade

negotiations under SAPTA, namely SAPTA First Round (SAPTA-I) in December 1995, Second Round (SAPTA-II) in November 1996 (came in to effect from March 1997) and Third Round (SAPTA-III) in November 1998.

In SAPTA-I, Bangladesh and India offered concessions multilaterally in 12 and 106 product lines at 6-digit commodity classification. Tariff preferences were exchanged as a percentage of MFN tariff rates. On average, Bangladesh offered a 10 percent tariff preference to India. Within bilateral arrangement under SAPTA II, Bangladesh offered concessions to India on 204 products with 10 percent tariff preference. Under SAPTA-III, negotiations were concluded both in terms of individual products at 6-digit HS level, as well as in terms of 2-digit HS chapters. Bangladesh offered concessions to India in respect of 11 chapters and 14 products at 6-digit HS level with the same margin of tariff preference (10 percent). Box-2 provides summary of India's export to Bangladesh under three rounds of SAPTA negotiations.

Box-2: Preferential Export of India to Bangladesh under SAPTA

	Amount of export to Bangladesh (Rs. Million)	% of total
India's total export to Bangladesh	30848	100
Preferential export under SAPTA Round 1	151.69	0.49
Preferential export under SAPTA Round 2	735.35	2.38
Preferential export under SAPTA Round 3	164.88	0.53
Preferential export under SAPTA Round 1-3	1051.92	3.41

Source : I.N. Mukherjee, 1999

The above box shows that India's preferential exports to Bangladesh within SAPTA-I increased from Indian Rs. 108.33 million in 1996 to Rs. 151.69 million, denoting a 40 percent increase. Accordingly, share of India's preferential export to Bangladesh

increase increased from 0.31 percent to 0.49 percent during the same time period. It also shows that is the share of preferential imports from India constitutes only a fraction of Bangladesh's total import from India. It is mainly due to narrow coverage of preferential trade. Also a careful look into the product list would reveal that almost all the products does not appear to be any significant item in country's both bilateral and aggregate import portfolio[4]. It refutes the hypothesis that preferential trading arrangement under SAPTA has significantly contributed in rapid escalation of import intensity and the concurrent import source substitution. M. Rahman (1998) argues that country's import weighted tariff with India has declined faster than its overall import weighted tariff. However, he argues that it is not because of faster trade liberalization with India. Rather, Indian exporters took advantage in those commodities, where tariff reduction was higher.

Figure-2: Trend of Country's Import of Textile Products, 1991-99

—◆—Textiles' share in country's total import

—■—Textiles import from India/Total textiles' import (%)
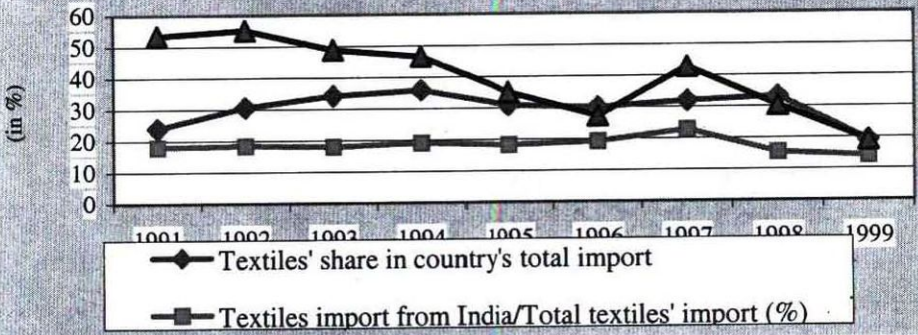
[4] For detail, see V.R. Panchamukhi (1990, 1995); SAARC (1991, 1994); I.N. Mukherjee (1994, 1999); T. N. Srinivasan and G. Canonero (1993a, 1993b); S. N. Raghvan (1995); M. A. Rashid (1996); RIS (1999).

Import of Textiles from India

Dynamic export growth of country's ready made garments (RMG) during last two decades with nascent domestic backward linkage capacity resulted in rapid growth of import of textile products. Up to the beginning of the 1990s, textile import has increased both in absolute as well as in relative terms. Geographical proximity coupled with import friendly back to back L/C arrangement in India is supposed to be a major cause of growing import intensity with India. Undeniably, import of textiles has positive association with higher level of import from India. However, from Table 2, Table 3, and Table 4, one can find that share of textiles import has declined both as a percentage of total import from India, and as a percentage of country's total import of textiles and related apparels. It is consistent with the fact that in recent years, modest capacity building has taken place in Bangladesh's textile sector. Actually, growth of nominal import of textiles from India could not supersede growth of nominal import from Bangladesh during the 1990s. Hence, its contribution to escalate import intensity with India would to be at best modest.

India's Export Competitiveness with Bangladesh

Growth of Land Trade and Substitution of Import Source

Positive association between development of infrastructure and a country's trade is well acclaimed in development literature. Apart from its direct impact on transport cost, numerous externalities of infrastructure are found to have significant positive impact on a country's trade performance. Data on country's infrastructure, transport cost and alternative routes of trade strongly suggest that infrastructure has direct causal bearing on rapid growth of import intensity with India and a concomitant decline of import intensity

with other import sources. Table–5 shows percentage share of alternative modes of country's import during 1981-98. The data show that in 1981, import via land constituted only 2.50 percent of country's total import, as opposed to 96. 01 percent via sea and 1.49 percent via air routes. While in 1998, share of import via land reached at 14.13 percent, import via sea and air declined to 84.79 percent and 1.08 percent respectively. It seems that rapid growth of import intensity with India and higher imports via land are positively correlated, and perhaps they are affected by a common list of causal factors. Correlation coefficients of Box-3 overwhelmingly support this conjecture. Available information strongly suggests that substitution of import routes in favor of land has significant causal linkage with development of country's road infrastructure and a simultaneous increase of import cost via sea ports.

Box-3 : Correlation Coefficients between Country's Import via Land & Import Intensity with India, 1981-98

	Correlation coefficient
Pearson correlation	.895
Kendall's tau_b	.791
Spearman's rho	.926
N	18

** All are significant at 0.00 level (2-tailed).

Although data of Bangladesh Bureau of Statistics do not reveal any significant increase of transaction costs at major seaports, unofficial data provide strong evidence on enormous increase of transaction costs at country's seaports[5]. A recent data claims that container handling cost is US$ 600 per metric ton at Chittagong Port compared to US$ 150 per metric ton in neighbouring sea ports.

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[5] World Bank (1999).

According to global data sources, Chittagong Port is one of the most congested, infrastructure-poor and business-unfriendly seaports in the world. Growing transaction cost at seaports is suspected to have causal bearing on decline of import via sea. In comparison to import level, it would have stronger effect on rate of import via sea (by reducing rate of profitability of import via sea).

On the other hand, there had been significant improvement of the country's road infrastructure during the past two decades. Table 6 shows that between 1980-1998, country's total road capacity has experienced more than four-fold increase (from 4918 km in 1980 to 21,020 km in 1999). However, high quality road did not grow at same rate, even though its total capacity more than doubled between 1980-1998.

The above dual trend – increase of country's road capacity and escalation of costs at seaports – seems to have induced for substitution of import source in favor of India via land. However, one may conceive of reverse causality in this regard. Nevertheless, the issue is subject to further empirical research.

Changes in India's Revealed Comparative Advantage Profile

As regards the changes in comparative advantage profile of India's tradables, we primarily draw upon findings of the earlier studies[6]. It should be mentioned that results of the available studies are not directly comparable due to different level of commodity classification. However, one may notice significant association between changes of India's export profile to Bangladesh, and

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[6] S.N. Raghvan (1995) provides a detail survey on both static and dynamic RCA encompassing Bangladesh and India. For recent scenarios, see I.N. Mukherjee (1998, 1999).

changes in its both revealed and potential comparative advantage over time. Comparative statics between earlier and later studies clearly show that scope of India's commodities with higher RCA has expanded over time. At the same time, India appeared to have higher score of RCA within the same commodity groups compared to earlier periods. Available studies further suggest that in most of the imported commodities from India, Bangladesh is found to have relative comparative disadvantage. Nevertheless, due to lack of information on changes in RCA profile of Bangladesh's other import partners, changes in bilateral RCA profile alone would be inadequate to explain country's diversion of import sources towards India.

Appreciation of Country's Bilateral Real Exchange Rate (RER)

Following standard trade theory, both price and exchange rate competitiveness can be legitimately compressed within the analysis of real exchange rate (RER) behaviour as it incorporates both price and exchange rate dynamics. The theoretical underpinnings associated with rapid growth of import intensity with India are strongly indicative to have strong causal association with the dynamics of country's RER with major trade partners. Table-7 shows that during 1981-99, Bangladesh's domestic currency (Taka) has depreciated with 8 out of 10 major import sources. However, domestic currency has appreciated with India, and marginally with China. Particularly, since the early 1990s, India acted more aggressively in the race of competitive devaluation. In negative connotation, one may term it as beggar–thy-neighbor exchange rate regime of the South Asian anchor currency, Indian Rupee. Admittedly, bilateral RER with India looks stable, or slightly depreciating since the mid 1990s.

Box-4: REERs and RERs: India and Bangladesh (1990=100) \a

	Dec. 1 of 1980	1990	1996	1998
REER				
India	54.1	100	132.7	135.1
Bangladesh	90.8	100	105.6	96.3
RER (against $US) :				
India	66.9	100	133.3	133.4
Bangladesh	82.9	100	109.4	108.8

Source : World Bank, 1999, *Report No. 19591-BD*, pp. 26. \a : Increases represent depreciation

Appreciation of bilateral RER with India appears to have strong impact on import intensity index with country's major import partners. Table-8 clearly shows that country's import index is declining with its import partners of the developed world. Import intensity with newly industrialized countries does not exhibit any characteristic trend. Nevertheless, import intensity with India records rapid escalation. This provides empirical credence that RER advantage of India might have significantly contributed in diversion of country's import source in favor of India.

Box-5 : Trend Growth Rate of Bilateral RER and Import Intensity Index (1981-98)

Country	Growth of Bilateral RER (%)	Growth of Import Intensity (%)
India	-3.20	12.90
Japan	4.48	-1.52
China	-0.03	1.24
Hong Kong	6.89	-1.96
Singapore	2.31	-4.03
Korea	1.52	7.47
USA	1.25	-5.60
UK	2.30	-1.19
Germany	3.31	-2.26
Canada	0.58	-7.38
Correlation coefficient		-0.513

Source : Estimated from Table 6 & 7

Figure-3: Trend of Import of Cereals from India, 1985-86 to 1998-99
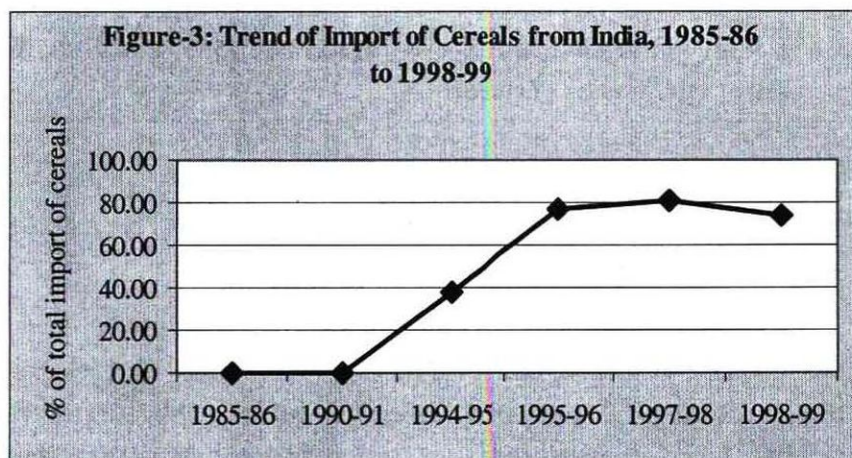
For further empirical evidence, Box-5 shows trend growth rate (as opposed to annual percentage growth rate) of country's bilateral RER and corresponding trend growth rates of bilateral import intensity indices with major import partners. It is evident that except Korea, bilateral import intensity indices moved in opposite direction. For example, trend growth rate of RER with India is –3.20 percent, while corresponding trend growth rate of import intensity index is 12.90 percent. Likewise, trend growth rate of RER with China is – 0.03 percent, corresponding growth rate of import intensity is 1.24 percent. While growth rate of RER with Hongkong is 6.89 percent, corresponding import intensify growth rate is –1.96 percent. Similar observation is evident in case of Singapore, Japan, USA, UK, Germany, Canada – country's all major import sources. Overall, there is a reasonable negative correlation between trend growth rate in bilateral RER and trend growth rate in import intensity index, with a correlation coefficient of –0.513.

Liberalization of Country's Food Import Regime

Box-6 : Country's Major Import Sources of Cereals, 1985-86 to 1998-99
            (% of total import of cereals)

1985-86	% Share	1990-91	% Share	1994-95	% Share	1995-96	% Share	1997-98	% Share	1998-99	% Share
USA	67.02	USA	41.53	India	38.20	India	77.45	India	81.03	India	73.78
Myanmer	12.17	Hungary	39.20	USA	27.26	USA	16.79	Australia	5.19	Australia	4.30
Canada	5.36	Canada	14.44	Pakistan	23.26	Pakistan	3.39	Switzerland	1.66	Pakistan	3.44
Australia	5.16	Australia	4.65	Uruguay	4.06	Singapore	1.08	Pakistan	1.65	Switzerland	3.57

Source : Estimated from Bangladesh Bank Data

Despite modest growth of country's agriculture sector in recent years, cereal is still its one of major import items. Our earlier findings on changes in country's bilateral as well as aggregate import structures clearly revealed that import of food since the mid 1990s, not only substituted import sources, concurrently, deteriorated relative share of major import items, particularly during 1998 and 1999. Importantly, Bangladesh allowed private food import since 1993, and India has liberalized its food export regime since 1994[7]. Import parity price of rice is much lower in India compared to that from other international markets. As a result, it was more profitable for country's private importers to import rice during the period when Bangladesh had shortfall in domestic rice production instead of higher priced import sources. Also, development of country's road infrastructure coupled with escalation of transaction cost at seaports might have added to import cereals from India.

Regression Analysis of Import Intensity Growth with India

Based on the foregoing discussion, we undertake the following time series regression analysis in order to further explore the causal linkages of import intensity growth with India over the period of 1981-98. The regression equation for empirical estimation is specified as the following:

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[7] See Dorosh (1999)

$$IMPINT= \alpha_0 + \alpha_1 \, RERI + \alpha_2 \, REERM + \alpha_3 \, ROADI + \alpha_4 \, DFOOD + \varepsilon_5$$

where depended variable IMINT is country's import intensity index with India. Among the explanatory variables, RERI is real exchange rate of Bangladesh with India. As per our previous observation, it is expected to have a negative coefficient. REERM is a weighted index of RER with country's major import partners excluding India. The coefficient is expected to have a positive sign. ROADI is an index of high quality road. It proxies for infrastructure development, and it is deemed to have a positive sign. DFOOD is a dummy variable for the years when Bangladesh experienced shortfall of domestic food grain production after liberalisation of its food import regime. Its coefficient is also expected to have a positive sign, while ε_5 is the stochastic noise term. Due to lack of time series data on India's RCA, we could not incorporate this explanatory factor into the above regression equation. Data related to trade and exchange rates were collected from *Annual Direction of Trade Statistics*, IMF, while data for ROADI were collected from Bangladesh Bureau of Statistics.

Box-7: Summary of Regression Results

Dependent Variable: Import Intensity Index with India	
Constant	-10.597
	(-1.22)
Explanatory Variables	Value of Coefficients
	(t-ratio)
RERI	-0.088
	(-2.82)
REERM	0.2776
	(-4.49)
ROADI	0.042
	(-2.29)
DFOOD	7.58
	(-6.62)
Adjusted R-square	0.978

Source : Authors' estimation

Box–7 provides summary results of the estimated regression equation. The goodness of the fit, adjusted R^2 is quite high at 0.978. In other words, almost 98 percent movements of the dependent variable can be "explained" by the movement of the select regressors. Coefficients of all the explanatory variables have expected signs. Corresponding t-ratio validates their statistical significance. The results overwhelmingly validate our *a priori* hypotheses. The results also do not indicate to existence of any major non-spherical errors. Avoiding repetition of earlier detail discussion, the regression analysis provide strong support to earlier postulated causal explanations of rapid import intensity with India.

IV. MAJOR IMPLICATIONS

In the current section, we attempt to briefly explore major implications of findings of the current study on country's welfare position. Our discussion provides strong evidence on diversion of country's import from stronger currency countries to the weaker currency country. This implies reduction in cost of import in favor of importing country, Bangladesh. Following the standard trade theory, this is supposed to have improved the country's welfare position, provided it had been able to maintain a steady export growth[8]. Lower import cost due to improvement of road infrastructure has similar positive implications as well.

Cheaper supply of machinery and raw materials unambiguously helped local industries to enhance their productive capacity. Besides,

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[8] The findings of the study would have strengthened, if, both static and dynamic gains of importing from India compared to other import sources could be appropriately quantified. A recent study by RIS (1999) indicates to significant positive static gains for Pakistan and Sri Lanka if they would have imported from India instead of higher cost external sources. Nevertheless, the methodology needs further fine-tuning for higher credence.

enhanced competition has potentially positive impact on higher efficiency and internalization of a host of positive externalities in both import competing and export sectors. As for country's trade policy regime is concerned, there seems to have no merit to slow or reverse the process of trade liberalization, despite growing import intensity with India. Available information quite convincingly indicates that import growth from India has not produced any notable macroeconomic imbalance. It may be mentioned that during the past decade, Bangladesh had been able to maintain a credible macroeconomic balance, although its growth performance was lower than its potential. Purchase of raw materials, intermediate inputs, and capital goods from cheaper source, India, has enabled domestic manufactures to produce added output for sale at home and abroad. A good example is the country's principal export item RMG which constitutes more than 70 percent of export earning. Despite inadequate domestic backward linkage capacity, the RMG sector has been able to sustain its growth by importing from cheaper sources, India in particular.

There is a popular perception that growing import from India might have marginalised indigenous supply capacity, particularly in the industrial sector. Comparison of reveled comparative advantage (RCA) unmistakably shows that import from India increased in those commodities where it has strong RCA compared to Bangladesh and other import partners. Contrary to popular belief, theoretical arguments and macro-level evidence do not exhibit any notable domestic production displacement. Available, micro-level evidences show that some inefficient import substituting enterprises have failed to compete with more competitive imports in the face of country's

integration with the global economic order[9]. Rational guesstimates tend to suggest that country's supply side bottlenecks coupled with numerous distortions in incentive regime has exposed some inefficient domestic enterprises to strong global competition. Nevertheless, the issue merits further systematic analysis and empirical investigation.

Admittedly, appreciation of country's bilateral RER has potential negative implication on its export to India. Most of the available studies concluded that domestic supply side rigidities coupled with non-tariff barriers of India's trade regime could be largely attributable to country's indolent export growth to India. However, if India pursues any beggar-thy-neighbor exchange rate policy for a long term, it may impinge upon export performance of other South Asian countries, including Bangladesh.

Cheaper import from India enhanced country's food security. It acted as a quick source of food supply at low price, thus it acted as price stabilizer. Because of the subsidy and market intervention of the government, India was able to maintain a relatively lower price of food. Since the liberalization of food import, Bangladesh received the spillover benefit from lower food price in India. Bangladesh crisis season (Aman) roughly matches with the Indian surplus (kharif) season. Import parity price from India acted as a ceiling on domestic prices of foodgrain, which is much lower than the international food price from other sources[10]. Similarly most of the spices and other food products have also been imported from India at lower cost. These might have contributed, among other factors, in containing country's inflation rate despite a host of inflationary

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[9] See, Z. Bakht (1995, 1998); World Bank (1999).

[10] For details, see Dorosh (1999).

propagation in the country's macroeconomic fundamentals[11]. Import of food from India does not have any displacement effect on our domestic production, because we have supply constraint and import is made basically to cover the demand-supply gap. Rather, it presumably contributed in improving country's welfare position during domestic production shortfall.

V. CONCLUSION

The paper has attempted to explore the causal linkages of country's rapid growth of import intensity with India and its major implications. In this order, it began with exploring the trends and dynamics of country's import structure with India. Importantly, despite rapid growth of import intensity with India, country's overall trade deficit and import share in GDP remained more or less stable, as the economy grew stronger. Also, we have seen that most of the import items from India constitute raw materials, intermediate inputs, capital goods and emergency food imports. These are primarily noncompetitive to domestic production activities. More importantly, it is evident that there had been a clear diversion of import sources, towards cheaper source namely, India.

In order to explain the causal linkages of growing import intensity with India, the paper attempted to examine theoretical and empirical merits of a number of plausible causal explanations. The empirical analysis suggests that appreciation of RER with India and a simultaneous depreciation of RER with other importing sources had the strongest impact on source diversion in favor of India. Preferential trade arrangement under SAPTA has at best marginal

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[11] Private import of food-grain from India in the fiscal year 1998-99 after the worst flood of the century had been instrumental to avoid a likely famine.

impact due to its extremely narrow coverage and inappropriate product selection. India's geographical proximity in tandem with country's expansion of road capacity and escalation of transaction costs at seaports-- all together enhanced India's competitive edge compared to other import sources. Besides, liberalization of country's food import regime enabled Bangladesh's private sector to quickly import from India during the period of domestic production shortfall.

At the policy level, both Bangladesh and India have imperatives to formulate appropriate incentive regime and harmonize bilateral trade policies. Particularly, in order to internalize huge bilateral informal trade, both the countries need to dismantle non-tariff and institutional barriers against formal trade.

If bilateral trade is of any concern, much of the attention should be directed towards enhancing export from Bangladesh to India. Steps must be taken to eliminate formal and informal non-tariff barriers toward India's import from Bangladesh. Harmonisation of exchange rates between Bangladesh and India should be actively pursued in addition to measures associated with increasing country's export competitiveness and access to India's market. In this regard, prevailing scope of regional/subregional cooperation initiatives involving the two countries should also include exchange rate harmonisation.

Admittedly, the current study is incomplete. Moreover, it has several limitations. One major gap of the study is that it is mainly confined within official merchandise import. Lack of time series data on informal import and import of services is mainly responsible for this. However, the current causal explanations have important relevance in explaining informal merchandise import and import of

services from India. In addition, separate studies are to be undertaken on pursuance of any predatory-dumping from Indian side. The results of the current regression analysis are only indicative as they show statistical association in a restrictive sense. One missing issue of the paper is potential impact of India's trade regime on its export to Bangladesh. Lack of relevant data prevented us to incorporate this vital issue in the current analysis. In fact, in depth analysis is seemingly overdue on implications of the two country's micro, macro and meso economic policies on their bilateral as well as global trade performance. Economic policy analysts of both Bangladesh and India should respond to this vital research gap.

REFERENCE

Aggarwal, M. R. and Posh Raj Pandey. 1992. "Prospects of Trade Expansion in the SAARC Region." *Developing Economics* XXX-1 (March): 3-23.

Anderson, A.E.C., Anderstig and B. Harsman. 1990. "Knowledge and Communications Infrastructure and Regional Economic Change." *Regional Science and Urban Economics* 20: 359-376.

Bakht, Z. 1995. "Analysis on Assistance and Efficiency: A Study of Selected Import Substituting Industries in Bangladesh." Working paper no. 14, Industrialization Strategy Study, World Bank office in Dhaka, January.

Bakht, Z. 1998. "Trade Liberalization, Exports and Growth of Manufacturing Industries in Bangladesh." (mimeo.), April.

Bakht, Z. 1997. *Report on the Outcome of the Second Meeting of the SAARC Expert Group.* March 26-27, New Delhi.

Barua, P.S. 1996. *Towards a Free Trade Arrangement in South Asia: Proposals for the Second Round of SAPTA Negotiation.* SCCI/FNS, New Delhi.

Bhagwati, J. N. 1993. "Regionalism versus Multilateralsim: An Overview." In I. de Melo and A. Panagariya, eds., *New Dimensions in Regional Integration*, New York: Cambridge University Press.

Binswanger, H.P., S.R. Khandker and M.R. Rosenzweig. 1989. " How Infrastructure and Financial Institutions Affect Agricultural Output and Investment in India." *Policy, Planning and Research Working Paper,* No. 163, World Bank:, Washington, D.C.

Bhuyan, A.R. 1996.*Outlook and Prospects under SAPTA in Bangladesh: International Dynamics and External Linkages.*

Bond, E.W. 1997, "Transportation, Infrastructure Investments and Regional Trade Liberalization." *Policy Research Working Paper,* No 1851, November, World Bank, Washington, D.C.

Canning, D. and M. Fay. 1993. "The Effect of Transportation Networks on Economic Growth." Working Paper, New York: Columbia University.

Centre for Policy Research. 1995. *Indo-Bangladesh Dialogue: Economic and Trade Cooperation.* November, New Delhi.

Chaudhury, S. K. 1995. "Cross-Border Trade between India and Bangladesh." *Working Paper,* No. 58, NCAER, New Delhi.

Dorosh, P. A. 1999. "Trade Liberalization and Food Security in Bangladesh: The Role of Private Sector Import." *Working Paper,* IFPRI, October.

Dubey, Muchukund. 1995. "Indo-Bangladesh Economic Relations." Paper presented at the *Conference on Indo-Bangladesh Dialogue.* Centre for Policy Dialogue and Centre for Policy Research, 1-2 February, Dhaka.

Dubey, M., Lok Raj Baral and Rehman Sobhan eds. 1999. *South Asian Growth Quadrangle: Framework for Multifaceted Cooperation.* New Delhi: Macmillan Ltd.

Easterly, W. and R. Levine 1995. "Africa's Growth Tragedy: A Retrospective, 1960-1989." *Policy research Working Paper,* NO 1503, World Bank, Washington, D.C.

Eusufzai, Z. 2000. *Liberalization in the Shadow of a Large Neighbour: The Case of Bangladesh-India Economic Relations.* Centre for Policy Dialogue, Dhaka: University Press Limited.

Grossman, G. and E. Helpmen. 1991. *Innovation and Growth in Global Economy.* Cambridge: MIT Press.

Harrison, A. 1996. " *Openness and Growth: A Time Series, Cross-Country Analysis for Developing Countries.*" *Journal of Development Economics* 48 (2): 419-447.

J.B.C. 1996. *Report on the third meeting of the India-Bangladesh Joint Business Council,* November.

Khan, A. R and S. Rahman. 1997. "Transition from SAARC to SAPTA: Implications on the Bangladesh Economy". Paper presented at *the Regional Seminar on Implications of SAPTA on Bangladesh*, FBCCI, April, Dhaka.

Khan, F. 1994. "Import Liberalization in Developing Country with Import Intensive Industry: The Case of Bangladesh." *International Economic Journal* 8(1).

Krugman, P. 1991. "*Geography and Trade*, Leuven: Leuven University Press.

Marjit, S. and A. Roychoudhury. 1997. *India's Export: An Analytical Study*, Calcutta: Oxford University Press.

Mukherji, I. N. 1994. " Regional Trade, Investment and Economic Cooperation among South Asian Countries." In S. P. Gupta, William E. James and Robert K McCleery, eds., *South Asia as a Dynamic Partner*. New Delhi: Macmillan.

Mukherjee, I.N. 1996. "South Asian Preferential Trading Arrangement: Assessing Trade Flows in the First Round of Trade Negotiations." Report Prepared for SAARC Chamber of Commerce and Industries, FES, New Delhi.

Mukherjee, I.N. 1998. *India's Trade and Investment Linkages with Bangladesh.* Report prepared for RCRIR, New Delhi.

Mukherjee, I.N. 1999. Indo-Bangladesh Trade and Investment Linkages-with Special Reference to SAPTA. Unpublished paper, JNU, New Delhi.

Mukherjee, I.N., D. N. Rao and M. P. Lama. 1997. South Asian Preferential Trading Arrangement: Identifying Products of India's Regional Trade, Project report, IDRC, Ottawa.

Munnell, A.H. 1992. "Policy Watch: Infrastructure Investment and Economic Growth." *Journal of Economic Perspectives* 6 (4): 189-198.

Narhari, R. 1999. "Economic Cooperation in the Greater Mekong Sub-Region and the Lessons for Cooperation in South Asia." In International Dialogue on

Growth Zones in South Asia: What Can We Learn From South East Asia. Centre for Policy Dialogue, September, Dhaka.

NBR. 1994. "Trade Imbalances with India." *Economic Review*, Occasional Paper 7:58-69. DERI, New Delhi.

Panchamukhi, V.R. ed. 1990. *Economic Cooperation in the SAARC Region: Potential, Constraints and Policies.* RIS, New Delhi: Interest Publications.

Panchamukhi, V.R. 1992. "Strengthening Complementarities and Intra-regional Trade in Asia and the Pacific (ESCAP). *Economic Bulletin for Asia and the Pacific* XLIII, (2): 71-90.

Panchamukhi, V.R. 1995. "Economic Co-operation in South Asia: The Crisis of Perceptions." *In Emerging South-Asian Order: Hopes and Concerns.* Media South Asia

Porter, M. 1990. The Comparative Advantage of Nations. London: Macmillan Ltd.

Raghvan, S.N. 1995. Regional Economic Cooperation among SAARC Countries. ESRF-FNF-IER, New Delhi: Allied Press.

Rahman, Mustafizur.1997. *"Recent Policy of Trade Liberalization in Bangladesh and Issues of Regional Cooperation in South-Asia." Journal of Asian Economics 18* (1): 117-141.

Rahman, Mustafizur.1998. "Bangladesh-India Bilateral Trade: Current Trends, New Perspective, New Challenges." *BIISS Journal* 19 (1).

Rahman, Shamsur. 1997. "Non-Reciprocity in Bangladesh- India Bilateral Trade: A Case for Market Access & Domestic Competitiveness." *BIISS Journal* 18 (3).

Rahman, Shamsur. 2000. "Subregional Cooperation in SAGQ (South Asia Growth Quadrangle) for Developing Infrastructure and Transport Capacity: Rationale and Implications." Paper presented at the *Workshop on Subregional Cooperation in SAGQ*, IIC-ICSAC, November, New Delhi.

Rao. V.L., Srinath Baruah and Ram Upendra Das. 1997. *India's Border Trade with Select Neighbouring Countries.* RIS, New Delhi.

Rashid. M.A. 1996. "Trade Policy Reforms in Bangladesh and Its Impacts on Intra-regional Trade." Paper Presented at ESCAP-UNDP-BIDS Seminar. October, Dhaka.

Rehman Sobhan. 1999. "Growth Zones in South Asia: Potential and Feasibility, International Dialogue on *Growth Zones in South Asia: What Can We Learn From South East Asia?*". In International Dialogue on *Growth Zones in South Asia: What Can We Learn From South East Asia.* Centre for Policy Dialogue, September, Dhaka.

RIS, 1999. SAARC Survey of Development and Cooperation 1998/99, RIS: New Delhi.

SAARC. 1991. *SAARC Study on Trade, Manufactures and Services.* SAARC Secretariat: Kathmandu.

SAARC. 1993a. *Agreement on SAARC Preferential Trading Arrangement* (SAPTA). SAARC Secretariat: Kathmandu.

SAARC. 1993b. SAARC Study on Trade, Manufactures and Services. SAARC Secretariat: Kathmandu.

SAARC, 1997. *Concept Paper on Subregional Cooperation in South Asia.* SAARC Secretariat: Kathmandu.

SCCI. 1996. *Proceedings of the Sixth Meeting of the Economic Committee of the SAARC Chamber of Commerce and Industry.* June, Dhaka.6

Srinivasan, T. N. 1994. *Regional Trading Arrangements and beyond: Exploring Some Options for South Asia: Theory, Empirics and Policy*, Report No. IDP-142, South Asia Region, World Bank.

Srinivasan T. N. and Gustavo Canonero. 1993a. "Liberalization of Trade among Neighbors: Two Illustrative Models and Simulations." *South Asia Region Discussion Paper Series*, Supplement II to IDP # 142.

Srinivasan T. N. and Gustavo Canonero.1993b. "Preferential Trade Arrangements: Estimating Effects on South Asian Countries." South Asia Region Discussion Paper Series, Supplement III to IDP #142.

Than, Myo, M. Tang, and H. Kakazu. 1998. *Growth Triangles in Asia.* New York: Oxford University Press.

World Bank. 1995. "India and Bangladesh: Prospects for Economic Cooperation." (mimeo.).

World Bank. 1996. "Bangladesh: Trade Policy Reform for Improving the Incentive Regime." *Report No. 15900-BD*, Private Sector Development and Finance Division Country Department 1, South Asia Region, October.

World Bank. 1999. Bangladesh Trade Liberalization: Its Pace and Impacts. Report No. 19591, Poverty Reduction and Economic Management Unit, South Asia Region, November.

Table-1: Trend of Bangladesh's Trade with India, 1981-98

	Import from India (US$ million)	% share of import from India	Export to India (US$ million)	% share of export to India	Import/ Export ratio	Import intensity index	Deficit with India as % of total trade deficit
1981	63.95	2.41	20.24	2.56	3.16	5.54	2.35
1982	43.33	1.79	20.29	2.64	2.14	3.36	1.40
1983	37.89	1.65	6.92	0.96	5.48	3.10	1.98
1984	60.09	2.23	28.29	3.04	2.12	4.10	1.81
1985	64.89	2.57	29.60	2.96	2.19	5.21	2.31
1986	57.22	2.24	7.72	0.87	7.41	4.88	2.98
1987	74.40	2.72	11.04	1.03	6.74	5.80	3.83
1988	90.02	2.97	8.69	0.67	10.36	6.12	4.67
1989	120.73	3.34	10.69	0.82	11.29	6.30	4.76
1990	170.27	4.66	21.68	1.30	7.85	8.82	7.49
1991	189.49	5.54	22.80	1.35	8.31	10.97	9.62
1992	283.86	7.61	4.22	0.21	67.31	14.57	16.51
1993	380.20	9.47	12.52	0.55	30.37	16.44	21.17
1994	466.60	10.18	24.31	0.92	19.20	17.28	22.87
1995	994.08	15.30	35.77	1.14	27.79	25.47	28.46
1996	1018.32	14.68	21.01	0.64	48.47	23.76	27.42
1997	795.62	11.59	37.22	1.03	21.38	18.73	23.44
1998	1178.83	16.12	55.02	1.44	21.42	26.68	32.20

Source: Estimated from *Direction of Trade Statistics*, IMF

Table-2 : Commodity Composition of Import from India, 1991-99 (% of total import from India)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	1991-99
Live Animal & Animal Products	0.31	0.51	1.30	0.60	0.82	0.67	1.09	1.45	0.91	0.85
Vegetables Products	6.53	9.05	4.47	7.25	13.92	36.65	7.24	28.15	53.01	18.47
Animal or Vegetables Fats and Oils	0.01	0.01	0.01	0.01	0.12	0.03	0.07	0.09	0.10	0.05
Prepared Foodstuffs	0.65	0.60	1.79	1.37	1.31	1.50	2.66	2.62	1.73	1.58
Mineral Products	11.01	8.56	11.10	13.75	10.80	6.56	11.57	10.83	5.08	9.92
Products of the Chemicals and Allied Industries	4.32	5.17	5.96	7.09	8.99	6.21	8.73	6.31	5.08	6.43
Plastic and Articles thereof	5.33	4.85	3.94	3.35	1.89	2.02	2.81	2.38	1.55	3.12
Raw Hides and Skins	0.04	0.03	0.01	0.03	0.16	0.00	0.01	0.01	0.00	0.03
Wood and Articles of Wood	0.01	0.01	0.09	0.14	0.16	0.11	0.11	0.11	0.05	0.09
Pulp of Wood	0.59	0.80	3.09	1.12	2.53	1.67	1.56	1.02	0.88	1.47
Textile and Textile Articles	53.42	55.19	48.95	46.58	35.04	27.43	42.87	30.47	19.10	39.90
Footwear, headgear, umbrellas	0.02	0.02	0.04	0.13	0.16	0.03	0.02	0.03	0.04	0.05
Articles of Stones	1.04	0.59	2.25	1.14	1.04	0.61	0.84	0.61	0.54	0.96
Natural or Cultured Pearl	0.02	0.04	0.05	0.05	0.02	0.02	0.03	0.03	0.01	0.03
Base Metal	3.11	3.15	7.72	6.35	7.85	3.63	6.32	5.11	3.23	5.16
Machinery and Mechanical Appliances	9.21	7.98	5.17	5.78	6.45	6.16	7.47	6.81	5.68	6.74
Vehicles, Aircrafts	3.89	3.02	2.56	4.85	8.38	6.46	6.20	3.64	2.39	4.60
Optical, Photographic, Cinematographic	0.12	0.14	0.17	0.26	0.25	0.12	0.18	0.17	0.34	0.19
Miscellaneous Manufactured Articles	0.11	0.17	0.04	0.12	0.10	0.11	0.22	0.17	0.19	0.14
Work of Art	0.25	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.09	0.04
Goods and Commodities not included elsewhere	0.00	0.09	1.29	0.00	0.00	0.00	0.00	0.01	0.09	0.16
Total Import from India	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Estimated from Bangladesh Bank data

Table-3 : Relative Share of Major Commodities Imported from India in Aggregate Import of Individual Commodity Groups, 1991-99, (in %)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	Average 1991-99
Live Animal & Animal Products	0.76	1.77	6.41	5.94	10.52	12.08	14.49	21.36	14.90	9.80
Vegetables Products	9.98	15.05	9.36	17.93	24.74	60.15	23.30	53.58	60.04	30.46
Animal or Vegetables Fats and Oils	0.01	0.02	0.02	0.05	0.39	0.21	0.28	0.38	0.43	0.20
Prepared Foodstuffs	8.24	6.83	12.11	11.71	10.33	27.53	18.52	20.85	16.92	14.78
Mineral Products	4.14	4.65	9.91	17.16	16.29	12.90	16.67	18.46	12.74	12.55
Products of the Chemicals and Allied Industries	5.17	7.25	10.86	12.79	18.02	18.34	16.38	13.09	13.41	12.81
Plastic and Articles thereof	13.81	13.22	14.34	12.29	8.79	11.98	14.26	10.86	9.97	12.17
Raw Hides and Skins	1.31	6.47	1.87	3.26	20.99	0.81	1.42	1.76	1.21	4.35
Wood and Articles of Wood	0.29	2.38	4.99	9.87	11.92	7.24	6.34	4.16	2.68	5.54
Pulp of Wood	3.74	6.73	18.70	8.89	18.52	16.50	11.43	7.79	9.30	11.29
Textile and Textile Articles	18.05	18.53	18.04	19.10	18.26	19.25	22.81	15.42	14.10	18.18
Footwear, headgear, umbrellas	2.81	2.15	2.91	10.18	12.22	2.98	2.39	3.86	6.74	5.14
Articles of Stones	14.07	13.94	42.95	26.62	24.28	22.86	21.19	15.11	17.87	22.10
Natural or Cultured Pearl	4.25	53.95	7.89	5.96	45.40	44.52	41.50	9.28	44.43	28.58
Base Metal	0.00	4.64	14.15	12.38	16.14	12.38	13.35	12.22	11.50	10.75
Machinery and Mechanical Appliances	6.01	8.55	7.39	8.63	9.88	10.90	10.71	11.19	11.36	9.40
Vehicles, Aircrafts	6.51	7.85	6.75	13.63	20.98	20.34	18.11	9.04	10.11	12.59
Optical, Photographic, Cinematographic	1.30	1.81	4.61	5.39	5.59	3.06	4.06	4.20	10.28	4.48
Miscellaneous Manufactured Articles	1.80	3.17	1.25	2.93	2.86	3.57	5.87	4.86	5.39	3.52
Work of Art	3.87	0.00	0.00	0.00	0.56	1.89	0.98	0.86	42.66	5.65
Goods and Commodities not included elsewhere	0.00	7.23	25.33	0.00	0.00	0.00	0.00	0.00	0.00	3.62

Source: Estimated from Bangladesh Bank data

Table-4 : Major Sources of Bangladesh's Import Items during 1990s

	1991		1998		1999
Textiles	**18689240**	**Textiles**	**83892972**	**Textiles**	**79949421**
Hongkong	28.64	Taiwan	26.30	Hongkong	20.85
Korea	22.77	Hongkong	18.09	China	17.37
India	18.46	China	15.40	Taiwan	14.60
Pakistan	6.40	Korea	6.63	India	13.94
China	1.65	USA	4.49	Korea	4.33
− **Cotton**	8224717	− **Cotton**	43219175	− **Cotton**	42788223
− Hongkong	26.08	− India	24.19	− India	21.84
− India	20.86	− Hongkong	20.05	− Hongkong	19.98
− Pakistan	14.00	− China	13.44	− China	13.85
− Macao	9.99	− USA	8.61	− Taiwan	8.32
− USA	8.38	− Taiwan	8.08	− USA	6.10
− **Man-made filaments**	1387135	− **Man-made filaments**	3821627	− **Man-made filaments**	3712376
− Korea	49.71	− Taiwan	32.27	− Taiwan	35.01
− Hongkong	19.76	− Korea	21.71	− Korea	15.11
− India	4.69	− China	12.99	− China	15.11
− Singapore	2.27	− Hongkong	9.52	− Hongkong	9.53
− **Man-made staple fibres**	3157116	− **Man-made staple fibres**	11880578	− **Man-made staple fibres**	10357794
− Korea	49.71	− Taiwan	27.70	− Taiwan	24.00
− Hongkong	19.76	− Korea	21.88	− Korea	18.70
− India	4.69	− China	11.69	− Hongkong	14.27
− Singapore	2.27	− Hongkong	10.14	− China	12.69
− Thailand	2.02	− India	4.06	− India	5.39
− **Special woven fabrics**	1150217	− **Special woven fabrics**	4056320	− **Special woven fabrics**	4727525
− Hongkong	47.61	− Hongkong	37.63	− Hongkong	37.29
− Korea	22.47	− Taiwan	17.03	− China	21.12
− India	9.05	− China	15.31	− Taiwan	19.59
− Pakistan	2.93	− Korea	10.50	− Korea	6.63
−		− India	3.82	− India	4.15
− **Knitted or croached fabrics**	1943371	− **Knitted or croached fabrics**	7794996	− **Knitted or croached fabrics**	8116817
− India	50.03	− Taiwan	24.15	− Taiwan	26.14
− Korea	19.38	− Hongkong	22.42	− China	24.25

Item	Value	Item	Value	Item	Value
– Hongkong	17.32	– China	18.78	– Hongkong	24.23
–		– India	9.47	– India	8.01
– **Impregnated, coated, covered, tex. fabrics**	425427	– **Impregnated, coated, covered, tex. fabrics**	1629179	– **Impregnate d, coated, covered, tex. fabrics**	1718286
– Hongkong	40.22	– Hongkong	35.68	– Hongkong	31.25
– Korea	18.64	– China	22.49	– China	18.35
– USA	8.34	– Taiwan	8.04	– Taiwan	13.47
– Singapore	5.83	– India	3.96	– India	6.19
– **Articles of apparel(not crocheted)**	732310	– **Articles of apparel (crocheted)**	2115087	– **Articles of apparel (crocheted)**	1198018
– Hongkong	57.23	– Hongkong	22.03	– Hongkong	26.12
– Korea	15.27	– Taiwan	19.69	– Indonesia	22.42
– India	9.47	– Korea	17.51	– Taiwan	15.34
–		– China	16.08	– Korea	10.16
– **Worn clothing**	226172	– **Articles of apparel(not crocheted)**	4432103	– **Articles of apparel(not crocheted)**	3492132
– Japan	34.77	– Hongkong	31.13	– Hongkong	38.43
– Hongkong	27.19	– Korea	16.18	– China	17.97
– Korea	12.67	– India	11.41	– Taiwan	15.12
– India	4.84	– China	7.01	– Korea	10.96
Vegetable Products	4131351	**Vegetable Products**	22299413	**Vegetable Products**	52113498
Australia	19.58	India	53.58	India	60.04
USA	11.98	Australia	15.19	Australia	10.15
Hungary	10.17	France	1.84	Canada	3.19
India	9.98	Nepal	1.79	Pakistan	2.77
Singapore	8.06	Singapore	1.31	Switzerland	2.00
– **Cereals**	1072315	– **Cereals**	13262949	– **Cereals**	39594200
– USA	41.53	– India	81,03	– India	73.78
– Hungary	39.20	– Australia	5.19	– Australia	4.30
– Canada	14.44	– Switzerland	1.66	– Pakistan	3.44
– Australia	4.65	– Pakistan	1.65	– Switzerland	3.57
– **Oil seeds**	637760	– **Oil seeds**	4466453	– **Oil seeds**	5219674
– Singapore	31.87	– Australia	37.61	– Australia	45.12
– Malaysia	30.53	– Canada	17.48	– France	19.47
– Philippines	11.20	– France	9.21	– Canada	15.79
– Canada	9.37	– Singapore	5.00	– Indonesia	2.00

− India	2.45	− India	1.31	− India	1.85
Mineral Products	16812781	**Mineral Products**	24891900	**Mineral Products**	23546815
Singapore	43.80	China	18.46	Singapore	36.70
UAE	20.37	KSA	15.97	India	12.75
KSA	10.47	India	12.61	Indonesia	12.12
India	4.14	Singapore	10.99	USA	8.09
China	3.89	Malaysia	9.40	Hongkong	5.85
− **Salt**	4219455	− **Salt**	10398716	− **Salt**	8198839
− Singapore	17.42	− China	30.20	− Indonesia	34.81
− China	15.51	− India	28.91	− India	17.74
− India	13.97	− Indonesia	13.84	− Hongkong	16.81
− UAE	13.41	− Hongkong	6.98	− Thailand	9.73
− Hongkong	11.85	− Thailand	4.77	− Malaysia	5.77
− **Mineral fuels**	12449105	− **Mineral fuels**	14461547	− **Mineral fuels**	15292121
− Singapore	53.24	− Saudi Arabia	27.48	− Singapore	56.47
− UAE	22.97	− Singapore	18.88	− Saudi Arabia	12.46
− KSA	14.13	− Malaysia	16.17	− India	10.09
− Bulgaria	3.28	− India	10.98	− UAE	8.20
− India	0.83				
Machinery Products	9668435	**Machinery Products**	25827171	**Machinery Products**	29503530
Japan	14.78	China	17.46	Singapore	41.16
China	14.46	India	11.19	China	17.46
Switzerland	8.07	Japan	8.60	India	11.36
Germany	6.25	UK	6.85	Japan	7.20
India	6.01	Germany	5.78	Germany	5.43
− **-Boilers**	7245508	− **Boilers**	1976144	− **Boilers**	22932321
− China	19.29	− China	17.71	− China	18.93
− Japan	14.63	− Japan	11.24	− India	11.67
− Switzerland	10.77	− India	10.44	− Singapore	10.40
− Germany	8.34	− Germany	7.55	− Japan	9.26
− India	-7.09	− UK	6.32	− Germany	6.99
− **Electrical machinery**	2422927	− **Electrical machinery**	6058027	− **Electrical machinery**	6571209
− Japan	15.26	− China	15.13	− USA	18.53
− USA	12.35	− USA	13.80	− Singapore	148.50
− Singapore	10.83	− India	13.67	− China	12.32
− Italy	10.59	− Singapore	9.64	− India	10.29
− India	2.80	− UK	8.57	− UK	9.39

Products of the chemicals or allied industries	5277714	**Products of the chemicals or allied industries**	20451547	**Products of the chemicals or allied industries**	22368589
Germany	9.93	India	13.03	India	13.41
Singapore	7.46	Singapore	10.55	China	10.89
China	7.39	China	6.80	USA	7.34
Netherlands	4.57	UK	3.58	Singapore	5.93
UK	3.80	Switzerland	3.22	USSR	3.65
Inorganic Chemicals	1457811	**Inorganic Chemicals**	2547109	**Inorganic Chemicals**	2480368
− China	18.07	− China	30.15	− China	37.30
− Singapore	16.97	− Japan	9.93	− India	10.41
− Poland	11.95	− India	9.49	− Japan	7.14
− Czechoslovakia	11.95	− Hongkong	8.23	− Korea	6.64
− Germany	6.91				
− **Organic chemicals**	1581926	− **Organic chemicals**	5263611	− **Organic chemicals**	5684332
− Netherlands	13.82	− India	16.71	− India	20.18
− Germany	13.31	− Italy	7.30	− Italy	8.41
− Spain	7.09	− Switzerland	5.95	− China	7.36
− Italy	6.35	− Singapore	5.90	− Singapore	6.25
− **Pharmaceutic als Products**	329091	− **Pharmaceuti cals Products**	1237195	− **Pharmaceuti cals Products**	1411766
− Switzerland	23.37	− Switzerland	15.33	− Switzerland	17.92
− Germany	11.65	− UK	12.42	− UK	16.74
− Denmark	9.80	− France	12.31	− Denmark	14.49
− Hungary	8.34	− Denmark	12.19	− India	11.54
− UK	5.24	− India	9.13	− Germany	5.03
− **Tanning or dying**	724758	− **Tanning or dying**	3012596	− **Tanning or dying**	3145962
− Germany	17.84	− India	22.11	− India	20.25
− China	15.26	− Germany	13.48	− Germany	14.48
− India	12.88	− UK	8.60	− Singapore	9.99
− UK	10.80	− China	7.82	− China	9.89
		− Singapore	6.66	− UK	6.97
Base metal and articles of base metal	5541746	**Base metal and articles of base metal**	17768898	**Base metal and articles of base metal**	16598351
iron or steel	3464889	**iron or steel**	10909237	**iron or steel**	10159433
Japan	47.19	Japan	26.61	Taiwan	26.05
Korea	24.84	Korea	15.12	Japan	24.30

Singapore	6.08	Taiwan	12.79	Korea	12.08
		India	11.40	India	9.94
		Germany	10.67	Indonesia	9.71
− **Articles of iron or steel**	296003	− **Articles of iron or steel**	1183904	− **Articles of iron or steel**	970282
− China	23.82	− China	26.76	− China	26.98
− Germany	18.72	− Singapore	21.23	− India	13.63
− Japan	17.40	− India	12.52	− Korea	12.16
− Korea	10.45	− Korea	9.54	− Japan	7.04
− India	7.63	− USA	6.77	− Singapore	6.17
− **Copper**	198658	− **Copper**	482681	− **Copper**	452742
− Australia	21.60	− Chile	40.90	− Singapore	29.36
− Turkey	21.04	− Korea(DPR)	12.83	− Korea	20.87
− Korea	17.01	− Korea	11.87	− Chile	14.15
− KSA	9.17	− India	10.10	− China	10.62
−		− China	7.00	− India	5.88
− **Aluminum**	649142	− **Aluminum**	1822891	− **Aluminum**	1736821
− Singapore	27.05	− India	32.00	− India	35.03
− India	16.75	− Singapore	22.75	− Korea	13.22
− UK	9.71	− Thailand	13.57	− Thailand	12.73
− Thailand	8.34	− Korea	11.89	− Singapore	10.73
−		− Australia	6.77	− Australia	6.45
− **Zinc**	573229	− **Zinc**	2296725	− **Zinc**	2231245
− Australia	86.17	− Australia	37.98	− China	29.03
− Japan	6.52	− China	20.19	− Australia	27.16
− Korea	3.34	− Singapore	6.97	− Japan	17.95
−		− Poland	6.38	− Singapore	12.21
−		− India	0.06	− India	0.10
Plastic products	2438979	**Plastic products**	9289570	**Plastic products**	9170632
Japan	31.23	Japan	18.17	Taiwan	16.00
Korea	17.52	India	12.18	Japan	15.62
Australia	10.07	Korea	11.46	India	11.50
Singapore	6.97	Taiwan	7.96	Korea	9.90
China	2.71	Germany	6.63	China	7.33
India	2.37	China	6.08	Indonesia	5.94

Source: Estimated from Bangladesh Bank data

Table 5 : Trend of Relative Share of Alternative Modes of Import in Bangladesh, 1980-98 (% of total import)

Year	Land	Sea	Air
1981	2.5	96.01	1.49
1982	2.45	96.55	1.00
1983	1.51	97.46	1.03
1984	1.97	96.6	1.43
1985	2.47	96.33	1.20
1986	3.61	93.41	2.98
1987	4.08	92.5	3.42
1988	2.05	94.49	3.46
1989	4.3	90.45	5.25
1990	4.57	92.06	3.37
1991	3.66	91.98	4.35
1992	4.32	91.31	4.37
1993	4.56	90.83	4.61
1994	6.07	89.97	3.96
1995	9.63	89.22	1.15
1996	10.78	88.15	1.08
1997	12.52	86.39	1.09
1998	14.13	84.79	1.08

Source : Estimated From BBS Data

Table-6 : Trend of Development in Country's Road Capacity, 1980-98, (in kilometer)

Year	High Quality Road	Low Quality Road	Total Road Capacity (in Km)
1980	4284	634	4918
1981	4323	1407	5730
1982	4777	2655	7432
1983	5131	2866	7997
1984	5359	4028	9387
1985	6215	4159	10374
1986	6503	4682	11185
1987	6782	5033	11815
1988	7217	5104	12321
1989	7559	5401	12960
1990	7914	5713	13627
1991	8056	6048	14104
1992	8231	6269	14500
1993	8546	6507	15053
1994	9704	5965	15669
1995	9842	6228	16070
1996	9900	10325	20225
1997	10300	10554	20854
1998	10450	10600	21050

Source: Estimated from BBS data

Table-7 : Bilateral Real Exchange Rate (RER) with Major Import Source Countries (and weighted average of 10 import source countries)

Year	India	Japan	China	Hong Kong	Singapore	Korea	USA	UK	Germany	Canada
1981	143.3	44.4			66.6	72.1	77.7	84	58.1	84.40
1982	155.2	44.2			74.7	78.8	90.1	86	62.3	99.20
1983	165.1	48.1			77.9	78.2	94.7	79.3	62.3	106.90
1984	148.4	45.8			73.9	71.7	92.1	68.4	53.3	99.10
1985	143.4	46.4			71.8	67.9	95.1	70.1	52.5	97.30
1986	149.7	64.7			70	67.3	94.7	80.3	69.6	97.50
1987	146.9	70.1	103.6		67.5	69.1	91.3	86.8	78.2	99.00
1988	140.8	74.8	115.4		67.3	78.1	89.1	92.9	76.1	104.10
1989	118.3	65.6	124.7		65.7	83.1	86.4	85.2	67.5	105.00
1990	118.5	63.8	100.3	67.2	72.5	84.9	90.1	100.6	80	110.70
1991	102.5	70	92.1	74.2	77.7	88.3	92.8	104.3	78.1	117.50
1992	102.6	77.2	96.4	83.1	85.9	90	97.6	110.1	88.9	115.30
1993	94.3	90.6	107.5	90.8	90.1	93.3	102.1	86.5	89.3	111.90
1994	99	97.3	87.6	97	96.4	97.1	102.8	99.1	91.6	103.90
1995	100	100	100	100	100	100	100	100	100	100.00
1996	100.8	87.5	109.9	107.4	103	101.6	104	102.4	97.7	103.30
1997	104.8	79.5	112.6	112.9	99.1	89.2	105.8	110.1	85.7	102.70
1998	106.4	75.4	114.1	118.4	89.4	66.4	109.6	117.5	87	98.70

Source: Estimated from IFS data

Table 8 : Import Intensity Index of Bangladesh with Major Import Partners, 1981-98

	India	Japan	China	Hong Kong	Singapore	Korea	USA	UK	Germany	Canada
1981	5.54	1.37	3.70	0.55	2.15	1.13	0.47	0.80	0.48	0.58
1982	3.36	1.60	3.52	0.26	1.76	0.50	0.70	0.60	0.35	0.98
1983	3.10	0.85	1.97	0.58	5.57	0.87	0.99	0.86	0.44	0.96
1984	4.10	1.04	2.82	1.01	7.31	0.95	0.77	0.82	0.32	0.92
1985	5.21	1.29	2.22	1.24	6.76	1.53	0.86	0.63	0.35	0.78
1986	4.88	1.21	1.92	1.07	6.56	1.35	0.74	0.68	0.37	0.79
1987	5.80	1.45	1.83	1.59	5.01	1.41	0.66	0.58	0.25	1.24
1988	6.12	1.63	1.85	1.73	3.65	1.41	0.51	0.75	0.09	0.80
1989	6.30	1.38	2.11	1.50	3.99	1.39	0.65	0.50	0.25	0.50
1990	8.82	1.56	1.86	1.90	7.18	2.23	0.44	0.59	0.28	0.87
1991	10.97	1.00	2.09	2.07	5.07	2.44	0.43	0.55	0.32	1.07
1992	14.57	0.87	2.54	2.43	3.51	2.80	0.58	0.70	0.28	0.88
1993	16.44	1.29	2.09	2.21	2.31	3.17	0.35	0.64	0.29	0.28
1994	17.28	1.23	2.30	2.15	2.11	3.20	0.39	0.55	0.20	0.55
1995	25.47	1.06	3.18	1.91	2.64	2.63	0.53	0.57	0.41	0.25
1996	23.76	1.26	3.27	1.67	1.93	2.19	0.31	0.50	0.27	0.23
1997	18.73	0.90	2.74	1.85	1.62	2.25	0.33	0.59	0.29	0.37
1998	26.68	0.87	2.22	1.93	2.91	1.86	0.26	0.86	0.23	0.27

Source: Calculated from *Direction of Trade Statistics Yearbook, IMF*