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Trade Structure among India, Sri Lanka and Bangladesh: An Investigation

Sushil Kumar*
and
Shahid Ahmed**

Abstract

This paper explores the trade structure of three countries India, Sri Lanka and Bangladesh. First, the study revealed that the export structures are becoming similar. Second, the study revealed that export structures of these three countries (India, Sri Lanka and Bangladesh) are becoming similar competition in the world market is also becoming more intense. The trade specialisation index (2000-2011) shows that India has the more comparative advantage in 2000 instead of 2011, Bangladesh exports is the less specialized products and consequently facing more competition than India and Sri Lanka has the comparative

* Research scholar, Department of Economics, Jamia Millia Islamia (A Central University), New Delhi.
E-mail: susheco@gmail.com
**Professor, Department of Economics & Director, Centre for Jawaharlal Nehru Studies, Jamia Millia Islamia (A Central University), New Delhi.
E-mail: shahec@gmail.com

advantage in SITC 62 (rubber manufactures) and SITC 33 (petroleum and petroleum products) in 2000 as well as 2011.

Intra-Industry trade between India, Bangladesh and Sri Lanka over the period 1975 to 2010 are investigated. The extent of intra-industry trade between India and Bangladesh in 1975 to 2010 was high in sector like, crude materials except fuels, food and live animals. Intra-Industry trade index for most of the industries experienced a deceleration over time. India's IIT index with Sri Lanka has declined in chemical, food and live animals, mineral fuels, lubricant and related industries. There is potential of trade between India and Sri Lanka in the food and live animals, beverage and tobacco, manufacture goods classified chiefly by material. India has clear export complementarity with Bangladesh and Sri Lanka since 2000. This result is quite expected because India is major trade partner of Bangladesh and Sri Lanka. Bangladesh and Sri Lanka, on the other hand, clearly lack of export complementarity with India and each other value of TCI is less than 40.

1. INTRODUCTION

India, Bangladesh and Sri Lanka is the major economy in South Asia among them Sri Lanka was the first country in South Asia to liberalize the economy in 1997[1]. Trade relation between India and Sri Lanka has changed dramatically since 2000 when FTAs was implemented (India-Sri Lanka Free Trade Agreement ISLFTA). Sri Lanka's exports to India increased near about ten fold and India's export to Sri Lanka increased six fold between 2000 and 2012[2]. India is now the third largest destination for Sri Lanka's exports[3]. Bilateral trade in 2011-12 amounting to US$ 4.46 billion, up to 71.94 percent increase over the corresponding period of the previous year. Sri Lanka has long been a priority destination for investments and India is today among the four largest investor in Sri Lanka with cumulative investments over US$ 600 million[4]. India is Bangladesh's fourth important trading partner, next to EU, USA and China, accounting for 9.1 percent of Bangladesh's global trade in 2011. India's share in the total import of Bangladesh was 3.7 percent in 1980-81, which was rose to 9.36 in 1995-96 and in 2010 to 1.56 percent. In 2011-12 India's export to Bangladesh increased to US$ 4.58 billion up 43 percent over the previous year while imports increased to 0.51 billion (up 68 percent over the previous year)[5].

In case of Bangladesh and Sri Lanka, Bangladesh is the fourth largest trading partner of Sri Lanka in the South Asia in terms of exports and imports, although the trade volume is not large. During the 2011 fiscal years, Bangladesh reportedly exported goods worth US$ 18.34 million to Sri Lanka against imports of US$ 28.04 million, trade balance was US$ (-9.70 million)[6]

So in this context it is valuable to analyze the recent changing pattern of trade among India, Bangladesh and Sri Lanka. This paper investigated the changing pattern of economic interdependence among the three countries via foreign trade. India, Bangladesh and Sri Lanka have expanded trade in taking advantage of the complementary form of industrial structure (India) together with geographical proximity. Competitive relations among them have also intensified as industrial structures became increasingly similar in the recent years.

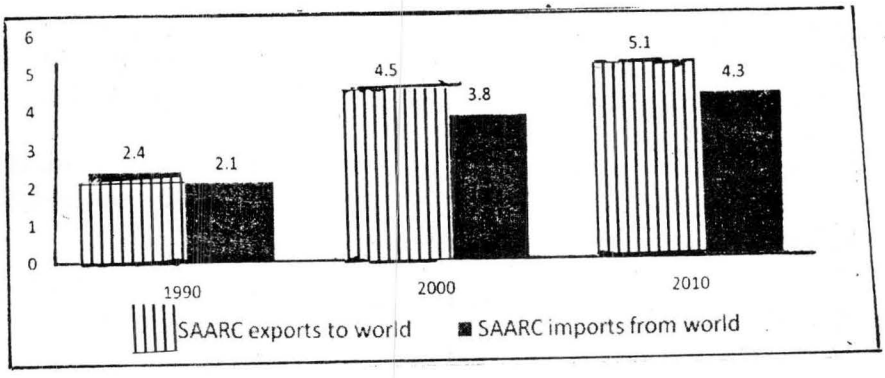
The rest of the paper is organized as follows. The second section is about South Asian Association for Regional Cooperation (SAARC) that describes the Intra-regional trade. The third section states the trilateral trade structures of India, Bangladesh and Sri Lanka. Section fourth reviews export and import structure of India, Bangladesh and Sri Lanka. Section five characteristics of trade relation describes by the trade specialization index, intra-regional trade share, Trade complementarity index and Intra-Industry trade index and section six provides concluding remarks.

2. SOUTH ASIAN ASSOCIATION FOR REGIONAL COOPERATION (SAARC)

SAARC was the formed in 1985 with the seven member countries of South Asia namely India, Pakistan, Bangladesh, Sri Lanka, Nepal, Bhutan and Maldives with the vision of welfare enhancement and opportunity to realise the fill potential of the region. Dhaka (Bangladesh) declaration of 13th SAARC summit November 2005 includes Afghanistan in the forum as its newest member. The South Asian region constitutes about 23 percent of the world's population and has fifteen percent of the world's arable land but six percent of global gross domestic product (based on purchasing power parity) and account for around two percent of world goods trade and around three percent of world FDI (Foreign Direct Investment).

The South Asian region is extraordinarily diverse in term of country size, economic and social development geography, political system, languages and culture[7]. South Asia Preferential Trade Agreement (SAPTA) was signed on 11th April, 1993 and implemented into force on 7th December, 1995. The agreement was concern about the desire of the member countries to promote and sustain mutual trade and economic cooperation within South Asian region through the exchange of concessions. The agreement on South Asia Free Trade Agreement was signed in January, 2004 during the 12th SAARC summit held in Islamabad (Pakistan) the agreement entered into force January, 1, 2006 with the provisions of its Trade Liberalization program scheduled to be fully implemented by January, 2016.

Figure 1
Intra-regional trade among the SAARC countries as Percentage of world trade



Source: author's calculation data from direction of trade, IMF (2012)

Figure 1 shows the intra-regional trade among the South Asian countries as percentage of world trade. The magnitude of intra-regional trade has limited significance for the South Asian countries. Intra-regional exports of the South Asian countries as proportion of their total exports to the world have grown very slowly from 2.4 percent in 1990 to 4.5 percent in 2000 and 5.1 percent in 2010. Likewise intra-regional imports of these countries as a proportion of their total imports from the world have increased very slowly from 2.1 percent in 1990 to 3.8 percent 2000 and 4.3 percent in 2010.

3. TRADE STRUCTURE OF INDIA, BANGLADESH AND SRI LANKA

Table 1 present the exports and imports trends of India, Bangladesh and Sri Lanka. The total exports of three countries have increased from US$ 10.27 billion in 1980 to US$ 324.5l billion in 2011 and total imports increased from US$ 19.46 billion to US$ 503.36 billion during the same time of period.

The export and import of (India, Bangladesh and Sri Lanka grew faster than of the world as the share of the total export of these countries increased from 0.56 percent during 1980 to 1.83 percent in 2011, and the share of import was increased from 1.01 percent in 1980 to 2.74 percent in 2011. The main reason for increase was mainly due to growing significance of India's foreign trade. It accounts for 1.66 percent (Export) and 2.43 percent (Import) in 2011. The potential high economic growth of South Asian countries (India, Bangladesh and Sri Lanka) may boost their trade flows[8].

Table 2 one of the important finding from the trilateral trade is that trade between India and Sri Lanka has increased remarkably (in 1980 export US$ 100.62 million and imports US$ 31.74 million in 2011 exports US$ 4890.58 million and import US$ 687.60 million). India has trade surplus with Sri Lanka over the time period (free trade agreement between the nations was signed in December, 1998 and came into operation in March, 2000) before to the FTA, the bilateral trade between India and Sri Lanka grew by 10 percent per annum only in the seven year period from 1993 to 1999, while in the after FTA period from 2000 to 2007 the bilateral trade flows between the two countries has grown by 27 percent per annum[9]. India's trade with Bangladesh in 1980 was US$ 117.87 million out of this export was US$ 105.52 million and import was US$ 12.35 million in 2011 total trade was US$ 4660.36 million, India has also comparative advantage on Bangladesh[10]. One more issue between two countries is informal trade, informal exports to Bangladesh from India in the year 2000 is estimated at between US$ one billion and US$ 1.5 billion compared to the official trade turnover of US$ 500 million in the same year[11]. Table also shows the bilateral trade relation Bangladesh and Sri Lanka over the time period 1980 to 2011, Sri Lanka has trade surplus (Bangladesh's export to Sri Lanka in 1980 it was US$ 4.77 million and increased to US$ 18.34 million in 2011 and import it was US$ 4.66 million in 1980 and US$ 28.04 million in 2011). One of

Table 1

Exports and Imports of India, Bangladesh and Sri Lanka: 1980-2011

(unit: US$ million, %)

Year	India Exports	Bangladesh Export	Sri Lanka Export	Total	India Import	Bangladesh Import	Sri Lanka Import	Total
1980	8441.11 0.46	790.22 0.04	1039.13 0.06	10270.46 0.56	14822.20 0.77	2610.56 0.14	2028.67 0.11	19461.43 1.01
1985	8265.36 0.44	999.02 0.05	1264.90 0.07	10529.28 0.56	16329.00 0.83	2526.17 0.13	1831.80 0.09	20686.97 1.05
1990	17813.10 0.53	1670.50 0.05	1895.28 0.06	21378.88 0.63	23991.40 0.68	3656.09 0.10	2636.41 0.07	30283.90 0.86
1995	30538.80 0.60	3129.20 0.06	3801.00 0.07	37469.00 0.74	34489.50 0.67	6496.05 0.13	4481.00 0.09	45466.55 0.88
2000	42627.30 0.67	5589.58 0.09	5458.79 0.09	53675.67 0.84	50336.40 0.76	9000.78 0.14	6687.99 0.10	66025.17 1.00
2005	98212.10 0.94	8494.40 0.08	6383.65 0.06	113090.15 1.09	139888.00 1.30	13850.90 0.13	8863.18 0.08	162602.08 1.51
2011	294801.00 1.66	19845.00 0.11	9873.14 0.06	324519.14 1.83	446469.00 2.43	36191.50 0.20	20703.80 0.11	503364.30 2.74

Source: Author's Calculation from the Data Directorate of Trade Statistics May 2012 CD, International Monetary Fund (IMF).

Note: Figure below the total figure is % of share.

Table 2
Trilateral Trade among India, Bangladesh and Sri Lanka

(unit: US$ million, %)

	India to (from) Bangladesh			India to (from) Sri Lanka			Bangladesh to (from) Sri Lanka		
Year	Export (A)	Import (B)	(A-B)	Export (A)	Import (B)	(A-B)	Export (A)	Import (B)	(A-B)
1980	105.52	12.35	93.17	100.62	31.74	68.88	4.77	4.66	0.11
1985	104.19	28.90	75.29	71.28	5.38	65.91	0.24	4.75	-4.51
1990	297.11	15.26	281.85	101.52	22.05	79.47	8.22	8.02	0.20
1995	959.62	78.82	880.80	383.39	38.91	344.48	11.49	10.92	0.56
2000	860.33	79.85	780.48	604.90	44.80	560.10	2.47	8.27	-5.80
2005	1656.05	110.11	1545.94	1871.80	527.87	1343.93	8.81	10.05	-1.24
2011	4062.38	597.98	3464.40	4890.58	687.60	4202.98	18.34	28.04	-9.70

Source: Author's Calculation from the Data Directorate of Trade Statistics May 2012 CD, International Monetary Fund.

Table 3

Ten Major Exports and Imports products between India & Bangladesh (2000-2011)

(Percentage)

Export to Bangladesh				Imports from Bangladesh			
2000		2011		2000		2011	
Product	Share	Product	Share	Product	Share	Product	Share
SITC 65	27.40	SITC65	21.58	SITC51	28.67	SITC65	21.49
SITC73	7.12	SITC26	11.13	SITC26	26.89	SITC26	17.47
SITC71	4.86	SITC73	6.51	SITC65	26.73	SITC84	7.35
SITC66	4.46	SITC71	6.21	SITC56	2.84	SITC33	5.82
SITC67	3.52	SITC51	3.04	SITC93	2.45	SITC28	5.45
SITC51	3.45	SITC58	2.22	SITC61	1.60	SITC66	3.83
SITC32	3.44	SITC72	2.07	SITC84	1.48	SITC42	2.07
SITC53	2.22	SITC32	2.05	SITC71	0.60	SITC27	1.81
SITC69	2.05	SITC54	1.91	SITC72	0.49	SITC51	1.57
SITC72	2.05	SITC27	1.71	SITC43	0.47	SITC68	1.29

Source: Author's calculation, Data from World Integrated Trade Solution, which is online database access date (10/01/2013)

important finding from the trilateral trade is that India has the trade surplus with both countries over the time periods (1980-2011).

Table 3 analysed the ten top export and imports product of India and Bangladesh for 2000-2011. India's export to Bangladesh is concentrated SITC 65 (textile yarn, fabrics, made up articles etc.), SITC 73 (transport equipment), SITC 71 (machinery, other than electric), SITC 66 (non metallic mineral manufactures), SITC 67 (iron and steel) while Bangladesh export concentrated to India were SITC 51 (chemical elements and compounds), SITC 26 (gas, natural and manufactured), SITC 65 (textile yarn, fabrics, made up article, etc.). SITC 56 (fertilizer, manufactured) and SITC 93 (special transact).

In 2000 four of the ten top product Indian export to Bangladesh and four of the ten top product Bangladesh exports to India were the same (see Table 3). Principal exports to Bangladesh by India in 2011 consisted of SITC 65 (textile yarn, fabrics made up article, etc.), SITC 73 (transport equipment), SITC 71 (machinery, other than electric), SITC 26 (gas, natural and manufactured), SITC 58 (plastic material) while the Bangladesh main exports to India were SITC 51, SITC 26 (gas, natural and manufactured, SITC 65 (textile yarn, fabrics, made up article, etc.), SITC 84 (clothing) and SITC 33 (chemical elements and compounds). In 2011 three of the ten principal Indian exports to Bangladesh and three of the ten principal Bangladesh exports to India were the same (see Table 3).

Table 4 analaysed the ten top export and import product of India and Sri Lanka for 2000-2011, India's export to Sri Lanka is concentrated SITC 65, SITC 73, SITC 71, SITC 66, SITC 67 while Sri Lanka export to India is SITC 73, SITC 33, SEC 65, SITC 71, SITC 67 and SITC 72 in 2000. The interesting finding that in 2000 eight of the ten top product Indian export to Sri Lanka and eight of the ten top product Sri Lanka to India were the same (see Table 4). Principal export to Sri Lanka by India in 2011 consisted of SITC 28, SITC 89, SITC 25, SITC 51, SITC 71 and SITC 65 while Sri Lanka main export to India were SITC 73, SITC 28, SITC 72, SITC 71 and SITC 65. It is also important to show this type of trade relation because both countries India and Sri Lanka are member of SAFTA and also both are member of ISLFTA. Sri Lanka shares have increased gradually after the free trade agreement implemented in 2000. India's import from Sri Lanka was US$ 45.01 million (0.10 percent of total imports in 1999, which was increased to US$ 499.01 million (0.29

Table 4

Top ten Export and Imports products between India and Sri Lanka 2000-2011

(Percentage)

Export to Sri Lanka				Imports from Sri Lanka			
2000		2011		2000		2011	
Product	Share	Product	Share	Product	Share	Product	Share
SITC65	17.54	SITC28	18.63	SITC73	25.89	SITC73	12.45
SITC73	13.06	SITC89	6.69	SITC33	17.44	SITC28	11.57
SITC67	8.76	SITC25	6.47	SITC65	10.55	SITC72	6.64
SITC54	5.85	SITC51	6.19	SITC71	4.32	SITC71	5.85
SITC66	5.37	SITC71	5.17	SITC67	3.49	SITC65	5.10
SITC84	4.30	SITC65	5.14	SITC72	3.43	SITC66	5.01
SITC71	4.18	SITC29	4.56	SITC54	3.03	SITC84	4.07
SITC69	3.90	SITC64	1.65	SITC66	2.88	SITC33	4.03
SITC64	3.82	SITC66	1.56	SITC64	2.01	SITC25	3.36
SITC72	3.66	SITC72	1.06	SITC51	1.70	SITC68	3.31

Source: Author's calculation, data from world integrated trade solution, which is online database access date 09.01.2013

Table 5

Top ten important export and import products between India and Sri Lanka, 2000-2007

(Percentage)

Bangladesh export to Sri Lanka		Bangladesh import from Sri Lanka		Bangladesh export to Sri Lanka		Bangladesh import from Sri Lanka	
2000				2007			
Product	Share	Product	Share	Product	Share	Product	Share
SITC65	63.19	SITC42	25.64	SITC33	18.65	SITC65	21.15
SITC12	13.38	SITC65	15.49	SITC65	16.32	SITC51	20.40
SITC89	6.90	SITC23	12.78	SITC54	12.60	SITC84	7.52
SITC54	6.36	SITC66	8.65	SITC72	5.07	SITC59	6.98
SITC26	4.67	SITC59	6.55	SITC89	4.87	SITC62	5.30
SITC28	2.24	SITC29	5.87	SITC71	3.09	SITC89	4.92
SITC84	1.41	SITC71	4.06	SITC84	2.00	SITC29	4.64
SITC58	0.87	SITC62	3.10	SITC69	0.60	SITC71	4.63
SITC93	0.76	SITC84	2.71	SITC58	0.26	SITC22	4.23
SITC51	0.20	SITC51	2.23	SITC26	0.08	SITC33	4.08

Source: author's calculation data from world integrated trade solution, which is online database, access data 09.01.2013.

percent) in 2006, in case of India's export to Sri Lanka was US$ 482.00 million (1.4 percent of total export), which became US$ 2110.00 million (1.74 percent of total export) in 2006[12].

It is interesting to note that Sri Lanka has been running enormous trade deficit with India. Trade deficit increased from US$ 68.88 million in 1980 to US$ 4202.98 million in 2011. India was the fifth largest export destination for Sri Lankan goods[13]. The domestic production in Sri Lanka depends heavily on India for textile yarn, transport equipment in 2000 and in 2011 manufactured article and petroleum products.

Table 5 shows top ten export and import product between Bangladesh and Sri Lanka for 2000 and 2007. In 2000 principal export to Sri Lanka by Bangladesh were SITC 65 (textile yarn, fabrics, made up articles) contributed near about 63.19 percent, SITC 12 (tobacco and tobacco manufactures), SITC 89 (miscellaneous, manufactured articles). In 2007 principal export to Sri Lanka by Bangladesh was SITC 33 (chemical elements and compounds), SITC 65 (textile yarn, fabrics, made up articles), SITC 54 (medicinal and pharmaceutical products) and SITC 72 (electrical machinery, apparatus and appliances). In the same year Sri Lanka main exports to Bangladesh were SITC 42 (fixed vegetable oils and fats), SITC 65 (textile yarn, fabrics, made up articles), SITC 23 (crude rubber including synthetic and reclaimed), SITC 51 (chemical elements and compounds), SITC 84 (clothing), SITC 59 (chemical materials and product).

4. EXPORT AND IMPORT STRUCTURE OF INDIA, BANGLADESH AND SRI LANKA

4.1 The country's exports structures: The study now compares the export structure of the three countries India, Bangladesh and Sri Lanka in 2000 and 2011. Table 6 shows the share of top ten export products of India, Bangladesh and Sri Lanka in 2000 and 2011.

In both years Bangladesh and Sri Lanka had SITC 84 (clothing) SITC 65 (textile yarn fabrics, made up articles etc) as the first and second major export respectively. For products ranked below the third situation a degree of dependency on exports come in at high level for SITC 61 (leather), SITC 26 (gas, natural and manufactured), SITC 56 (fertilizers manufactured), SITC 33 (chemical elements and compounds) in

Bangladesh and SITC 71 (machinery, other than electric), SITC 89 (miscellaneous manufactured articles), SITC 62 (rubber manufactures), In both years India had SITC 66 (non metallic mineral manufactures), SITC 84 (clothing), SITC 73 (transport equipment). This shows that India still has competitiveness edge over Bangladesh and Sri Lanka same competitiveness in relatively less capital intensive industries.

Bangladesh and Sri Lanka have the same two industries as the top exports (SITC 84 and SITC 65). In the case for India SITC (66 and 33) top two exports. On the contrary the export of Bangladesh was skewed heavily towards SITC 84 (clothing) as the first earner (75.77 percent and 71.69 percent) mainly due to the expansion of investment in textile industries.

The export structure of the three countries shows some similarities in trade. India is closer to Sri Lanka and Bangladesh. Bangladesh and Sri Lanka are more dependent on the export of SITC 84 (clothing) with higher share in 2000 and 2011 and India are more dependent on the export of SITC 66 (non metallic mineral manufactures), SITC 33 (petroleum and petroleum products).

4.2 Import structure of the countries: The import structure of India, Bangladesh and Sri Lanka were same in the 2011 SITC 33 (chemical elements and compounds). For example India's the first three major imported products are SITC 53 (chemical elements and compounds), SITC 66 (non metallic manufactures) and SITC 71 (machinery, other than electric) with fairly unchanged shares over the period. Sri Lanka imports seemed to less stable. In 2011 industry SITC 65 (textile yarn, fabrics, made up article etc) replacing by SITC 33 (chemical elements and compounds) and shared also increased from 8.69 percent in 2000) to (19.39 percent) in 2011. In case of Bangladesh the first industry in 2000 was SITC 65 (textile yarn, fabrics, made up article etc) replaced by SITC 33 (chemical elements and compounds) in 2011.

It is interesting to note that in India, Bangladesh and Sri Lanka the first and major product was same in 2011, SITC 33 (chemical elements and compounds) the share was respectively 31.98 percent, 10.43 percent and 19.39 percent. Table 7 shows the top ten import product of India, Bangladesh and Sri Lanka.

Table 6

Top ten products exports of India, Bangladesh and Sri Lanka 2000-2011

(Percentage)

India				Bangladesh				Sri Lanka			
2000		2011		2000		2007		2000		2011	
Product	Share	Product	Share	Product	Share	Product	Share	Product	Share	Product	Share
SITC66	17.58	SITC33	18.26	SITC84	75.77	SITC84	71.69	SITC84	52.11	SITC84	42.05
SITC84	14.16	SITC66	11.55	SITC65	7.15	SITC65	7.23	SITC65	5.37	SITC62	7.04
SITC65	13.16	SITC89	6.47	SITC61	3.18	SITC26	2.73	SITC66	4.06	SITC66	5.39
SITC89	3.97	SITC73	6.26	SITC26	1.39	SITC61	2.29	SITC71	2.95	SITC89	4.24
SITC51	3.80	SITC65	5.05	SITC56	1.10	SITC33	1.62	SITC89	2.48	SITC72	2.21
SITC67	3.44	SITC84	4.93	SITC71	0.96	SITC71	1.04	SITC62	2.39	SITC73	2.18
SITC33	3.31	SITC93	4.61	SITC85	0.62	SITC89	1.01	SITC83	2.00	SITC23	2.08
SITC71	2.92	SITC72	3.89	SITC89	0.33	SITC85	0.97	SITC72	1.50	SITC65	1.93
SITC54	2.71	SITC51	3.84	SITC86	0.30	SITC72	0.82	SITC93	1.40	SITC26	1.23
SITC69	2.50	SITC67	3.83	SITC33	0.23	SITC73	0.72	SITC85	1.02	SITC71	0.92

Source: author's calculation data from world integrated trade solution, which is online database, access data 09.01.2013

Table 7

Shares of top 10 major import of India, Bangladesh and Sri Lanka, 2000-2011

(Percentage)

India				Bangladesh				Sri Lanka			
2000		2011		2000		2007		2000		2011	
Product	share	product	share	product	share	product	share	product	share	product	share
SITC33	35.90	SITC33	31.98	SITC65	17.30	SITC33	10.43	SITC65	23.67	SITC33	19.39
SITC66	11.22	SITC71	8.76	SITC71	9.74	SITC71	10.25	SITC33	8.62	SITC65	11.66
SITC71	8.58	SITC66	8.73	SITC33	7.20	SITC42	8.80	SITC71	8.25	SITC73	11.23
SITC51	5.20	SITC72	7.43	SITC42	6.42	SITC72	7.71	SITC72	7.53	SITC71	7.68
SITC72	5.08	SITC51	4.48	SITC67	5.57	SITC26	6.90	SITC73	6.86	SITC72	5.46
SITC42	2.73	SITC32	3.82	SITC73	5.43	SITC65	6.84	SITC66	4.81	SITC66	4.89
SITC68	2.32	SITC28	3.04	SITC26	5.19	SITC73	5.02	SITC89	3.43	SITC67	2.83
SITC32	2.25	SITC93	2.86	SITC72	4.30	SITC58	3.59	SITC64	2.99	SITC58	2.51
SITC73	2.16	SITC67	2.77	SITC66	3.05	SITC67	3.27	SITC58	2.31	SITC64	2.20
SITC89	2.04	SITC34	2.70	SITC58	2.93	SITC51	2.25	SITC67	2.26	SITC56	2.13

Source: Author's Calculation Data from World Integrated Trade Solution, which is online database, access data 09.01.2013.

5. CHARACTERISTICS OF THE TRADE RELATIONS

5.1 Competitive export relation among India, Sri Lanka and Bangladesh: First in this study used the Trade Specialization Index to examine the export competition among India, Bangladesh and Sri Lanka. For any industry assumed i industry in country (India, Sri Lanka and Bangladesh assume name ISB) than Trade Specialization Index (TSI) is defined as:

$$TSI_{ISBi} = (XISBi - M_{ISBi}) / X_{ISBi} + M_{ISBi}$$

Where, XISBi and M_{ISBi} are the export and the import of product i by country India, Sri Lanka and Bangladesh. The value of the index is lies between -1 (when XISBi = 0 and $M_{ISBi} > 0$) and +1 (when XISBi > 0 and $M_{ISBi} = 0$), the value of the index between positive and negative reveals the country's comparative advantage or disadvantage in the product or industry.

Table 8 presents the Trade Specialization Index of the major export and import industries in India, Bangladesh and Sri Lanka. Table reveals that many interesting features first, the trade specialization index of major export industries in Bangladesh were on the whole lower than those of India and Sri Lanka 2000 and 2007[14]. India has the more comparative advantage in 2000 instead of 2011. Second, the index of major exports products in Bangladesh are generally lower in 2000 than in 2011 except for SITC 84 (clothing).

This indicated that Bangladesh exports are the less specialized products and consequently Bangladesh is facing more competition than India and Sri Lanka. India's comparative advantage (index value close to one) in 2000 the products are SITC 12 (tobacco and tobacco manufactures), SITC 22 (crude animals and vegetable materials), SITC 51 (chemical elements and compounds) and SITC 84 (clothing) and disadvantage are SITC 23 (crude rubber including synthetic and reclaimed), SITC 42 (fixed vegetable oils and fats). In 2011 the same product categories present the disadvantages. Bangladesh has only comparative advantage in both time periods 2000 to 2007 in one product categories namely SITC 84 (clothing). Sri Lanka has the comparative advantage in SITC 62 (rubber manufactures) and SITC 33 (petroleum and petroleum products) in 2000 as well as 2011.

In other words, India is net exporter of SITC 12 (tobacco and tobacco manufactures), SITC 22 (oil seeds, oil nuts and oil kernels), SITC 53 (dyeing, tanning and coloring materials), SITC 54 (medicinal and pharmaceutical products), SITC 55 (perfume materials, toilet & cleansing prep ions), SITC 62 (rubber manufactures), SITC 65 (textile yarn, fabrics, made up articles, etc), SITC 69 (manufactures of metal), SITC 84 (clothing) etc and net importer of SITC 23 (crude rubber including synthetic and reclaimed), SITC 42 (fixed vegetable oils and fats), SITC 51 (chemical elements and compounds), SITC 64 (paper, paperboard and manufactures), SITC 68 (non ferrous metals), SITC 71 (machinery, other than electric), SITC 86 (scientific and control in strum, photo goods, clocks), in 2000 and 2011.

Bangladesh is net exporter of SITC 84 (clothing) and net importer is SITC 11 (beverages), SITC 12 (tobacco and tobacco manufactures), SITC 22 (oil seeds, oil nuts and oil kernels), SITC 23 (crude rubber including synthetic and reclaimed), SITC 42 (fixed vegetable oils and fats), SITC 51 (chemical elements and compounds) and all other product except SITC 84 (clothing) (see table) in 2000 and 2007. Sri Lanka is net exporter of SITC 23 (crude rubber including synthetic and reclaimed), SITC 62 (rubber manufactures), and SITC 84 (clothing) in 2000 and 2011; Sri Lanka is also net exporter of SITC 12 (tobacco and tobacco manufactures), SITC 82 (furniture) in 2011. Sri Lanka is net importer of SITC 11 (beverages), SITC 42 (fixed vegetable oils and fats), SITC 5l (chemical elements and compounds), SITC 53 (dyeing, tanning and colouring materials), SITC 54 (medicinal and pharmaceutical products), SITC 55 (perfume materials, toilet and cleansing prep ions etc).

Second, is to look at the marker share of India, Bangladesh and Sri Lanka in the United States of America (USA) and United Kingdom (UK) which is largest trading partner of these countries. It shows that market share[15] of India in 1975 were 11.14 percent and 9.58 percent with USA and UK respectively. While share of these countries decreased over time, it was 10.93 percent and 2.95 percent in 2011.

It is interesting to note that USA is major trade partner of all of these three countries. Bangladesh's share with USA in 1977 was 14.35 percent and touched highest share in 2005 to 40.76 percent. In case of Sri Lanka major trade partner is USA. Table 9 summarize market share of India, Bangladesh and Sri Lanka with USA and UK during 1975 to 2011.

Table 8

Trade Specialization Index of India, Bangladesh and Sri Lanka 2000-2011 (Percentage)

	India		Bangladesh		Sri Lanka	
Product	2000	2011	2000	2007	2000	2011
SITC11	0.28	-0.16	-0.90	-0.64	-0.78	-0.76
SITC12	0.95	0.92	-0.86	0.15	-0.12	0.20
SITC22	0.97	0.93	-0.68	-1.00	0.33	-0.40
SITC23	-0.91	-0.75	-0.54	-0.86	0.23	0.01
SITC42	-0.74	-0.82	-1.00	-1.00	-0.80	-0.88
SITC51	-0.23	-0.23	-0.91	-0.80	-0.91	-0.89
SITC53	0.45	0.16	-1.00	-0.99	-0.94	-0.95
SITC54	0.51	0.55	-0.97	-0.72	-0.96	-0.98
SITC55	0.21	0.38	-0.91	-0.92	-0.70	-0.49
SITC58	-0.13	-0.03	-0.99	-0.96	-0.97	-0.98
SITC59	0.14	-0.17	-1.00	-0.96	-0.53	-0.46
SITC62	0.40	0.28	-1.00	-0.96	0.49	0.69
SITC63	0.07	-0.31	-0.44	-0.83	-0.26	-0.12
SITC64	-0.45	-0.47	-1.00	-0.91	-0.82	-0.80
SITC65	0.81	0.64	-0.54	-0.12	-0.67	-0.84
SITC66	0.15	-0.01	-0.92	-0.81	-0.15	-0.27
SITC68	-0.52	-0.38	-1.00	-0.90	-0.88	-0.75

(*contd.*)

SITC69	0.45	0.10	-0.90	-0.83	-0.76	-0.86
SITC71	-0.55	-0.51	-0.87	-0.86	-0.52	-0.88
SITC72	-0.46	-0.44	-0.95	-0.85	-0.70	-0.65
SITC73	-0.06	0.30	-0.94	-0.81	-0.77	-0.82
SITC81	0.40	-0.13	-0.82	-0.92	-0.84	-0.96
SITC82	0.29	-0.01	-0.98	-0.52	-0.31	0.11
SITC84	0.99	0.95	0.91	0.96	0.92	0.94
SITC86	-0.60	-0.55	-0.63	-0.73	-0.90	-0.60
SITC89	0.25	0.48	-0.81	-0.37	-0.22	0.05

Source: Author's Calculation data from World Integrated Trade Solution, which is online database, access data (28/12/2012)

Table 9

Market share in the USA, UK of India, Bangladesh and Sri Lanka 1975-2011 (Percentage)

India			Bangladesh			Sri Lanka		
Year	Market share (USA)	Market share (UK)	Year	Market share (USA)	Market share (UK)	Year	Market share (USA)	Market share (UK)
1975	11.14	9.58	1977	14.35	13.10	1975	5.57	7.96
1980	11.29	6.11	1982	11.17	5.01	1980	11.08	7.37
1985	18.12	4.81	1987	31.11	5.68	1985	21.96	6.41
1990	14.74	6.54	1992	33.95	5.85	1990	25.81	6.03
2000	21.97	5.21	2003	39.41	7.34	2000	40.26	13.53
2005	16.49	4.94		26.24	11.46	2005	32.20	12.58
2007	13.80	4.31		26.70	8.98	2007	25.82	13.28
2011	10.93	2.95				2011	21.41	11.09

Source: Author's Calculation, data from World Integrated Trade Solution which is online database, access date 27/12/2012

Table 10

Trade Openness

(Percentage)

	Trade Openness (Total Trade as % of GDP)									
Country	2000	2001	2002	2003	2004	2006	2007	2008	2009	2010
Bangladesh	31.01	31.25	26.82	29.79	32.44	42.55	42.14	44.36	38.19	40.24
India	19.52	19.16	21.45	22.88	25.44	32.72	33.73	36.69	33.72	35.90
Sri Lanka	71.76	64.28	62.53	62.49	66.56	60.61	58.83	57.29	43.24	48.25

Source: Author's Calculation data from Direction of Trade Statistics, IMF (2012), Note: trade openness is measured by total trade of a country expressed as percentage of nominal gross domestic product in dollars. A higher value indicates a more open economy.

Table 11

Trade Complementary Index of India, Bangladesh and Sri Lanka, 2000-2011

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
India	Bangladesh	54.24	58.19	57.27	57.62	53.43	54.24	51.54	50.23	52.95	54.59	55.14	53.80
	Sri Lanka	56.06	62.26	61.08	62.07	63.09	63.32	61.80	63.14	68.90	62.44	64.21	61.38
Bangkadesh	Sri Lanka	18.55	18.72	19.04	15.07	17.13	18.90	22.07	19.59	NA	NA	NA	NA
	India	10.45	9.16	11.17	9.32	12.16	13.13	9.71	13.20	NA	NA	NA	NA
Sri Lanka	India	22.22	23.66	27.73	23.13	25.69	27.08	27.07	27.31	24.73	26.21	27.32	25.67
	Bangladesh	24.15	23.86	23.38	22.51	23.15	22.81	24.45	24.49	23.35	22.93	24.47	23.24

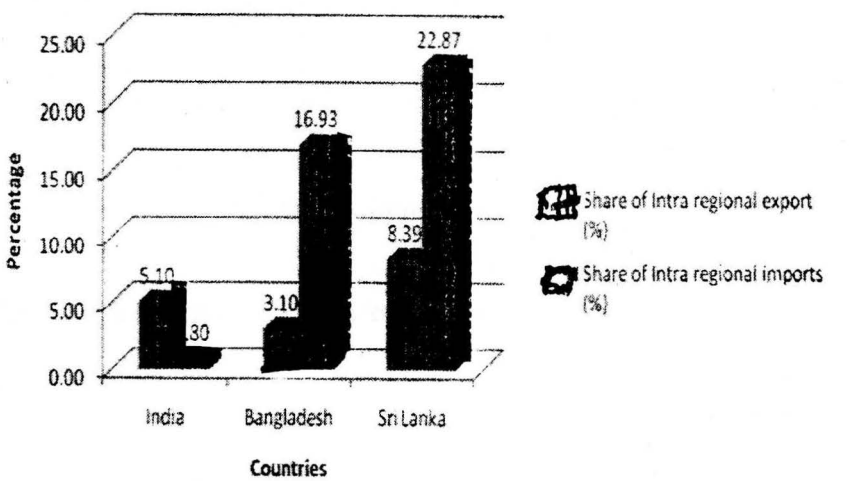
Source: Author's Calculation, data from World Integrated Trade Solution which is online database, access date 9.11.2012

5.2 Intra-Regional Trade Share (India, Bangladesh and Sri Lanka): It is important to analyse the Intra-Regional Trade Shares of three countries (India, Bangladesh and Sri Lanka). In general, a higher intra-regional trade share of a group of countries implies that the countries are more inter-dependent in trade. Figure shows that both in terms of export and import, in 2010 intra-regional export share of India, Bangladesh and Sri Lanka is 5.10 percent, 3.10 percent and 8.39 percent respectively. In case of intra regional import share of India, Bangladesh and Sri Lanka were respectively 0.80 percent, 16.93 percent and 22.87 percent. It is interesting to note that India's share in intra-regional import low compare to Bangladesh and Sri Lanka.

Figure 2

Intra-regional trade share of India, Bangladesh and Sri Lanka in 2010

(Percentage)



Third is to look at the trade openness, higher the value indicates a more open economy, Bangladesh and Sri Lanka is more open economy[16] compare to India. Table 10 summarizes trade openness of India, Bangladesh and Sri Lanka 2000-2010. India has a huge domestic market but trade forms a substantially smaller percentage of GDP[17].

5.3 Trade Complementarity relationship among three countries (TCI): The trade complementarity (TCI) Index[18] between India, Sri Lanka and Bangladesh is defined as:

$$TCI_{kj} = 100(1 - \text{sum}\,(|m_{ik} - x_{ij}| / 2))$$

Where x_{ij} is the share of good 'i' in global exports of country j and m_{ik} is the share of good 'i' in all imports of country. The index zero when no goods are exported by one country or imported by the other country and when index value is 100 then the export and import shares exactly match.

The study of Table 11 shows that there is lack of trade complementarity Bangladesh, Sri Lanka and India. Export from Bangladesh and Sri Lanka represent very weak compatibility with Indian exports, it was also Pitigala (2005) observes same low level of trade complementarity among South Asian countries. Now low level complementarity ratios give a discouraging picture with regard to effectiveness of SAFTA. The trade complementarities between India to Bangladesh were 53.58 in 2011 but it is lower than of Sri Lanka 61.38. It is implying that the basket of export and import are same with India and Sri Lanka. The trade complementarities of Bangladesh to India were 3.20 in 2007 and with Sri Lanka it was 19.59 in 2007. The TCI of Sri Lanka to India and Bangladesh were 25.67 and 23.24 in 2011. These numbers reflect that India's export and import matched with Bangladesh and Sri Lanka.

The critical value of trade complementarity index is 40, its mean that a TCI greater than 40 indicates that the economies are highly complementary[19]. The trade complementarity index for India, Bangladesh and Sri Lanka has been constructed for each year from 2000 to 2011 by using the bilateral trade data of these countries disaggregate at SITC 3-digit. As evident from Table 11 India has clear export complementarity with Bangladesh and Sri Lanka since 2000. This result is quite expected because India is major trade partner of Bangladesh and Sri Lanka. Bangladesh and Sri Lanka, on the other hand, clearly lack of export complementarity with India and each other value of TCI is less than 40.

5.4 Intra-Industry Trade: The phenomenon of Intra-industry trade was empirically observed and with some emphasis in studies carried out in the 1960s which dealt mainly with effect of economic integration on specialization in trade. The origin of the study of intra-industry trade relates in particular to the effect of the Benelux founded in 1948 and European Economic Community formed in 1958. These studies founded that increase in trade among the members of the integration scheme had taken place largely through specialization in production and export of products of the same industries rather than

different industries. Such a finding of increased intra-industry specialization was unexpected because the traditional trade theory predicted that it was specialization of the inter-industry type that would follow trade liberalization. However it was Grubel and Lloyd (1975) who provided the definitive empirical study on the importance of intra-industry trade. Grubel-Lloyd index is calculated as shown below:

$$B_i = (((X_i + M_i) - |X_i - M_i|) / (X_i + M_i)) \times 100$$

Where,

B_i = Index of Intra-industry trade of the 'i' industry

X_i = Export of the 'i' industry

M_i = imports of the 'i' industry

The value of B_i range from 0 to 100, if there is no IIT (one X_i or M_i is 0) an index value of 0 would indicate complete inter-industry trade, in this case either the value of exports or imports would be zero. If all trade is IIT ($X_i = M_i$), B_i takes the value of 100. Higher index values are associated with greater intra-industry trade as proportion of total trade, with an index value of 100 indicating equality between exports and imports.

In recent year South Asian countries[20] have made attempts (sign free trade agreement in 2004 and entered for implemented in 2006) for expanding their intra regional trade relations. India, Sri Lanka and Bangladesh are major economy of this region. It is useful to compute the degree of intra-industry trade for India, Sri Lanka and Bangladesh in order to explore the effectiveness of free trade agreement. The Table 12 show that India and Sri Lanka had the maximum level of trade in l975 in products coded by SITC 27 (crude fertilizers and crude minerals), SITC 55 (perfume materials, toilet and cleansing prep ions) and SITC 86 (scientific and control in strum, photo goods, clocks), while they had minimum values of Intra-industry trade in products coded by SITC 11 (beverages), SITC 24 (wood, lumber and crock). SITC 26 (textile fibers not manufactured and waste), SITC 56 (fertilizers, manufactured), SITC 61 (leather, leather manufacturing and dressed skins), SITC 62 (rubber manufactures), SITC 81 (sanitary, plumbing heating and lighting etc), table clearly shows that trade was inter industry nature between two countries in 1975 but trade pattern during the 2010 was completely different between two countries majority of trade product was intra-industry.

Table 12

Intra-Industry trade indices of major export industries with India and Sri Lanka 1975-2010

Sector (Double digit)	Commodity Code	1975	2010
Beverages	SITC11	0	26.64
Oil seeds, oil nuts and oil kernels	SITC22	2.68	8.04
Crude rubber including synthetic and reclaimed	SITC23	4.61	65.98
Wood, lumber and cork*	SITC24	0	43.8
Textile fibres, not manufactured, and waste	SITC26	0	45.1
Crude fertilizers and crude minerals, nes	SITC27	67.76	26.04
Crude animal and vegetable materials, nes	SITC29	1.31	62.02
Fixed vegetable oils and fats	SITC42	24.12	22.14
Chemical elements and compounds	SITC51	1.04	84.64
Dyeing, tanning and colouring materials	SITC53	0.09	63.22
Perfume materials, toilet & cleansing preptions	SITC55	60.64	55.73
Leather, leather. Manufactures., nes & dressed fur skins	SITC61	1.67	24.77
Rubber manufactures, nes	SITC62	0	81.31
Non metallic mineral manufactures, nes	SITC66	4.01	88.33
Manufactures of metal, nes	SITC69	0.01	41.64
Machinery, other than electric	SITC71	0.52	56.1
Electrical machinery, apparatus and appliances	SITC72	4.61	74.91
Transport equipment	SITC73	0.1	32.27
Sanitary, plumbing, heating and lighting fixt*	SITC81	0	70.31
Clothing *	SITC84	0	45.41
Scientific & control instrument, photography goods, clocks	SITC86	24.56	17.5
Miscellaneous manufactured articles, nes	SITC89	1.27	46.41
Special transact. Not class. According to kind	SITC93	20.6	27.65

Source: author's calculation, data from world integrated trade solution which is online database, access date (19/11/2012)

Table 13

Intra-Industry trade indices of major export industries with India and Bangladesh 1975-2010

Product	Product code	1975	2010
Textile fibres, not manufactured, and waste	SITC26	0.01	50.02
Crude fertilizers and crude minerals, nes	SITC27	0.66	21.49
Metalliferous ores and metal scrap	SITC28	0.00	67.71
Chemical elements and compounds	SITC51	7.39	59.37
Medicinal and pharmaceutical products	SITC54	37.88	0.04
Paper, paperboard and manufactures thereof	SITC64	63.21	1.11
Textile yarn, fabrics, made up articles, etc.	SITC65	24.22	24.31
Non metallic mineral manufactures, nes	SITC66	0.00	58.90
Electrical machinery, apparatus and appliances	SITC72	2.55	21.18
Transport equipment	SITC73	3.18	31.28
Scientific & control instrument, photograph gds, clocks	SITC86	2.57	0.56
Miscellaneous manufactured articles, nes	SITC89	0.16	15.52
Special transact. Not class. According to kind	SITC93	40.20	40.45

Source: author's calculation, data from world integrated trade solution which is online database, access date 19.11.2012.

The maximum level of trade in 2010 products coded by SITC 88, SITC 51 (chemical elements and compounds), SITC 62 (rubber manufactures), SITC 72 (electrical machinery, apparatus and appliances), SITC 81 (sanitary, plumbing, heating and lighting), SITC 23 (crude rubber including synthetic and reclaimed), SITC 53 (dyeing, tanning and colouring materials) SITC 29 (crude animal and vegetable materials), SITC 71 (machinery, other than electrics), SITC 89 (miscellaneous manufactured articles), SITC 84 (clothing etc). The results show that intra industry trade intensity has been increased over the time period. The comparatively high level of intra-industry trade for more product items can he attributed to the interest of both countries for expanding their trade relations and economic integration implementation.

The Table 13 show that India and Bangladesh had the maximum level of trade in 1975 in products coded by SITC 64 (paper, paperboard and manufactures), SITC 93 (special transact), SITC 54 (medicinal and pharmaceutical products) and SITC 65 (textile yarn, fabrics, made up articles, etc) while they had minimum values of Intra industry trade in products coded by SITC 26 (textile fibers, not manufactured and waste), SITC 28 (metal ferrous ores and metal scrap), SITC 66 (non metallic mineral manufactures), SITC 89 (miscellaneous manufactured articles), SITC 72 (electrical machinery, apparatus and appliances), SITC 51 (chemical elements and compounds), SITC 72 (electrical machinery apparatus and appliances) etc., table clearly shows that trade was inter industry nature between to countries in 1975 but trade pattern during the 2010 was completely different between two countries majority of trade product was intra-industry.

The maximum level of trade in 2010 products coded by SITC 28 (metal ferrous ores and metal Scrap), SITC 51 (chemical elements and compounds), SITC 66 (non metallic mineral manufactures), SITC 26 (textile fibers, not manufactured and waste), SITC 93 (special transact), SITC 73 (transport equipment), SITC 65 (textile yarn, fabrics, made up articles, etc), SITC 27 (crude fertilizers and crude minerals), SITC 72 (electrical machinery, apparatus and appliances etc). The results show that intra-industry trade intensity has been increased over the time period. The comparatively high level of intra-industry trade for more product items can be attributed to the interest of both countries for expanding their trade relations and economic integration implementation.

As regards the potential for growth of intra-regional trade in South Asian countries more particularly India, Bangladesh and Sri Lanka[21] by intra-industry trade, the study indicates that a number of product categories have been increased from 1970 to 2010. There are some of the product categories where further reduction of tariff (sensitive list), removal of non-tariff barriers will augment of intra-industry trade between these countries. India which is relatively the most industrialized country as well as the largest market in the region could play a major role in this regard through further unilateral as well as bilateral trade liberalization it is also plausible to expect India to have the potential for leading production networks involving the other countries in the region, which in turn could lead to an expansion of intra-regional trade in the region[22].

6. CONCLUSION

This paper explores the trade structure of three countries India, Sri Lanka and Bangladesh. First, the study revealed that the export structures are becoming similar. Second the study revealed that export structures of these three countries (India, Sri Lanka and Bangladesh) are becoming similar competition in the world market is also becoming more intense. The trade specialization index (2000-2011) shows India has the more comparative advantage in 2000 instead of 2011, Bangladesh exports is the less specialized products and consequently facing more competition than India and Sri Lanka has the comparative advantage in SITC 62 (rubber manufactures) and SITC 33 (petroleum and petroleum products) in 2000 as well as 2011 and changes in the USA and UK market share of these countries from 1975 to 2011 the study also found that competition in particular between India and Bangladesh and between Bangladesh and Sri Lanka intensified.

Intra-Industry trade between, India, Bangladesh and Sri Lanka over the period 1975 to 2010 are investigated. The extent of intra-industry trade between India and Bangladesh in 1975 to 2010 was high in sector like, crude materials except fuels, food and live animals. Intra Industry trade index for most of the industries experienced a deceleration over time. India's IIT index with Sri Lanka has declined in chemical, food and live animals, mineral fuels, lubricant and related industries. There is potential of trade between India and Sri Lanka in the food and live animals, beverage and tobacco, manufacture goods classified chiefly by material. India has clear export complementarity

with Bangladesh and Sri Lanka since 2000. This result is quite expected because India is major trade partner of Bangladesh and Sri Lanka. Bangladesh and Sri Lanka, on the other hand, clearly lack of export complementarity with India and each other value of TCI is less than 40.

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Appendix

Classification of SITC product

Nomenclature Code	Tier	Product Code	Product Description	Nomenclature Code	Tier	Product Code	Product Description
S1	2	00	Live animals	S1	2	53	Dyeing, tanning and colouring materials
S1	2	01	Meat and meat preparations	S1	2	54	Medicinal and pharmaceutical products
S1	2	02	Dairy products and eggs	S1	2	55	Perfume materials, toilet & cleansing preptions
S1	2	03	Fish and fish preparations	S1	2	56	Fertilizers, manufactured
S1	2	04	Cereals and cereal preparations	S1	2	57	Explosives and pyrotechnic products
S1	2	05	Fruit and vegetables	S1	2	58	Plastic materials, etc.
S1	2	06	Sugar, sugar preparations and honey	S1	2	59	Chemical materials and products, n.e.s.
S1	2	07	Coffee, tea, cocoa, spices & manufacs. Thereof	S1	2	60	UN Special Code
S1	2	08	Feed. Stuff for animals excl. Unmilled cereals	S1	2	61	Leather, lthr. Manufs., n.e.s & dressed fur skins
S1	2	09	Miscellaneous food preparations	S1	2	62	Rubber manufactures, n.e.s.
S1	2	10	UN Special Code	S1	2	63	Wood and cork manufactures excluding furniture
S1	2	11	Beverages	S1	2	64	Paper, paperboard and manufactures thereof
S1	2	12	Tobacco and tobacco manufactures	S1	2	65	Textile yarn, fabrics, made up articles, etc.
S1	2	20	UN Special Code	S1	2	66	Non metallic mineral manufactures, n.e.s
S1	2	21	Hides, skins and fur skins, undressed	S1	2	67	Iron and steel
S1	2	22	Oil seeds, oil nuts and oil kernels	S1	2	68	Non ferrous metals

(*contd.*)

Nomenclature Code	Tier	Product Code	Product Description	Nomenclature Code	Tier	Product Code	Product Description
S1	2	23	Crude rubber including synthetic and reclaimed	S1	2	69	Manufactures of metal, n.e.s
S1	2	24	Wood, lumber and cork	S1	2	70	UN Special Code
S1	2	25	Pulp and paper	S1	2	71	Machinery, other than electric
S1	2	26	Textile fibres, not manufactured, and waste	S1	2	72	Electrical machinery, apparatus and appliances
S1	2	27	Crude fertilizers and crude minerals, n.e.s	S1	2	73	Transport equipment
S1	2	28	Metalliferous ores and metal scrap	S1	2	80	UN Special Code
S1	2	29	Crude animal and vegetable materials, n.e.s	S1	2	81	Sanitary, plumbing, heating and lighting fixt.
S1	2	30	UN Special Code	S1	2	82	Furniture
S1	2	32	Coal, coke and briquettes	S1	2	83	Travel goods, handbags and similar articles
S1	2	33	Petroleum and petroleum products	S1	2	84	Clothing
S1	2	34	Gas, natural and manufactured	S1	2	85	Footwear
S1	2	35	Electric energy	S1	2	86	Scientif & control instrum, photogr gds, clocks
S1	2	40	UN Special Code	S1	2	89	Miscellaneous manufactured articles, n.e.s.
S1	2	41	Animal oils and fats	S1	2	90	UN Special Code
S1	2	42	Fixed vegetable oils and fats	S1	2	91	Postal packages not class. According to kind
S1	2	43	Animal and vegetable oils and fats, processed	S1	2	93	Special transact. Not class. According to kind
S1	2	50	UN Special Code	S1	2	94	Animals, n.e.s., incl. Zoo animals, dogs and cats
S1	2	51	Chemical elements and compounds	S1	2	95	Firearms of war and ammunition therefor
S1	2	52	Crude chemicals from coal, petroleum and gas	S1	2	96	Coin, other than gold coin, not legal tender

Source: WITS (which is online data base, access date 07/07/2014)

End Notes

1. See Jayanetti and Tilakaratna (2005).

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10. Roy and Chakraborty (2000).

11. Sobhan (2002).

12. Joshi (2010).

13. JSG report.

14. Trade data of Bangladesh till (2007) on WITS.

15. It is share of export sold in each foreign country in the home country's total exports.

16. Total trade as percentage of GDP.

17. Saxena (2005).

18. TCI is aggregate (SITC 2 digit level).

19. See CIE (2009).

20. India, Pakistan, Sri Lanka, Bangladesh, Nepal, Maldives, Afghanistan and Bhutan.

21. Because present study related India, Bangladesh and Sri Lanka.

22. See Deepika Wadhwa.