South Asian Free Trade Area: Implications for Bangladesh

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by

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ACRONYMS

ASEAN	Association of Southeast Asian Nations
BIMSTEC	Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
BIS	Bureau of Indian Standard
CEC	Committee of Economic Cooperation
COE	Committee of Experts
DOTS	Direction of Trade Statistics
FTA	Free Trade Area
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
LDC	Least Developed Country
LTTE	Liberation Tigers of Tamil Eelam
MERCOSUR	Southern Common Market
MFN	Most Favored Nation
OLS	Ordinary Least Squares
RMG	Ready Made Garments
RTA	Regional Trading Arrangement
SAARC	South Asian Association for Regional Cooperation
SACU	South Asian Custom Union
SAFTA	South Asian Free Trade Area
SAGQ	South Asian Growth Quadrangle
SAPTA	SAARC Preferential Trading Arrangement
SARC	South Asian Regional Cooperation
SDT	Special and Differential Treatment
SMC	SAFTA Ministerial Council
WDI	World Development Indicators

Abstract

The current thesis has analyzed the impact of South Asian Free Trade Area (SAFTA) on Bangladesh in terms of export generation within member countries. A standard gravity model has been used to analyze Bangladesh's export potential using cross section data. From the estimated result, it is observed that Bangladesh has huge export potential to South Asia in general, and India in particular. If SAFTA agreement is properly implemented then Bangladesh's exports within this region would be much higher than the estimated potential export. In terms of imports, Bangladesh has exceeded its potential level. Therefore, the expected increase in import by Bangladesh from SAFTA member countries might not be as large as the expected increase in export. But it should be mentioned that the expected results can only be achieved by free trade in real sense i.e. goods and services can move freely across countries without any tariff and non-tariff barriers.

Key Words: SAFTA, Gravity Model, Bangladesh's Export Potential.

South Asian Free Trade Area: Implications for Bangladesh

1. Introduction

There is a growing evidence for the emergence of Regional Trading Arrangements (RTA) in different parts of the world over the last two decades. The establishment of such an arrangement in South Asia is no exception. The process of regional cooperation in South Asia was initiated by establishing the South Asian Association for Regional Cooperation (SAARC). In 1985, the seven South Asian countries – Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka formed SAARC to promote economic, social and cultural cooperation (SAARC Charter 1985). The newest member of SAARC is Afghanistan which has been included in 2005 (Sultana 2007, p. 141). In 1993, the SAARC Preferential Trading Arrangement (SAPTA) was initiated by the SAARC member countries as the first step towards higher levels of trade and economic cooperation in the region (SAPTA Agreement 1993). Some progress was achieved in the economic area under the framework of SAPTA (Bhargava 1998, p.8). Subsequently, the member countries of SAARC launched the South Asian Free Trade Area (SAFTA) in 2004 which came into force on January 01, 2006. The key motivation behind the creation of SAFTA was to enhance intra-regional economic cooperation to maximize the potentiality of trade and development in the region (SAFTA Agreement 2004).

During the last decade, South Asia has experienced an increase in intra-regional trade. This increase is mainly generated from India's export to its neighbors. However, India is not a fast growing destination for her neighboring country's export. The major export destinations of India's neighbors are located in North. India's high protectionist attitude towards other South Asian neighbors is one of the reasons for this type of one way export flow. However, it is also argued that because of the similar production structure and lack of trade complementarities, smaller countries in South Asia have supply side constraint to fulfill India's import demand. In such scenario, some argue that a free trade area in South Asia might increase Indian exports to the smaller member countries without any reciprocal export growth for them to India (Sobhan 2005, p. 6). In contrast, there is a general belief among policy makers and business people in South Asia about the significant increase in intra-regional trade. (Raihan 2008, p. 13). It is also expected that the small member countries will generate significant

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intra-regional export because of the large market access to India. On the other hands, there is argument against low level of trade complementarities in this region. Evidence shows that, despite low level of trade complementarities, some trading bloc like ASEAN generated significant intra-regional trade.[1] Hence, there are divergent views about the possible impact of SAFTA on small member countries in terms of intra-regional trade expansion.

The impact of RTA in South Asia has gained attention in different studies which expressed different views about the possible impact on member countries. Some studies (Pigato *et. al.* 1997, Raihan 2008 and Raihan and Razzaque 2007) expressed optimism about the impact of SAFTA, arguing that regional trade liberalization in South Asia generates significant benefits for its member countries by increasing intra-regional trade. Alternatively, many scholars (Bandara 2003, Srinivasan 1994 and Srinivasan and Canonero 1995) are skeptical about the impact. Using gravity model, Srinivasan (1994) and Srinivasan and Canonero (1995) argued that multilateral trade liberalization on a global basis would yield higher return to the region compared to preferential trade liberalization within the region. Bandara and Yu (2003) addressed the question of desirability of SAFTA and showed that SAFTA would not be beneficial for this region. Therefore, the existing literatures reflect the lack of consensus regarding the outcomes of SAFTA. While most of these studies analyzed the overall impact of SAFTA considering total trade, very few studies considered the export potentiality of small member countries of SAFTA.

Against this backdrop, for Bangladesh, one pertinent question may be raised: Is there any export potential for Bangladesh to other member countries of SAFTA? This thesis aims to seek answer this question using gravity model of international trade. The total trade and import potentiality of Bangladesh, within SAFTA region, are also analyzed. A standard gravity model is used to analyze the world trade/export/import flows of Bangladesh. The estimated coefficients, obtained from standard gravity model, are then used to predict the trade/export/import potentiality of Bangladesh to all other SAFTA member countries. The study inferred that Bangladesh has untapped export potential to South Asia in general; especially to India Maldives and Nepal.

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[1] Intra regional trade in ASEAN has been increased from 6 percent in mid-1970s to 23 percent in 1997 after the enforcement of FTA in that region (Than 2005, p. 23).

The structure of this thesis is as follows. Following the introduction, Section 2 presents a brief history and features of SAFTA. Section 3 provides intra-regional trade structure of Bangladesh within South Asia. In section 4, impacts on trade flows, using the gravity model, are analyzed. In this section methodology and database, econometric issues and estimation results are presented and discussed. Challenges of SAFTA are pointed out in Section 5, while Section 6 provides a discussion on the results and offer some concluding remarks.

2. History and Features of SAFTA

2.1 Evolution of SAFTA

"The establishment of the SAARC is not a new concept, but in fact is an effort to restore the economic union which had functioned on the India-Pakistan sub-continent before it achieved independence in 1947" (Khan 1999, p. 490). Greater regional cooperation, among newly independent post-colonial states in Asia, was first emphasized in the Asian relations conference, held in March – April 1947 presided by the prime minister of India, Jawaharlal Nehru. In May 1950, the Baguio conference in Philippines carried out the discussion about regional cooperation in Asia. In April 1954, at Colombo power conference, the Asian leaders met to discuss problems of common interest. After 1955, the leaders of South Asian countries discussed informally from time to time about the issue of regional cooperation in South Asia in different international forum. (Dash 2008, pp. 79-81).

The first concrete initiative to establish a regional cooperation in South Asia was initiated by Bangladesh in May 1980. Although, India and Pakistan were suspicious about Bangladesh's intension, rest of the South Asian countries promptly accepted the idea. India thought that Bangladesh's proposal to establish a regional organization might create a group of other South Asian countries to add up all bilateral issues against India. On the other hands, Pakistan viewed it as an Indian strategy to corner Pakistan. For these reasons, the original Bangladesh working paper on SAARC indirectly labored to tone down the divergent security and political perceptions of the South Asian countries and only included non-political and non-controversial issues. Many believed that such misgivings between India and Pakistan delayed the formation of the regional cooperation in this region. The first South Asian Foreign Ministers' Conference officially launched a regional organization known as South Asian

Regional Cooperation (SARC) in 1983. Following the creation of SARC, the foreign ministers could meet on a regular interval. Subsequently, South Asian Regional Cooperation (SARC) transformed into South Asian Association for Regional Cooperation (SAARC) to promote and develop cooperation. SAARC charter was adopted in 1985 during its first summit of heads of state or government of the South Asian countries (Dash 1996, pp. 187-188).

The objectives of SAARC are to promote socio-economic developments within the region and also to develop a relationship with regional and international organizations. The objectives stated in Article I in SAARC charter are as follows:

"a) to promote the welfare of the peoples of South Asia and to improve their quality of life;

b) to accelerate economic growth, social progress and cultural development in the region and to provide all individuals the opportunity to live in dignity and to realize their full potentials;

c) to promote and strengthen collective self-reliance among the countries of South Asia;

d) to contribute to mutual trust, understanding and appreciation of one another's problems;

e) to promote active collaboration and mutual assistance in the economic, social, cultural, technical and scientific fields;

f) to strengthen cooperation with other developing countries;

g) to strengthen cooperation among themselves in international forums on matters of common interests; and

h) to cooperate with international and regional organizations with similar aims and purposes" (SAARC Charter 1985).

Since its inception, SAARC has gone through different phases, and has encountered multifaceted problems as other regional bodies in other parts of the world faced. The achievements of SAARC have been slow so far due to the regional political tension (Khan 1999, p. 491). Some take a very negative view of its achievement, questioning its relevance. They think that SAARC has no future and, will be a gross overstatement. There are rooms for taking a positive view that helps to throw one's belief in the favor of its future. There are some common areas and agendas where all SAARC countries have a stake, and hence, they do feel addressing them from a common platform. The first attempt, towards an economic integration in South Asia, was initiated by the establishment of the Committee of Economic Cooperation (CEC) in 1991. The CEC recommended a draft agreement of SAPTA in order to

prevent the marginalization of South Asia's trade in global market; by improving the productive capacity of the member countries particularly in manufacturing sectors (Lohani 2008). In April 1993, the agreement of SAPTA was signed which came into effect on December 1995.

SAPTA has been considered as a milestone for the member countries of SAARC. Although, SAPTA was a mildest form of integration, it provided the opportunity for greater forms of economic cooperation. Three rounds of tariff concession have been implemented following the formation of SAPTA. In addition, Special and Differential Treatments (SDTs) are offered to Least Developed Countries (LDCs)[2] in terms of coverage of commodities and depth of tariff cuts. Tariff concessions offered by different countries in different rounds of SAPTA are reported in Table 1.

Table 1: Tariff Concession Offered Under SAPTA

Concession offering country	SAPTA Round	No. of HS Lines offered		
		For all countries	For LDCs	Total
Bangladesh	I	11 (10)*	1 (10)	12
	II	215 (10)	11 (10)	226
	III	338 (10)	143 (10 &15)	481
Bhutan	I	4 (15)	7(10, 13 & 15)	11
	II	37 (10)	10 (15)	47
	III	23 (10)	101 (10, 18, 20)	124
India	I	44 (10, 25, 30, 50 & 90)	62 (50 & 100)	106
	II	390 (10, 15, 25 & 40)	514 (25 & 50)	904
	III	43 (10 & 20)	1847 (50)	1917
Maldives	I	17 (7.5)	17 (7.5)	34
	II	5 (10)	2 (15)	7
	III	390 (5 & 10)	368 (5 & 10)	758
Nepal	I	10 (7.5 & 10)	4 (10)	14
	II	166 (10)	67 (15)	233
	III	52 (10)	137 (10 & 15)	189
Pakistan	I	20 (10)	15 (15)	35
	II	227 (10)	131 (15)	358
	III	24 (20)	271 (30)	295
Sri Lanka	I	20 (10 & 20)	11 (10 & 15)	31
	II	72 (10)	23 (10, 50 & 60)	95
	III	28 (10)	54 (10, 30, 50 & 75)	82
Total	I	126	100	226
	II	1109	759	1868
	III	876	2580	3456

*Figures in parentheses represent percentage concessions in tariff rates.
Source: Mohanty 2003, p. 24.

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[2] Bangladesh, Bhutan, Nepal and Maldives are LDCs within SAARC.

Table 1 represents that in SAPTA-I 226 products at 6-digit HS level were considered for tariff reduction among which 100 products are allocated for LDCs. Total product coverage for tariff concession under SAPTA-II and SAPTA-III are 1864 and 3456 respectively. The amount of tariff cut differs from country to country which is indicated by the figures in parentheses in Table 1. However, the issue of non-tariff measures was considered only from SAPTA-II. The evaluations of intra regional trade under different round of SAFTA were examined in different studies (Wadhva 1996, Bhattacharya 2001 and Mohanty 2003). Some of these studies concluded in favor of SAPTA in case of potential intra-regional trade.

In 1997, the regional approach to FTA, in South Asia was firstly initiated by the member countries of SAARC. A year on, the member countries decided to establish SAFTA by 2001. But due to the political tension between two big countries in South Asia, India and Pakistan, the enforcement of SAFTA within its schedule time was delayed. However in 2004, at SAARC summit at Islamabad the framework agreement of SAFTA was signed. The member countries of SAARC also set up a vision to establish South Asian Custom Union (SACU) by 2015 and South Asian Economic Union by 2020 to drive to the final stage of economic union (Bandara and Yu 2003, p. 1300).

2.2 Features of SAFTA Agreement[3]

When SAFTA agreement was signed in 2004, a number of issues like finalizing the sensitive list, criteria for rules of origin, revenue compensation mechanism for LDCs, and areas for technical assistance for LDCs were left out. In order to finalize the agreement, a committee of expert has been formulated to discuss and take decisions about these issues before January 2006. Subsequently, SAFTA came into force on January 01, 2006, after taking decisions on above issues. However, because of the delay in ratification of the agreement by the member countries, trade liberalization program came into force on July 01, 2006. In order to achieve the objective of SAFTA, the framework agreement has set the following instruments.

- "Trade Liberalization Program
- Rules of Origin
- Institutional Arrangements

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[3] This section has been drawn from the SAFTA Agreement 2004 and Raihan and Razzaque 2007.

- Revenue Compensation Mechanism
- Technical Assistance for LDCs
- Safeguard Measures
- Consultations and Dispute Settlement Procedures" (Raihan and Razzaque 2007, p. 4)

2.2.1 Trade Liberalization Program

2.2.1.1 Schedule of Tariff Reduction

The schedule of tariff reduction is described in Article 7 in the agreement. According to this article, all member countries of SAFTA will reduce tariff to 0-5 percent in two phases, namely SAFTA First Phase and SAFTA Second Phase. The countries agreed on the timeframe to reduce the tariff are different for LDC and Non-LDC[4] member countries. The reduction of tariff is as follows.

Table 2: Schedule of Tariff Reduction Under SAFTA

Countries	Existing Tariff Rates	Tariff Rates Under SAFTA Agreement	Time Schedule
SAFTA First Phase			
India, Pakistan and Sri Lanka	More than 20% Less than 20%	Reduced to 20% Annual reduction of 10%	2 Years 2 Years
Afghanistan, Bangladesh, Bhutan, Maldives and Nepal	More than 30% Less than 30%	Reduced to 30% Annual reduction of 5%	2 Years 2 Years
SAFTA Second Phase			
India and Pakistan	20% or below	Reduced to 0-5%	5 Years
Sri Lanka	20% or below	Reduced to 0-5%	6 Years
Afghanistan, Bangladesh, Bhutan, Maldives and Nepal	30% or below	Reduced to 0-5%	8 Years

Source: Hossain 2005, p. 397

Table 2 illustrates that, in SAFTA First Phase, Non-LDC member countries reduced tariff up to 20 percent (for LDCs 30 percent) on its imported commodities which are not included in the sensitive list, and was applied from January 01, 2006, within two years. If the existing tariff rates were below 20 percent (for LDCs 30 percent) on January 2006, then there was an annual reduction of 10 percent (for LDCs 5 percent) on margin of preference basis for each of

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4 India, Pakistan and Sri Lanka are developing countries among the SAFTA member countries and referred to Non-LDCs in SAFTA agreement.

these two years. In SAFTA Second Phase, all the member countries will reduce tariff to 0-5 percent which is applied from January 01, 2008. The time schedule is 5 years for two of the Non-LDC member countries, India and Pakistan; and 6 years for another Non-LDC member country, Sri Lanka. For LDC members, the time schedule is of 8 years. Therefore, India and Pakistan will fully implement SAFTA on 2013, Sri Lanka on 2014 and Afghanistan, Bangladesh, Bhutan, Nepal and Maldives on 2016.

2.2.1.2 Sensitive List

The SAFTA Agreement provides a provision to maintain a sensitive list for every member. The products, included in the sensitive list, are exempted from tariff reduction. There is a maximum ceiling of the number of products and some flexibility for LDCs which were mutually agreed. The sensitive list will be reviewed in every four years, in order to eliminate the number of commodities included into it. The size of sensitive list for each member countries is presented in Table 3.

Table 3: Sensitive Lists of Member Countries under SAFTA

Country	Total Number Product Under Sensitive List		Number of Product as a % of Total HS Lines	
	For Non-LDCs	For LDCs	For Non-LDCs	For LDCs
Afghanistan	1072	1072	20.5	20.5
Bangladesh	1254	1249	24.0	23.9
Bhutan	157	157	3.0	3.0
India	865	744	16.6	14.2
Maldives	671	671	12.8	12.8
Nepal	1335	1299	25.6	24.9
Pakistan	1191	1191	22.8	22.8
Sri Lanka	1079	1079	20.7	20.7

Source: SAFTA Agreement 2004, Annex-I.

2.2.1.3 Non-Tariff and Para-Tariff Measures

In order to free movement of goods, SAFTA Agreement requires gradual elimination of all quantitative restrictions, non-tariff and para-tariff measures which are not permitted under GATT or making them non-restricted. To facilitate this process, a sub-group has been established.

2.2.2 Rules of Origin

Rules of origin are one of the most powerful trade policy instruments in any FTA. In case of SAFTA, the rules of origin are not complex. There are general rules of origin for all products except 1991 products for which the member countries agreed on product specific rules. In order to get tariff concession under SAFTA, a product must satisfy the criteria of change in tariff heading at four-digit level and at least a value addition of 40 percent of fob value. There are concessions of value addition criteria for Sri Lanka and LDC members, which are 35 percent and 40 percent respectively (Raihan and Razzaque 2007, p. 6).

2.2.3 Institutional Arrangements

The member countries of SAFTA established two institutional bodies, namely SAFTA Ministerial Council (SMC) and Committee of Experts (COE). SMC is the highest decision making body of SAFTA which consists of Commerce/Trade Ministers of member countries. SMC is responsible for administration and implementation of SAFTA Agreement, meets once in a year or more. COE comprises of senior economic officials, with expertise in trade and meets once in every six months. COE is responsible for "review and facilitate implementation of the provisions of SAFTA Agreement and undertake any task assigned to it by SMC" (SAFTA Agreement, Article 10).

2.2.4 Revenue Compensation Mechanism

SAFTA established a revenue loss compensation mechanism to compensate LDC member countries due to revenue loss as a result of reducing import tariff. The revenue compensation mechanism came into effect when trade liberalization program has been implemented. The compensation will be maximum 5 percent of the revenue collected from import duties on non-sensitive list items from non-LDC member countries in year 2005 (SAFTA Agreement, Annex 3).

2.2.5 Technical Assistance for LDCs

In order to assist LDCs and to expand the trade with other member countries of SAFTA the following areas are identified for technical assistance.

- "Trade related capacity building;
- Development and improvement of tax policy and instruments;
- Customs procedures related measures;
- Legislative and policy related measures, assistance for improvement of national capacity;
- Conduct Studies;
- Research and Development;
- Export Promotion;
- Investment Promotion;
- Training and human resource development in trade related areas such as product development, marketing etc.;
- Support for product development and market promotion in export-oriented sectors." (SAFTA Agreement 2004, Annex II).

2.2.6 Safeguard Measures

SAFTA safeguard measures permit member countries to withdraw the tariff concession to protect domestic industry from serious injury due to increase in import form free trade under SAFTA. Tariff withdrawal is allowed to prevent or rebuild such economic damage and the duration of these measures is not more than three years. This safeguard measures are not applicable against any products of LDCs if the import of a product from an LDC does not exceed 5 percent of the import share of importing country (SAFTA Agreement 2004, Article 16).

2.2.7 Consultations and Dispute Settlement Procedures

There is a specific Article in SAFTA Agreement which provides the essentials to dispute settlement mechanism. The Article 20 describes the provision for consultation, review, appeal and further implementation, including withdrawal of concessions. SAFTA Ministerial Council (SMC) and Committee of Experts (COE) are the administered body of the dispute settlement procedures (Sheikh 2004).

3. Intra-regional Trade in South Asia

The volume of intra-regional trade in South Asia is very low compared to other regional trading blocs in the world. The establishment of a free trade area with low volume intra-regional trade generates limited scope of gaining from such free trade arrangement (Bandara and Yu 2003, p. 1296). This is one of the major criticisms against the success of SAFTA. Figure 1 compares the intra-regional export of South Asia with some other trading blocs in the world. The figure shows, South Asia has lowest intra-regional export share. Although South Asian intra-regional export share rose slightly from 3.2 percent in 1970 to 7.4 percent in 1999, still it is very low. However, in case of MERCOSUR it is observed that after implementation of regional trading arrangement in 1991, intra-regional export increased significantly from 8.9 percent to 20.3 percent in 1995.

Figure 1: Intra Regional Export as a Share of Total Export of South Asia
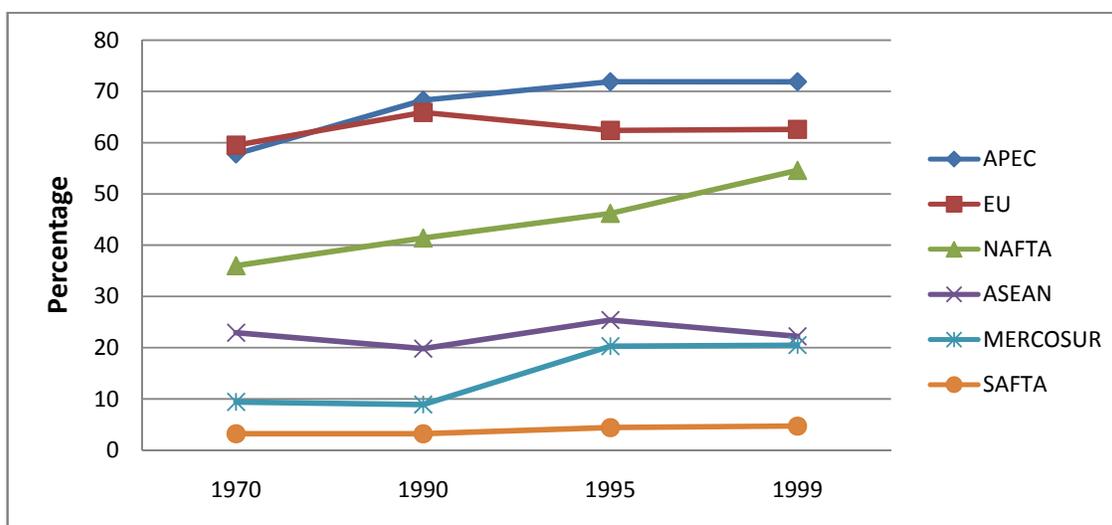
Source: Based on Ahmed 2006, p. 85

Within this limited intra-regional export, India dominates the export market without any strong contender. Figure 2 and figure 3 show the share of individual South Asian country's intra-regional export and intra-regional import as a percentage of total intra-regional export and import respectively. Figure 2 identifies India as the single largest exporter in this region comprising 62.2 percent of intra-regional export in 2005. Bangladesh's share of intra-regional export is very low, 2.2 percent only. This figure reflects that at present South Asia is not a significant export destination for Bangladesh. However, Bangladesh is the largest import

destination for neighboring country's export. Bangladesh's share in intra-regional import is 28.2 percent which is the highest among member countries. India's intra-regional import share is only 17.2 percent which is noticeably low compared to its export share.

Figure 2: Share of South Asian Countries Intra-regional Export in 2005
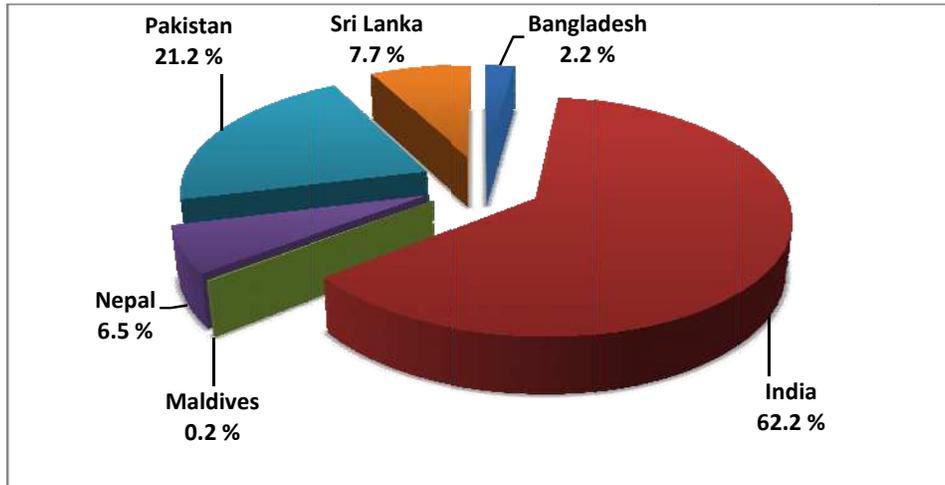
Source: Calculated from Direction of Trade Statistics Yearbook 2008, IMF.

Figure 3: Share of South Asian Countries Intra-regional Import in 2005
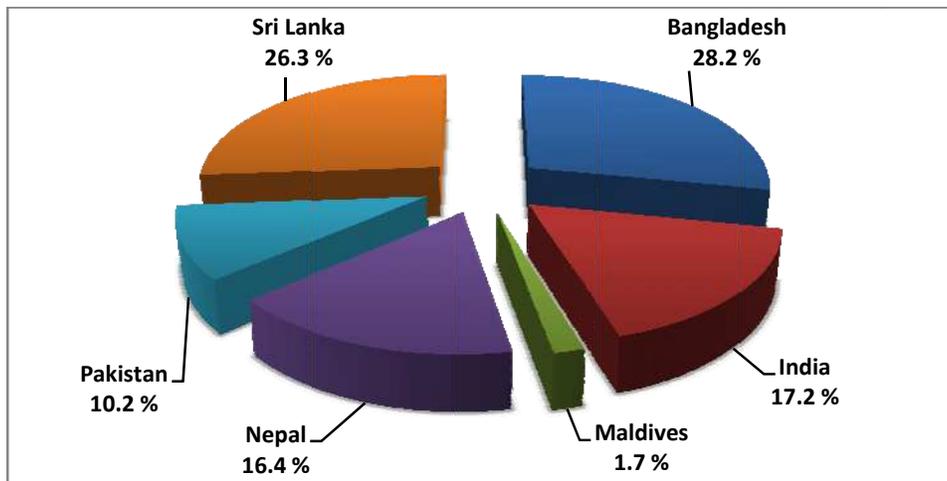
Source: Calculated from Direction of Trade Statistics Yearbook 2008, IMF.

The different pattern of Bangladesh's intra-regional export and import can be understood by huge trade deficit with India and Pakistan, two largest economies in this region. Figure 4 and figure 5 illustrate Bangladesh's bilateral trade with India and Pakistan respectively. From figure 4 it is observed that for a long period Bangladesh continued to have a high trade deficit

with India which is worsening over time. Bangladesh's trade deficit with India was US dollar 895 million in the year 2000 which substantially increased to 1.8 billion in 2005. Apart from high non-tariff barriers, the reason behind this huge trade deficit is high concentration of Bangladesh's export on Ready Made Garments (RMG) products on which India has been imposing relatively high specific tariff (Raihan 2008, p. 4). On the other hand India's export is highly diversified and its scale of production is high, probably, due to its huge domestic market. Furthermore, India faces relatively lower tariff for some of its exports to Bangladesh. The continuous and very high volume of bilateral trade deficit with India is a great concern in terms of balance of payment position for Bangladesh. Whether it matters or not is a debate, because Bangladesh is maintaining high trade surplus with United States and European Union. India's main export items to Bangladesh comprise primary agricultural products, processed food, textile and capital-intensive manufacturing. A large share of imports from India is raw materials which mainly used in Bangladesh's export oriented industries like textile and RMG sectors. According to Bangladesh's import policy, any imports of raw materials for export oriented industry are duty free. Therefore, India already has a duty free access in Bangladeshi market for some of its products. Such import from India helps Bangladesh to achieve trade surplus with other countries. Similarly, Bangladesh has trade deficit with Pakistan amounting US dollar 92 million in 2005.

Figure 4: Bangladesh's Trade with India
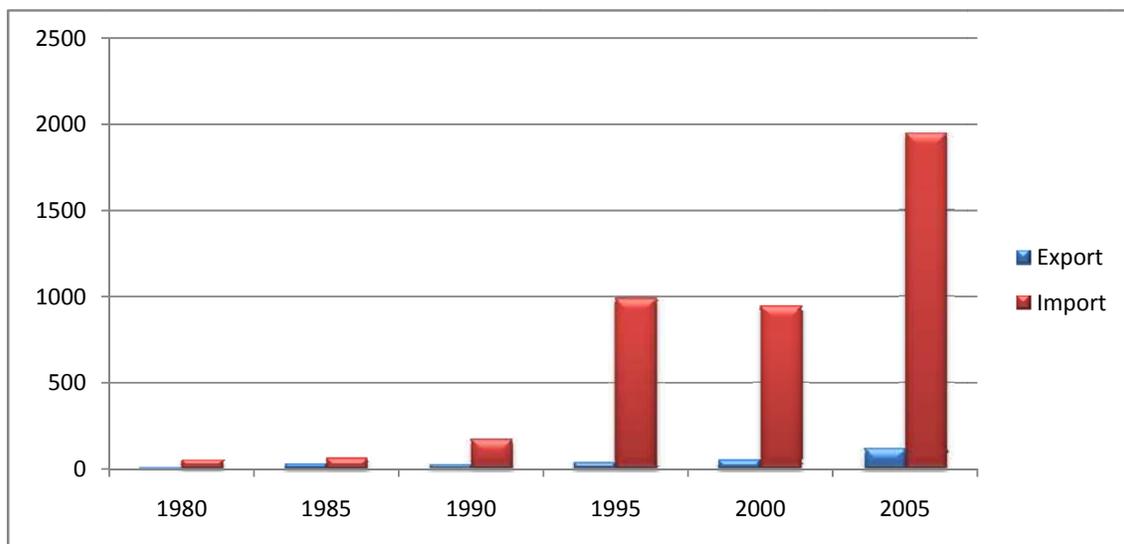
Source: Based on Direction of Trade Statistics Yearbook, Various Issues, IMF.

Figure 5: Bangladesh's Trade with Pakistan
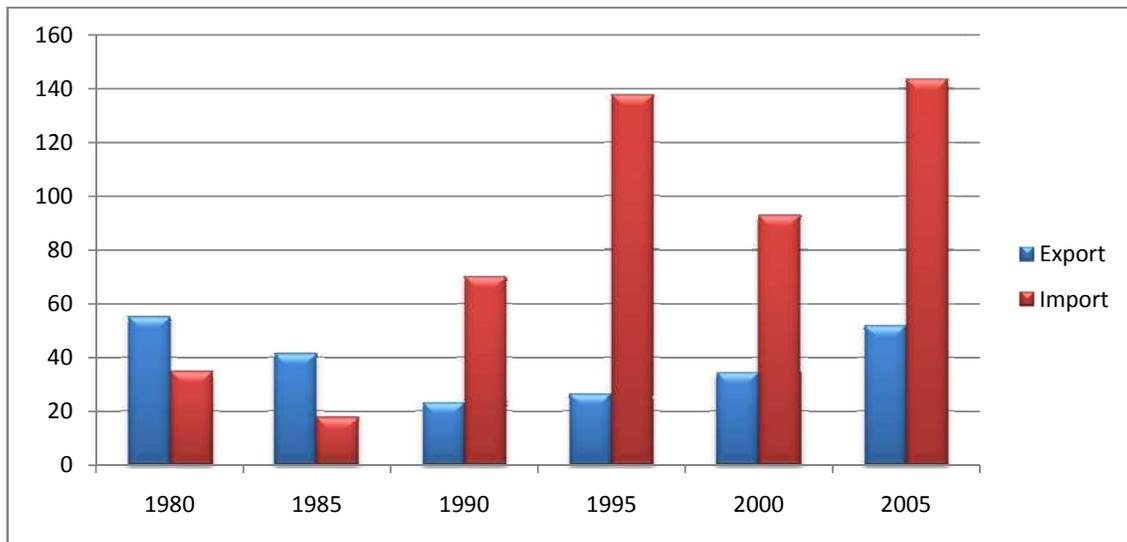
Source: Based on Direction of Trade Statistics Yearbook, Various Issues, IMF.

Under SAARC Preferential Trading Arrangement (SAPTA), although tariff has been reduced on large number of products, there has hardly been any increase in Bangladesh's intra-regional export. This is because firstly, the level of tariff cut under SAPTA is not enough. Second, most of the Bangladesh's exportable items are excluded from tariff concession. Third, there was no agreement under SAPTA to reduce non-tariff and para-tariff measures. Furthermore, stringent rules of origin have shrinked Bangladesh's export growth in this region. It is also argued that comparative advantage in similar products and absence of strong complementarities also generated low level of export growth for Bangladesh in this region. Analysis based on revealed comparative advantage ratio, Kemel (2004) found that South Asian countries have comparative advantage in a low range of products. Bangladesh has comparative advantage only in 7 groups out of 71 commodity groups. Similarly, bilateral trade complementarity between Bangladesh and other SAFTA member countries is not strong (Pitigala 2005, p. 39). This lack of trade complementarity also acted as a constraint to increase Bangladesh's export under SAPTA. But, the counter argument against revealed comparative advantage ratio and trade complementarity index is, both of them have been calculated based on existing trade data. In such a case, if South Asian countries maintain a restrictive trade regime then future trade flows in the absence of trade barriers might not be understood by revealed comparative advantage and trade complementarity analysis.

4. Impact on Trade Flows

4.1 Theoretical Consideration

Econometric analyses that try to evaluate trade flows of any free trade area are mainly based on gravity models. Tinbergen (1962), Linnemann (1966) and Anderson (1979) initially used the gravity model in empirical analysis of international trade flows. Currently, the gravity model has widely been used in quantitative analysis of trade flows because of its strong explanatory power (Moktan 2008, p. 237). The gravity model of international trade is based on Newton's gravitational law and used to explain the international trade flows. According to the model, the volume of bilateral trade between two countries is positively related to the product of their GDPs and inversely related to the distance between them. The standard gravity model in log linear form can be stated as follows:

$$Log(Trade_{ij}) = \alpha_0 + \alpha_1 Log(GDP_i * GDP_j) + \alpha_2 Log(DIST_{ij}) + U_{ij} \qquad (1)$$

Where,

$Trade_{ij}$ = Bilateral trade between country i and country j;

GDP_i = Gross Domestic Product of country i;

GDP_j = Gross Domestic Product of country j;

$DIST_{ij}$ = Distance between country i and country j;

U_{ij} = Error term; and

$\alpha_0, \alpha_1, \alpha_2$ = Coefficients to be estimated.

This standard gravity model is frequently augmented by adding a number of dummy variables to capture the impact of contiguity and historical ties. Dummy variables that normally added are common border, common language, colonial links and common membership in a regional trading arrangement.

Since Tinbergen (1962), a large number of empirical works of international trade efficaciously applied the gravity model to analyze various bilateral, regional and multilateral trading arrangements. When Tinbergen (1962) used the gravity model there was no theoretical basis behind this model. Linnemann (1966) first analyzed theoretical foundation

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of the model arguing that this model is a reduced form of a partial equilibrium model of export supply and import demand. According to Linnemann's approach, there are three contributing factors that determine trade flows between two countries, for example home and foreign. The first two contributing factors determine the home country's potential supply and foreign country's potential demand on world market respectively. These two factors include the size of home and foreign countries GDP, population and per capita income. The third factor is denoted as "resistance" factor. Because it represents the "resistance" to trade flows between home and foreign. Resistance factor includes transportation cost and other barriers to trade like tariff, para-tariff and non-tariff measures. In order to get the equilibrium condition of the home country's potential supply and the foreign country's potential demand, a fixed exchange rate and a moderate price level are assumed in both countries. Now, the formula of trade flows from home country to foreign can be expressed by the following equation.

$$Ex_{HF} = \alpha_0 * \frac{(S_H^P)^{\alpha_1} * (D_F^P)^{\alpha_2}}{R_{HF}} \qquad\qquad (2)$$

Where,

Ex_{HF} = Potential exports from home country to foreign country;

S_H^P = Total potential supply of home country;

D_F^P = Total potential demand of foreign country; and

R_{HF} = Resistance.

If in equation 2, three explanatory factors are replaced by their determining variables then it will be similar to an extended form of a gravity equation (Rahman 2006, pp. 4, 33-35). A number of theoretical works established the consistency of gravity equation with various trade flow models. Incorporating the product differentiation approach, Anderson (1979) derived the gravity equation which explains the presence of income variables in the model. On the basis of empirical work on fourteen industrial countries, Helpman (1987) established a linkage between the gravity model and the monopolistic competition model. After that Deardorff (1998) derived a gravity model from the Hecksher-Ohlin model both in the case of frictionless trade and with complete specialization. Most recently, Anderson and Wincoop (2003) developed a method to estimate a theoretical gravity model which can solve the "border puzzle".

The majority of the studies, which applied gravity models, predict trade potential between pairs of countries (Batra 2004, p.5). The wider use of gravity model in trade related literatures is twofold. Firstly, econometric studies show that GDP and distance are highly significant in explaining trade flows which is consistent with the gravity model. Secondly, as discussed above, gravity equation is consistent with various theoretical models of trade flows (Fratianni 2008, p. 87).

4.2 Methodology and Data

4.2.1 Model Specification

Most of the empirical studies on international trade used bilateral total trade as dependent variable. However, it is not possible to analyze the potential export and potential import separately, using total trade as a dependent variable for a given pair of countries. To analyze Bangladesh's potential trade, export and import separately, this study has estimated three gravity models for Bangladesh, using bilateral total trade, export and import as dependent variables respectively. A standard gravity model as stated in equation 1 is adopted by including a regional trading arrangement dummy for all these three models of Bangladesh's trade. These three models are stated in equation 3, 4 and 5 as follows.

Gravity model of Bangladesh's trade:
$$Log(Trade_{ij}) = \alpha_0 + \alpha_1 Log(GDP_i * GDP_j) + \alpha_2 Log(DIST_{ij}) + \alpha_3 RTA_{ij} + U_{ij} \qquad (3)$$

Gravity model of Bangladesh's export:
$$Log(Export_{ij}) = \alpha_0 + \alpha_1 Log(GDP_i * GDP_j) + \alpha_2 Log(DIST_{ij}) + \alpha_3 RTA_{ij} + U_{ij} \qquad (4)$$

Gravity model of Bangladesh's import:
$$Log(Import_{ij}) = \alpha_0 + \alpha_1 Log(GDP_i * GDP_j) + \alpha_2 Log(DIST_{ij}) + \alpha_3 RTA_{ij} + U_{ij} \qquad (5)$$

Where,

$Trade_{ij}$ = Bilateral trade between country i (Bangladesh) and country j;

$Export_{ij}$ = Bilateral export from country i (Bangladesh) to country j;

$Import_{ij}$ = Bilateral import by country i (Bangladesh) from country j;

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GDP_i = Gross Domestic Product of country i (Bangladesh);

GDP_j = Gross Domestic Product of country j;

$DIST_{ij}$ = Distance between country i (Bangladesh) and country j;

RTA_{ij} = Regional trading arrangement dummy;

U_{ij} = Error term; and

$\alpha_0, .., \alpha_3$ = Coefficients to be estimated.

4.2.2 Hypotheses

The first explanatory variable is the product of GDPs between Bangladesh and country j which measures the size of the economy as well as the income. The better-off countries usually can spend more on imports from other countries and also attract a large share of other countries' expenditures. Hence, they tend to trade more than the poorer countries and thus the expected sign of the first coefficient is positive in all the three gravity models for Bangladesh. The second explanatory variable is distance which is a good proxy of transportation and information cost of trade. Therefore, a negative sign is expected for the coefficient of distance. The third explanatory variable is a RTA dummy variable for South Asia. When both Bangladesh and its trading partner belong to the same regional trading arrangements then the dummy variable equals to 1, otherwise 0. The estimated coefficient of RTA affirm how much of the trade can be created for establishing a regional arrangements. Very often RTA positively impacts on trade flows between countries, thus a positive sign is expected for this RTA dummy in Bangladesh's gravity model. This RTA dummy is included to analyze the impact of SAPTA on Bangladesh.

4.2.3 Sample Size and Database

For the purpose of estimating the gravity models for Bangladesh, data of 116 countries have been used in this study. These countries have been selected considering the major trading partners of Bangladesh, both in terms of exports and imports, and availability of data. Among the member countries of SAFTA, Afghanistan is excluded because of data constraint. The model is estimated based on cross-section data for the year 2003. Although the panel data approach has some advantages to capture the impact of changes in GDPs on changes in trade patterns, the cross-section data approach has popularly been used to estimate the classical

gravity model (Batra 2004, p. 10). The present study has taken the classical approach to estimate three gravity models for Bangladesh's trade, export and import. Annual data on bilateral trade, export and import have been obtained from Direction of Trade Statistics (DOTS) CD ROM database of International Monetary Fund. Data on GDP, at current US dollar, has been collected from World Development Indicators (WDI) CD ROM database of the World Bank. Data on distance in kilometer between capital of Bangladesh and capital of country j has been collected from a distance calculation website (http://www.timeanddate.com/worldclock/distance.html).

4.2.4 Estimation and Econometric Issues

All this three gravity models (trade, export and import) for Bangladesh as illustrated in equation 3, 4 and 5 have been estimated using Ordinary Least Squares (OLS) method. The models have been estimated both with and without the RTA dummy. In first step, all three models are estimated to analyze the world trade flows of Bangladesh. In second step, the estimated coefficients have been used to calculate bilateral trade potential, export potential and import potential for Bangladesh with SAFTA member countries. All the results are tested for heteroscedasticity and multicollinearity. To test for heteroscedasticity, a White test with cross term has been performed for each model. The test results are provided in table 4. For all three models, the test results reflect that the null hypothesis of homoscedasticity is not rejected, that means the residuals behave as they should do.

Table 4: White Heteroscedasticity Test

Model Description	F-statistic	Probability	Conclusion
Trade model without RTA dummy	1.819562	0.114826	Do not reject null hypothesis of homoscedasticity
Trade model with RTA dummy	1.346615	0.228663	Do not reject null hypothesis of homoscedasticity
Export model without RTA dummy	1.371786	0.241034	Do not reject null hypothesis of homoscedasticity
Export model with RTA dummy	1.013068	0.431204	Do not reject null hypothesis of homoscedasticity
Import model without RTA dummy	1.319006	0.267336	Do not reject null hypothesis of homoscedasticity
Import model with RTA dummy	0.973619	0.465080	Do not reject null hypothesis of homoscedasticity

Source: EViews estimation results

To check the multicollinearity problem among explanatory variables, the current study has performed several regressions. For all three models, each explanatory variable has been regressed on all other explanatory variables and the R_i^2's of all these regressions compared with the R^2 of the original model. If R_i^2 of any of these regressions (where one of the explanatory variables is regressed on others) is greater than the R^2 of the original model then we can conclude that the model suffers from serious multicollinearity problems (Rahman, 2006, p. 18).

Table 5: Multicollinearity Test Results

Model Description	Dependent Variable	R_i^2	Conclusion
Trade model without RTA dummy $R^2 = 0.678254$	$Log(GDP_i * GDP_j)$	0.014695	$R_i^2 < R^2$ No multicollinearity
	$Log(DIST_{ij})$	0.014695	
Trade model with RTA dummy $R^2 = 0.678329$	$Log(GDP_i * GDP_j)$	0.022370	$R_i^2 < R^2$ No multicollinearity
	$Log(DIST_{ij})$	0.298871	
	RTA_{ij}	0.302263	
Export model without RTA dummy $R^2 = 0.647860$	$Log(GDP_i * GDP_j)$	0.014695	$R_i^2 < R^2$ No multicollinearity
	$Log(DIST_{ij})$	0.014695	
Export model with RTA dummy $R^2 = 0.648365$	$Log(GDP_i * GDP_j)$	0.022370	$R_i^2 < R^2$ No multicollinearity
	$Log(DIST_{ij})$	0.298871	
	RTA_{ij}	0.302263	
Import model without RTA dummy $R^2 = 0.627156$	$Log(GDP_i * GDP_j)$	0.014695	$R_i^2 < R^2$ No multicollinearity
	$Log(DIST_{ij})$	0.014695	
Import model with RTA dummy $R^2 = 0.632098$	$Log(GDP_i * GDP_j)$	0.022370	$R_i^2 < R^2$ No multicollinearity
	$Log(DIST_{ij})$	0.298871	
	RTA_{ij}	0.302263	

Source: EViews estimation results.

The multicollinearity test results are presented in table 5. From the table we observe that, in all the cases, R_i^2 is less then R^2 of the original model. So, safely we can conclude that there is no multicollineartiy problem among the explanatory variables in our estimated gravity models. However, the correlation between $Log(Dist_{ij})$ and RTA dummy is quite high, more

than 50 percent for all three models[5]. The insignificance of RTA dummy, reported in Table 6, might be the result of this correlation (big variance) rather than the true economic insignificance.

4.3 Evaluation of Trade Flows Using Gravity Model

4.3.1 Results from Gravity Models

The results of the OLS estimates of gravity models for Bangladesh are presented in Table 6. The estimated coefficients also reflect the standard features of gravity model with expected sign and magnitude. The estimated results of standard gravity models (without RTA dummy) of Bangladesh's trade, export and import, show that both gravity variables are statistically significant at 1 percent level of significance. In case of model for total trade, the coefficient of $Log(GDP_i*GDP_j)$ is 1.1 means that if the product of Bangladesh's GDP and country j's GDP is increased by 1 percent bilateral trade between Bangladesh and country j will be increased by 1.1 percent, ceteris paribus. In case of SAFTA, this implies that if the member countries experience higher economic growth than trade flows between Bangladesh and other SAFTA member countries will be increased significantly. The coefficient of $Log(DIST_{ij})$, which reflects the transportation and information cost, shows a negative sign as expected. The estimated value of -1.6 reflects that the trade between Bangladesh and country j will be decreased by 1.6 percent as a result of 1 percent increase in bilateral distance between these two countries, ceteris paribus. The R^2 in trade model is 0.68 which mean that the model explains 68 percent of the variation of the log of Bangladesh's bilateral trade. Similar to the gravity model of total trade, the estimated coefficients of Bangladesh's export and import models are also statistically significant at the 1 percent level of significance and have the expected sign and magnitude. The estimated coefficients reflect that Bangladesh's bilateral export and import are positively related to the product of Bangladesh's GDP and country j's GDP and negatively related to the distance between them. The goodness of fit, R^2 of export and import models are 0.65 and 0.62 respectively which are also quite nice, given the parsimonious specification.

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[5] The correlation between $Log(Dist_{ij})$ and RTA_{ij} of trade, export and import models are -0.54, -0.59 and -0.58 respectively.

Table 6: Estimation Results of Gravity Models

	Coefficient without RTA	Coefficient with RTA
Trade Model	Dependent Variable $Log(Trade_{ij})$	
Constant	-8.276251 (2.432453)*	-8.513072 (2.852143)*
$Log(GDP_i * GDP_j)$	1.108855 (0.076095)*	1.109944 (0.076725)*
$Log(DIST_{ij})$	-1.566968 (0.229926)*	-1.543314 (0.273751)*
RTA_{ij}	--	0.134338 (0.834933)
R-squared	0.678254	0.678329
Adjusted R-squared	0.672560	0.669713
Export Model	Dependent Variable $Log(Export_{ij})$	
Constant	-9.919784 (2.418910)*	-10.51935 (2.877279)*
$Log(GDP_i * GDP_j)$	0.967227 (0.072791)*	0.968975 (0.073222)*
$Log(DIST_{ij})$	-1.151071 (0.221886)*	-1.088686 (0.274595)*
RTA_{ij}	--	0.333675 (0.858642)
R-squared	0.647860	0.648365
Adjusted R-squared	0.641215	0.638319
Import Model	Dependent Variable $Log(Import_{ij})$	
Constant	-5.016117 (2.084003)*	-3.623849 (2.556811)
$Log(GDP_i * GDP_j)$	0.797116 (0.077065)*	0.785678 (0.078081)*
$Log(DIST_{ij})$	-1.121134 (0.209066)*	-1.247288 (0.248470)*
RTA_{ij}	--	-0.633045 (0.672389)
R-squared	0.627156	0.632098
Adjusted R-squared	0.616027	0.615375

*Significant at 1% level, Figures in parentheses represents standard errors.

The estimated coefficients of the gravity models with a RTA dummy revel that GDP_i*GDP_j and $DIST_{ij}$ are statistically significant in all three models but the RTA dummy is not. This implies that South Asian Preferential Trading Arrangements (SAPTA) which came into force in 1995 is not a viable trading arrangement in terms of Bangladesh's bilateral trade/export/import creation. The three rounds of tariff reduction under SAPTA as mentioned in Table 1 do not have any significant impact on existing trade/export/import flows of Bangladesh within this region.

4.3.2 Bangladesh's Potential Trade under SAFTA

In this section, Bangladesh's bilateral trade potential with SAFTA member countries has been estimated using the coefficients arrived at by the standard gravity model. Bilateral export potential and import potential have also been estimated in order to predict the future

flows of export and import separately under SAFTA. The estimated trade/export/import potential and actual trade/export/import is then used to calculate the ratio of potential and actual trade/export/import. If the calculated value of this ratio of Bangladesh's trade/export/import is greater than 1 for any particular country then it indicates that, for Bangladesh, there is a scope of bilateral expansion of trade/export/import with that respective country. Similarly, values less than 1 indicate that Bangladesh has exceeded its trade/export/import potential with respective countries.

It should be noted that the potential trade generated from gravity model is a long run equilibrium situation of bilateral trade/export/import flows. Thus, any type of interventionist policy that interrupts to reach the equilibrium situation, produces a gap between actual flows and long run equilibrium situation, the potential values (Sohn 2005, p. 426). In fact, the estimated gravity models used in this study have excluded one important variable which represents barriers to bilateral trade/export/import. This variable includes all sorts of tariff and non-tariff barriers as well as domestic rules and regulations which are usually very difficult to quantify. The actual value of this variable is not similar across countries and heavily differs from country to country. That means different countries impose different level of tariff and non-tariff barriers on imported goods from other countries. These differences of bilateral trade barrier generate different values of the ratio of potential/actual trade. In case of a country's export, if this ratio is greater than 1 (less than 1) for a particular country that means this country's exports face relatively higher (lower) trade barriers to enter into that particular country compared to the rest of the world. Similarly, if the ratio of the potential/actual import is greater than 1 (less than 1) for a particular country, this reflects that this country is imposing relatively higher (lower) barriers on import from that particular country compared to the rest of the world. To capture this trade barrier, this study attempts to include MFN average import tariff as an explanatory variable.[6] However, the problem was that most of the available data sources provide tariff data only for the year 2007 and partly for year 2006. This data is not compatible with the current analysis, as gravity models of the current study are based on data for the year 2003. However, Bangladesh's export model was estimated by including average MFN tariff rates for the year 2007. From the estimated result, it was found that, the tariff variable is not statistically significant. For this reason, it is

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[6] There might be some other explanatory variables to explain Bangladesh's bilateral trade like common border, common culture, historical ties and colonial link. The current study has tried to add these as well, but these dummy variables are not statistically significant.

excluded from the current analysis. The explanation, why the variable tariff was not significant, might be the large discrepancy of tariff data between year 2003 and 2007.

Trade potential is nothing but the predicted trade flows estimated from gravity model. The gap between this predicted and actual trade flows can be interpreted as "untapped" trade potential. Now, if it is assumed that the only excluded variable from the gravity models used in this study is trade barrier, then untapped trade potential is the result of this trade barrier. In such a case, bilateral trade may be raised by the amount of this gap as a result of removal of this trade barrier or maintaining similar trade barrier across the world. A country with a higher ratio is considered to be a desirable FTA partner. Nilsonn (2000) and Bussiers *et. al.* (2005) used the ratio of potential and actual trade to define the degree of trade integration. An RTA with a country having higher ratio of potential and actual trade can increase bilateral trade substantially, recovering the large untapped trade potential. This recovery is possible if the member countries of an RTA reduce all sorts of trade barriers to a similar level of the rest of the world. If member countries of an RTA completely remove the trade barriers among themselves but maintain existing trade barriers to the rest of the world then the expected increase of trade under that RTA will be much higher than that of the potential trade.

Table 7: Bangladesh's Bilateral Trade, Export and Import Potential within SAFTA

Partner Countries	Actual Trade (Million US$)	Potential Trade (Million US$)	Potential/Actual
Trade Model			
Bhutan	6.22	4.25	0.68
India	1549.56	1268.82	0.82
Maldives	0.40	0.26	0.64
Nepal	7.84	24.49	3.12
Pakistan	138.19	81.45	0.59
Sri Lanka	15.04	13.34	0.89
South Asia	**1717.25**	**1392.61**	**0.81**
Partner Countries	**Actual Export (Million US$)**	**Potential Export (Million US$)**	**Potential/Actual**
Export Model			
Bhutan	2.38	0.87	0.37
India	55.34	163.74	2.96
Maldives	0.01	0.11	11.27
Nepal	2.98	4.44	1.49
Pakistan	42.7	16.08	0.38
Sri Lanka	5.8	3.38	0.58
South Asia	**109.21**	188.63	1.73

| Partner Countries	Actual Import (Million US$)	Potential Import (Million US$)	Potential/Actual
Import Model			
Bhutan	3.84	7.43	1.94
India	1494.22	449.78	0.30
Maldives	0.40	1.00	2.49
Nepal	4.86	26.23	5.40
Pakistan	95.49	62.59	0.66
Sri Lanka	9.24	17.06	1.85
South Asia	**1608.05**	**564.09**	**0.35**

Source: Own calculation based on gravity model estimation

Table 7 represents Bangladesh's bilateral trade/export/import potential with SAFTA member countries. From Table 7 one can observe that Bangladesh has exceeded its trade potential in South Asia in general and with all the member countries except for Nepal in particular, as the value of Bangladesh's potential/actual trade for all SAFTA member countries, except for Nepal, is less than 1. This implies that Bangladesh is trading more with SAFTA member countries than what is predicted by the model, and further scope to improve bilateral trade within this region is very little. Since, bilateral trade adds up both export and import, only analyzing the trade potential, it is not possible to predict whether Bangladesh has export potential to SAFTA member countries or not. A careful observation of export potential figures obtained from gravity model of export reveals that Bangladesh has huge export potential to South Asian countries as the value of potential/actual export figure for South Asia is 1.73. The different phenomenon of trade potential and export potential can be realized if we consider Bangladesh's import potential to SAFTA members. The value of potential/actual import is only 0.30 and 0.66 for India and Pakistan respectively, which represent that Bangladesh's imports from these two countries are much higher than the potential imports, predicted by the model. Since, India is the largest economy in South Asia followed by Pakistan, exceeding potential import from these two countries is the main reason for this contradictory feature of Bangladesh's potential trade and potential exports in South Asian region.

Now, let us analyze the viability of SAFTA using this estimated trade potential in terms of Bangladesh's export and import. The value of potential/actual export figure for South Asia is 1.73 which implies that Bangladesh's export to SAFTA member countries will be increased by 73 percent by reducing trade barriers similar to the rest of the world under SAFTA. If all

sorts of bilateral trade barriers are removed under SAFTA, as mentioned earlier, then the expected increase of Bangladesh's export will be much higher than the estimated potential export. Some studies argue that complete removal of tariff and non-tariff barriers under an FTA could increase export to the potential level (Dayal *et. al,* 2008, p. 46). But this interpretation will only be true if tariff and non-tariff barriers are also completely be removed vis- à-vis the rest of the world. But, if the member countries of an FTA maintain the existing tariff vis- à-vis the rest of the world then the outcome from an FTA will be much higher. The magnitude of Bangladesh's export potential is highest with India. Figure 6 shows the gap between potential and actual export from Bangladesh to SAFTA members. From this figure, it can be observed that Bangladesh has untapped export potential to India amounting US dollar 108.4 million which is almost double to actual export of US dollar 55.34 million. So under SAFTA, Bangladesh's expected export to India will be more than that of untapped trade potential. Considering other members of SAFTA, Bangladesh exceeded its export potential to Pakistan which is around US dollar 26.62 million while the gap is not substantial with Bhutan, Maldives, Nepal and Sri Lanka. Now, the question is what will be the expected export to Pakistan from Bangladesh to whom Bangladesh is exceeded its potential level. A complete removal of tariff and non-tariff barriers can also boost Bangladesh export to Pakistan as there are still some barriers to export from Bangladesh to Pakistan. But, obviously this increase in export to Pakistan will not be as high as India as Bangladesh has untapped export potential to India but not to Pakistan.

Figure 6: Gap between Bangladesh's Potential and Actual Export within SAFTA
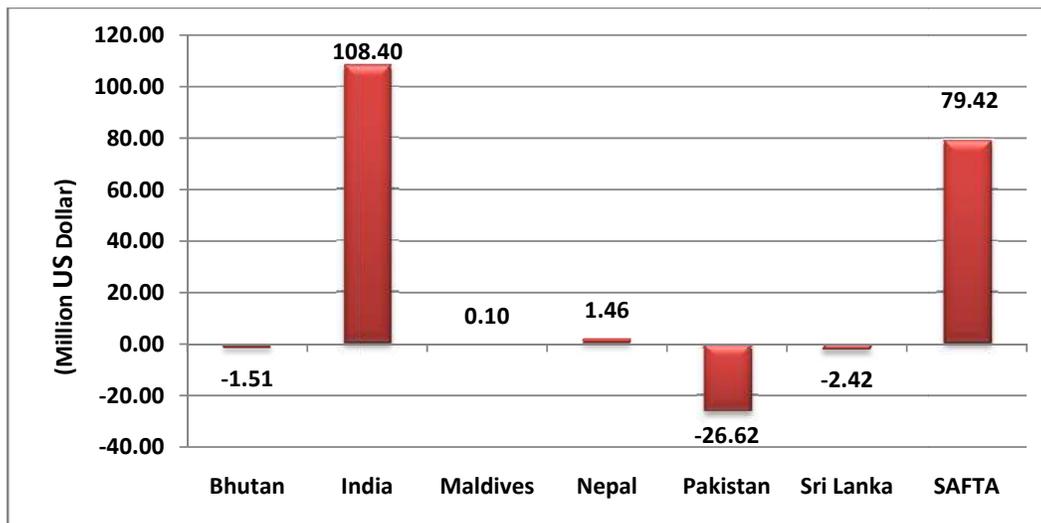
Source: Based on data from Table 7.

Accordingly, the gravity model analysis of this study shows that Bangladesh has exceeded its import potential from SAFTA members. However, from preceding analysis it can be argued that there is also scope to increase Bangladesh's import from member countries as well by removing all sorts of trade barriers. This trade potential can only be realized by not only removing the tariff barriers but also non-tariff barriers which are analyzed in section 5.3. For example, in the presence of non-tariff barriers, although under SAPTA bilateral import tariff has been reduced (Table 1), the exports from Bangladesh to South Asian countries have not been improved. This might be the underline reason why RTA variable is found insignificant in explaining Bangladesh's trade/export/import flows within SAFTA region.

5. Problems and Challenges of South Asian Free Trade Area

Although, SAFTA seems to be attractive for Bangladesh in terms of potential intra-regional export, but a number of political and economic factors might hinder the regional cooperation in this region. Identification and finding solutions for these political and economic factors might pose challenges to successful implementation of SAFTA. This section tries to identify some of these political and economic factors.

5.1 India's Hegemonic Power

In South Asia, India is the giant comprising 73 percent of the regional territory, 75 percent of regional GDP, 78 percent of regional export and 60 percent of regional imports. Regarding military power, India's superiority is not comparable with any other South Asian countries (Dash 2008, p. 111). In terms of socio-cultural and religious system there are obvious similarities between India and other South Asian countries. But except India other South Asian countries do not share this type of similarities among themselves. Without active participation of India, a free trade area in South Asia is inconceivable. Due to India's superior power compared to its neighboring countries, it can be argued that "India constitutes the core while all its neighbors form a periphery of the South Asian region" (Harshe 1999, p. 1100). According to the economic literature, the success of an FTA is higher with the presence of a hegemonic power while FTA among more equal states is likely to be weak (Crone 1993, p.

502 and Dash 2008, p. 110). The argument in favor of this statement is that the hegemonic power can act as an institutional focal point to implement the agreement of an FTA. Hegemonic power can also play a substantial role to minimize the tension that might arise from the unequal distribution of gains from FTA. In case of FTA among more equal states, *i.e.,* in the absence of hegemonic power there might be a presence of coordination dilemma which is not easy to resolve.

Despite India's superior power in the region, the member countries of SAFTA do not accept India as the leader of South Asian region. Moreover, the dominant position of India has created a distrust and suspicion among its neighbors. In the presence of such distrust and suspicion against India, sometime it is not possible for South Asian countries to work towards a common strategy. Furthermore, Pakistan poses constant challenges against India's hegemonic power in the region. The lack of consensus, regarding India's hegemonic power and leadership in South Asia, has two consequences against successful implementation of SAFTA. First, India might be reluctant to act as an institutional focal point to implement the rules and regulations of SAFTA agreement. Second, India might be unwilling to ease the tension among the member countries that could arise from the distributional problems associated with SAFTA.

5.2 Inter-state Conflicts

South Asia is one of the most conflict prone regions of the world. India, the largest country in this region has bilateral dispute with most of its neighbors. The dispute between India and Pakistan over Kashmir, since their independence in 1947, is considered as one of the most difficult constraints to SAFTA. The relations between India and Pakistan have become permanently tensed after 1998, when both countries tested nuclear weapons. Due to the dispute between India and Pakistan, some SAARC summits had been delayed and many decisions of regional cooperation have not been implemented. Similarly, despite India's support to Bangladesh during its liberation war in 1971, the relations between these two countries are not so good. Dispute between India and Bangladesh began before Bangladesh's independence in 1971, when India constructs a barrage on Ganges River at Farakka, 18 kilometers from Bangladesh border. Since then India has been diverting Ganges water during the dry season. Indo-Bangladesh relations deteriorated further when India has taken initiative

to construct *Tipaimukh* dam on *Borak* River, just one kilometer from Bangladeshi border. The construction of the dam is expected to be completed by 2012 and Bangladesh is concerned about desertification of its north-eastern region (Jasim 2009). Besides these, some other disputed issues between Bangladesh and India are border demarcation, exchange of enclaves and illegal migration. Similarly Indo-Sri Lanka and Indo-Nepal relations are not so satisfactory. The main issue of Indo-Sri Lanka conflict is India's support to the militant Liberation Tigers of Tamil Eelam (LTTE). Although India and Nepal have outstanding territorial dispute, most of the conflicts between these two countries are grounded in economic concerns. On the contrary, the inter-state relations between other South Asian countries are tension free (Khan *et.al.* 2008, pp. 66-69).

There are different theories over the relationship between RTA and conflict. According to classical trade theory, since RTA is beneficial for its member countries, it leads to political stability by increasing economic incentives. RTA in European countries is a good example in favor of this argument where conflicts between member countries have substantially declined. Conversely, the international relation theory opposes this argument stating that RTA is not sufficient to ease the inter-state conflicts. Moreover, very often it intensifies the conflicts. Evidence shows that in less developed region like South Asia, RTA does not generally ease conflicts, rather worsen the situation (Khan *et.al.* 2008, p. 65). Barbieri (2002) analyzes the relationship between RTA and conflicts, and found a high positive connection between them. He also argued that RTA among conflict prone region might lead to militarized inter-state disputes. In these backdrops, the inter-state conflicts in South Asia might pose a threat to future prospects of SAFTA.

5.3 Non-Tariff Barriers

"Non-tariff barriers present nowadays the most important and dangerous barriers to trade which fragment markets in a more successful way than tariffs have ever done" (Jovanovic, 1992, p. 79). In South Asia, India imposes high non-tariff barriers in order to prevent exports to India from other countries in this region (Jain 1999, p. 413). Policy makers and business communities in Bangladesh believe that there are some commodities which have huge export potential in Indian market. But export of these commodities will be impossible if India maintains a costly non-tariff barriers regime, even after eliminating tariff barriers under

SAFTA. For example, in early 2000, Bangladesh had huge export potentiality in cement in North-Eastern part of India. Bangladesh was exporting cement worth of US dollar 1.12 million, in every month until February 2003. Bangladeshi cement had a high demand in North Eastern part of India because it was cheaper than Indian domestically produced cement and because of the high transportation cost associated with domestic cement to supply in that part of India. In such a moment, Indian authority announced a rule that Bangladesh must take a testing certificate from the Bureau of Indian Standard (BIS) before exporting to India. For every ton of cement export, Bangladeshi exporters had to take BIS certificate which requires a payment of fee. After that cement export from Bangladesh to India had stopped (Financial Express 2003).

Another potential exportable item for Bangladesh is lead acid battery which had also a large market in India around US dollar 600 million. After implementation of SAPTA, import tariff on battery export from Bangladesh to India reduced from 64.21 percent to 38.33 percent. As a result Bangladesh was exporting considerable amount of batteries to Indian market and it was estimated that around 10 percent of Indian demand might be fulfilled by Bangladeshi batteries. In such a moment, on January 2002, Indian government imposed anti-dumping duties on all Bangladeshi battery exporters, claiming that they were originated in China and Korea and exported below normal value. Bangladesh appealed against this anti-dumping duty to WTO dispute settlement body and on February 2004 a consultation was held. After that India withdrew the controversial anti-dumping duty, but within these three years Bangladeshi battery lost its previous market in India (Mahmud 2005).

There are also some other products which are facing these type of non-tariff barriers when they entering into the Indian market. This includes melamine products, fruit juice, toiletries, jute and jute products, chemical and fertilizer etc. Raihan (2008) categorized the non-tariff and para-tariff barriers that imposed by India on Bangladesh's export and are described in Table 8.

Table 8: Non-Tariff and Para-Tariff Barriers faced by Bangladeshi Products in Indian Market

NTBs	Description
Classification of Goods	Customs authorities in India, in many cases, do not agree with the HS classification declared by exporters. There is a tendency of reclassifying the products in such a manner so that higher duties can be imposed.
Customs Valuation	Indian customs authority often does not accept the value declared by Bangladeshi exporters. Arbitrary valuation by of goods makes the products uncompetitive.
Testing Requirements	Often each consignment of food products is subjected to certificate from the Port Health Officer. Samples are sent to testing laboratories which are far from the customs stations. Such chemical tests are applicable to leather and leather goods, plastic, and melamine products. For leather goods, NOC from Wildlife Department is also required.
Mandatory Requirement for Labelling and Marking	All pre-packaged products are to carry such information as: name and address of the importers, generic common name of the product, net quantity in standard unit of weights and measures, month and year of packing, maximum retail sales price including all taxes, freight, transport charges, commission payable to dealers.
Special Labelling for Jute Bags	Every jute bag carry, 'bag made in -'which must be machine stitched.
Mandatory Standards Requirement	Since August 2003 mandatory marking form Bureau of Indian Standards (BIS) is required for import of 159 commodities. These products include, amongst others, cement, steel tubes, stoves, electrical and electronic items, steel products, leather products, helmets, gas cylinder, batteries, and mineral water. Foreign manufactures intending to export these products will have to set up an office in India, with the permission of the Reserve Bank of India.
Sanitary and Phyto-sanitary Measures	All primary agricultural products are subject to bio-security and sanitary and phyto-sanitary import permits. Determination of eligibility procedure suffers from lack of transparency.
Technical Regulations	(1) Import consignment containing textile and textile products shall have to accompany a pre-shipment certificate from a textile testing laboratory accredited to the National Accredited Agency of the country of origin. If such a certificate is not available consignment will be cleared only after testing the same from the notified agencies. (2) All pharmaceutical products must be registered by the Central Drugs Standard Control Organisation headed by the Drugs Controller of India. (3) For jute products a certificate is required from a national testing agency confirming that the content of non-halogenated hydrocarbon (jute batching oil) in the jute bags for packaging purposes shall not exceed three percent by weight.
Quarantine Requirement	All imports of plants, fruits, and seeds have to obtain an import permit at least one month in advance and all imports shall be subject to inspection by officer in charge of plant quarantine station. Jute and jute products are often subject to such requirement even though they are not living organisms.
Tariff Value	Import of C.I. sheet is subject to a tariff value of US$590/600, while the price of such product from Bangladesh is not above US$450.
Countervailing Duty	Countervailing duty at a rate of 16 percent is imposed on agro-products, toiletries and cosmetic items.

Source: Raihan 2008, pp. 21-22.

Another concern for countries like Bangladesh is that unlike quantitative restrictions SAFTA Agreement has not clearly mentioned the elimination of non-tariff and para-tariff measures. It is mentioned in article 7.4 in SAFTA Agreement that all non-tariff and para-tariff measures will be notified by the member countries of SAFTA. After that SAFTA committee of experts

will recommend either eliminate or implement the measures; but on the other hands, Article 7.5 clearly mentioned regarding the elimination of all quantitative restrictions by the member countries. In such respect, if non-tariff barriers are not fully eliminated, then the potential benefits of SAFTA will never be realized by the countries like Bangladesh.

5.4 Parallel Trading Arrangement

The member countries of SAFTA have been engaging in several bilateral, sub-regional and trans-regional trading arrangements and becoming a "spaghetti bowl" of such arrangements (Wickramasinghe 2006, p. 403). In South Asia, India has bilateral trading arrangements with Sri Lanka, Bhutan and Nepal. Bangladesh is trying to establish three bilateral trading arrangements with India, Pakistan and Sri Lanka. Pakistan and Sri Lanka are also having talks to create a bilateral trading tie between them. A sub-regional arrangement namely South Asian Growth Quadrangle (SAGQ) among Bangladesh, Bhutan, India and Nepal launched in 1997 to promote trade, investment, transport and communication among the member states (Dash 2009). Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a sub-regional cooperation between South and South-East Asia which includes SAFTA without Pakistan and Afghanistan and added Myanmar and Thailand. BIMSTEC member countries established an FTA side by side with SAFTA which came into force in 2006 and fully implemented in 2017 (Hossain 2005, p. 398). Evidence shows that these types of parallel initiatives are very rear in the majority of trading blocs. Most of the trading blocs take collective decision with respect to their own regional progress and entering into the new trading blocs (Weerakoon 2001, p. 13). The argument against the overlapping membership is that each country eventually develops different rules against its trading partner in different trading blocs. "Traders' costs in meeting multiple sets of trade rules can hamper trade flows" (USAID 2005, p. 190).

In South Asian region, the main interest of smaller countries is to get market access to large countries like India and Pakistan. For instance, Sri Lanka has already got market access to India under India-Sri Lanka FTA. Sri Lanka and Pakistan have also agreed on the principal for establishing an FTA in near future. In such a case, SAFTA will become marginalized not only to Sri Lanka but also to other countries, as long as they involve in bilateral treading arrangements with India and Pakistan. Another issue is whether there is any mechanism to

incorporate bilateral FTA with SAFTA. In the presence of such a mechanism, the existing FTA between South Asian countries can promote SAFTA by providing an advanced starting point of negotiation. But, without such a mechanism bilateral FTA then exists as a parallel trading arrangement which poses a threat to the successful implementation of SAFTA. Some bilateral trading arrangement between SAFTA members provide more liberal terms which is unlikely to be accepted as a starting point by some of the SAFTA member countries (Weerakoon 2001, p. 14).

5.5 Lack of Physical Infrastructure

Lack of physical infrastructure, like the inefficient road, railway and waterway linkages, increases the transportation cost. In current globalized world, freight cost is one of the major determinants of competitiveness. The gains from South-South trade liberalization are not so significant because developing countries have not been able to minimize the transportation cost of trade, both in the cases of inland transportation and international transportation. Some studies show that poor infrastructure negatively affects the trade flows by increasing transport costs (De 2008, p. 2). Poor quality infrastructure is a major challenge for South Asia to move ahead for regional trade integration. In terms of Bangladesh-India trade, around 75 percent of flows occur through land transport. The roads and bridges, which are used to transport goods between these two countries, are not wide enough for free movement of vehicles. Moreover, in Indian Territory a "mafia group" controls the movements of vehicles and forces to pay Indian Rupee 30 per vehicles to move across. They also force to pay Indian Rupee 100 for parking the vehicles in their "so called premises". Very often, they create such a situation so that the loaded vehicles have to stay there for few nights. These types of expenses are estimated around 10 percent of logistic cost (Bayes 2006). If a country's transport cost increase by 50 percent then trade will be decreased by 40 percent (De 2008, p. 5). To achieve the full potential of SAFTA it is necessary to provide adequate support to improve the physical infrastructure, so that goods can easily move across borders.

5.6. Informal Trade

Informal trade, among South Asian countries, is a common phenomenon particularly between India and its neighbors. Although there is no quantitative study on it, some qualitative studies

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identified that informal trade between Bangladesh and India is around 75 percent of their formal trade and it is mainly Indian export to Bangladesh (Raihan 2008, p. 6). Similarly, informal trade between India - Sri Lanka and India - Nepal is around 33 percent and 100 percent of their formal trade respectively (Taneja *et. al.* 2004, p. 27). So, it might be the case that SAFTA will result an increase of trade flows by bringing this informal trade into formal channel. If this will happen then SAFTA itself will not be credited for the real increase of trade flows among member countries.

6. Conclusion

This study has examined the gravity model to estimate the bilateral trade potential for Bangladesh in SAFTA region. Cross section approach has been performed using OLS estimation technique in EViews package. The analysis of this study is based on the majority of Bangladesh's trade partners. Three gravity models of Bangladesh's trade, export and import have been estimated which fit the data. Estimated coefficients, delivered by the model, found that gravity variables are statistically significant and have expected sign and magnitude. However, the RTA dummy, found by the model, is not a statistically significant variable to explain Bangladesh's trade flows. From the estimated results it is observed that Bangladesh has export potential to India, Maldives and Nepal. However, Bangladesh has exceeded its export potential, calculated from gravity model, in case of Bhutan, Pakistan and Sri Lanka. The magnitude of export potential is very high with India compared to other South Asian countries which generated an overall export potential for Bangladesh in SAFTA region. On the other hands, Bangladesh has import potential from Bhutan, Maldives, Nepal and Sri Lanka while she exceeded import potential from India and Pakistan. The high magnitude of imports from India, compared to potential level, produced that for the region as a whole, Bangladesh exceeded import potential as well as trade potential in SAFTA region.

The fundamental objective of this thesis is to find out whether SAFTA will increase Bangladesh's export to other member countries. The analysis of this study found that Bangladesh has huge potential to increase intra-regional export in SAFTA member countries. According to results from gravity models, Bangladesh can increase its export three times of current exports to India. This new export from Bangladesh to India will be generated if India reduces its import tariff under SAFTA and other restrictions similar to the rest of the world.

The expected export will be much higher if all barriers to trade are completely removed. Similar situation can be expected in case of Bangladesh's export to Maldives and Nepal. In terms of export to countries like Bhutan, Pakistan and Sri Lanka, positive effect in terms of export generation might be achieved considering complete removal of trade barriers under SAFTA. Although, Bangladesh exceeded its potential import form SAFTA member countries, it might be increased under the same condition that trade barriers will be completely removed under SAFTA. But, the overall increase in import from SAFTA member countries to Bangladesh might not be as large as the overall increase in export from Bangladesh to other SAFTA members. It is worth to mention again that the expected results can only be achieved by free trade in real sense i.e. goods and services can freely move across countries without any tariff and non-tariff barriers. Unfortunately, the previous attempts of SAPTA have not generated any significant increase in Bangladesh's export because of much tougher non-tariff barriers faced by Bangladeshi exports particularly in Indian market.

Finally, the expected outcomes are fully dependent on successful implementation of SAFTA agreement which depends on political stability in this region particularly between India and Pakistan. As mentioned earlier the political tension between India and Pakistan delayed the progress of SAFTA several times. To increase intra-regional trade under SAFTA some other important issues have to be resolved also. These include – reducing the size of sensitive list, settling appropriate rules of origin, improvement of physical infrastructure and cracking the problem of illegal border trade. Until and unless such issues are properly identified and resolved, the expected benefits from SAFTA will only be expected. With a view to realizing fully the potential benefits of SAFTA, this study suggests the followings, which the policy makers of Bangladesh as well as other member countries might take into consideration:

- Emphasize should be given on the successful implementation of SAFTA agreement within its scheduled time. Although, SAFTA treaty came into force in 2006, there are some additional instruments which are supposed to be fully implemented by the year 2017.
- Bangladesh should take initiatives to fully eliminate all types of trade barriers including non-tariff barriers, especially which are involved in case of export from Bangladesh, in order to enhance Bangladesh's export as predicted by this study.

- To get the full benefit of SAFTA, the size of the sensitive list should be shorten. This will also reduce the informal trade across SAFTA member countries.
- SAFTA member countries should give transit facilities to each other to facilitate trade among them. If India gives transit facility to Bangladesh to export goods to Nepal and Bhutan, Bangladesh's export to these two countries would increase considerably. Similarly, Bangladesh can easily get access to Pakistan and Afghanistan market.
- Since Bangladesh's exports are heavily dependent on a very few commodities, It should diversify its export basket and maintain proper quality of its exports.
- Finally, all member countries of SAFTA should jointly try to resolve the political conflicts within the region.

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Appendix

Figure A1: SAFTA member countries

Source: http://www.idrc.ca/IMAGES/map/asia/Asia_South_e.gif

Table A1: Economic Indicators of South Asian Countries (2005)

Country	GDP				Population			Surface Area		
	Total (billion US $)	Share (%)	Per capita PPP (US $)	Annual growth rate (%)	Total (million)	Share (%)	Annual growth rate (%)	Total (thousand sq. km)	Share (%)	Population per sq. km
Bangladesh	60.03	5.95	1068.20	5.96	153.28	10.56	1.81	144.00	3.21	1177.50
Bhutan	0.83	0.08	3648.70	7.02	0.64	0.04	2.21	47.00	1.05	13.553
India	805.73	79.89	2221.70	9.23	1094.60	75.42	1.37	3287.30	73.25	368.15
Maldives	0.75	0.07	3995.50	-5.09	0.30	0.02	1.61	0.30	0.01	984.32
Nepal	8.18	0.81	960.44	3.12	27.09	1.87	2.01	147.18	3.28	189.47
Pakistan	109.50	10.86	2184.40	7.67	155.77	10.73	2.41	796.10	17.74	202.07
Sri Lanka	23.54	2.33	3419.80	6.03	19.67	1.36	1.05	65.61	1.46	304.32
Total	1008.56	100			1451.34	100		4487.49	100	

Source: World Development Indicators (WDI) CD ROM 2008, The World Bank.