Identifying Suitability of Commodities for Trade among Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) Nations: An Application of Revealed Comparative Advantage Approach

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Abstract

Diminution of trade barriers forms vicious strains and the potential for technology to move so as to escort to productivity gains and restructuring of an economy toward its comparative advantage. Further, a country's comparative advantage in international trade may be influenced by differential rates of change in accumulation of production factors or due to the increased trade integration of other countries. The BIMSTEC countries have long shared common objectives for closer economic integration within the South-East Asian region. This paper is an attempt to systematic evaluation of the nature and changes of revealed comparative advantage of BIMSTEC countries from 1997-98 to 2012-13 for 16 major commodity groups as identified by WTO. The analysis of comparative advantage has been undertaken using the Balassa (1965) index of revealed comparative advantage.

***Keywords**: Asia, BIMSTEC, Exports, Imports, RCA.*

1. Introduction

It is generally recognized that trade is essential for growth and that growth is critical for poverty reduction. International trade flourishes on the comparative advantage that economies propose, as upbeat players in the world market. [1] While Ricardo laid down the basic tenets of comparative advantage, Balassa (1965) developed the concept of revealed comparative advantage (RCA). The term thus connotes the idea, that countries specialize and export items, which they can produce at lower cost in comparison to the world. In Balassa's (1986) view, the comparative advantage that a country enjoys primarily depends on its physical and human capital endowments. Moreover, trade orientation also impacts an economies advantage, vis-à-vis the other countries. Hence, as a country traverses the road to development, its comparative advantage is expected to 'shift'. Accumulation of human and physical capital and a change in the trade policies alters the comparative advantage of the various sectors of the economy. India embraced the path of liberalization in the early nineties. A gradual opening of the economy and withdrawal of trade barriers were the natural offshoots of the policy option hitherto chosen. With the withering away of 'protectionist' policies, the trade pattern of India is likely to march in the direction of its comparative advantage. Thus, this forms the basic motivation for the study. As the regionalization efforts of international trade gets intensified due to limited progress at the multilateral trade negotiations, India is making serious regional engagements to consolidate its trade positions. India BIMSTEC Free Trade Agreement (IBFTA) generated intense discussion on the economic impact on India's trade in goods particularly on certain agricultural sectors where the livelihood of large number of people were depended upon. In this context the paper tries to study the nature of RCA of BIMSTEC countries for 16 major commodity groups as indicated by WTO from 1997-98 to 2012-13. The paper also studies the changes of RCA of BIMSTEC countries for 16 major commodity groups from 1997-98 to 2012-13.

2. Literature Review

Lim (1997), attempted to illuminate the characteristics of the North Korean economy by examining her foreign trade. He categorizes goods into 'Ricardo', 'Heckscher-Ohlin' (HO) and 'Product-cycle'(PC) goods. Based on the RCA index of these three categories, he elucidates the level of development achieved by North Korea. A progress from Ricardo to HO and then to PC goods, is an apt indicator of the development of the country. Results suggest that while North Korea's comparative advantage had moved up from Ricardo goods to HO goods, it would be difficult for the country to move into the terrain of PC goods.

The author did not foresee this shift to PC goods, since the economic structure of the country was not being upgraded to produce goods requiring advanced technology.[2]

Li and Bender (2003) however argued that instead of complimenting or substituting exports, the change in comparative advantage of the country, leads to gain as well as loss for the country. They studied the RCA of manufacture exports over the period 1981-1999 of eight country groups incorporating 40 economies and put forth the view that a pattern of relative comparative advantage existed.[3]

Proceeding a step further, Ferto and Hubbard (2002) used modifications of the RCA index as developed by Vollrath (1991, namely, the Relative Trade Advantage, the logarithm of the Relative Export Advantage and Revealed Competitiveness. Infact, they explore the competitiveness of Hungarian agriculture with the EU as its comparator. They use four different measures of the RCA indices for the period 1992 to 1998, for agro-based products, using the 4-digit level of SITC classification. Results suggest that inspite of changes in the agriculture scene of Hungary; the pattern of revealed comparative advantage had been stable.[4]

Smyth (2005) analyzed the change in Irelands RCA over the period 1997 to 2002. The study sheds light on the changing structure of the Irish economy as indigenous industries lose their comparative advantage to high tech sectors driven by FDI. Widgren (2005) focused on the comparative advantage of a sample of Asian, American and European countries between 1996 and 2002. His study examined the basis of RCA for the sample countries using the Harmonised System (HS) classification at the 4-digit level. In his view the factor content of comparative advantage had some similarity in the Asian countries. While the RCA for the US was based on highly skilled labour that of the EU had moved towards use of human as well as physical capital.[5]

Adding yet another dimension to the theory of revealed comparative advantage, Brackman, Garretsen and Marrewijk (2005), explain that even mergers and acquisitions follow comparative advantage. This occurs because a firm, which has a cost advantage, is often keen to acquire another firm which is less stronger than itself. On the other hand, Faustino (2008) draws a relation between intra-industry trade (IIT) and RCA. Thus, IIT, vertical intra-industry trade (VIIT) and horizontal intra-industry trade (HIIT) formed the dependent variable in the regression, with RCA being the explanatory variable. Based on conventional theory, the author argues that VIIT should have a positive correlation with RCA, while the reverse should be true for HIIT. However, while the relation between VIIT and RCA was in line with expectations, the same could not be said for HIIT. Therefore, segregating the determinants of VIIT and HIIT was not that simple and the author has his reservations about separating the components of IIT. [6]

In the Indian context, Batra and Khan (2005) assessed the RCA index at the 2 and 6-digit level of HS classification. They compared India's comparative advantage with that of China, and also studied the RCA for each of the countries individually. The study constructed the RCA index of India and China for the years 2000 and 2003, thereby enabling it to focus on the change in the structure of comparative advantage in the latter period. The authors also examined comparative advantage of the two countries according to factor intensity using the Standard International Trade Classification (SITC). This was done with the aim of assessing whether India's comparative advantage is in labour and resource-intensive items or in technology and science based manufactures. The study does not find any structural change in the comparative advantage of the two countries, except for some sectors within manufacturing. India and China enjoyed a competitive relationship in chemicals and mineral and metal manufactures, while a complimentary relation was observed in labour and resource intensive items such as textile yarn and apparel.[7]

3. Methodology

The concept of revealed comparative advantage (Balassa 1965, 1977, 1979, 1986) pertains to the relative trade performance of individual countries in particular commodities. Measures of revealed

comparative advantage (RCA) have been used to help assess a country's export potential. The RCA indicates whether a country is in the process of extending the products in which it has a trade potential, as opposed to situations in which the number of products that can be competitively exported is static. It can also provide useful information about potential trade prospects with new partners. A product with high RCA is competitive and can be exported to countries with low RCA. Countries with similar RCA profiles are unlikely to have high bilateral trade intensities unless intra industry trade is involved. RCA measures, if estimated at high levels of product disaggregation, can focus attention on other non-traditional products that might be successfully exported. The RCA index of country 'i' for product 'j' is often measured by the product's share in the country's exports in relation to its share in world trade.

$$RCA_{ij} = \frac{(X_{ij}/X_{it})}{(X_{wj}/X_{wt})}$$

Where X_{ij} and X_{wj} are the values of country i's exports of product j and world exports of product j and where X_{it} and X_{wt} refer to the country's total exports and world total exports. A value of less than unity implies that the country has a revealed comparative disadvantage in the product. Similarly, if the index exceeds unity, the country is said to have a revealed comparative advantage in the product.

In the present study RCA is calculated for seven BIMSTEC countries across 16 major commodity groups for 16 years to identify specific advantage in trade. The commodities for which RCA are calculated include Agricultural Products, Food, Fuels and Mining, Fuels, Manufactures, Iron and Steel, Machinery and Transport Equipment, Office and For Telecom equipments, EDP and OE, IC and EC, Pharmaceuticals, Chemicals, Automotive, Textiles and Clothing. Data for calculating RCA are collected from, WTO and World Integrated Trade Solutions.

4. Nature of RCA

The Table 1 gives the mean Revealed Comparative Advantage (RCA) of BIMSTEC countries and India for the period 1997-98 and 2012-13 for 16 product categories. The mean RCA for agricultural commodity is above one for Myanmar and Sri Lanka whereas it is below one for India, Bangladesh, Nepal, Bhutan and Thailand. The mean RCA for food item is above one for India only.

Table 1: Mean RCA for India and other BIMSTEC countries in Major Commodity Groups

Commodity categories	IND	BAN	MYAN	SRI	NEP	BHU	THAI
Agriculture	0.88	0.81	**2.44**	**1.17**	0.87	0.24	0.77
Food	**1.02**	0.40	0.92	0.85	0.85	0.07	0.98
Fuel & Mining	0.84	0.72	0.44	0.09	0.35	0.27	0.72
Fuels	0.83	0.53	0.32	0.10	0.31	0.29	0.42
Manufacture	**1.06**	0.37	0.60	0.43	0.24	0.12	**1.24**
Iron & Steel	**1.20**	0.58	0.18	0.30	0.20	0.11	**1.04**
Chemicals	**1.27**	0.48	0.25	0.28	0.58	0.41	0.90
Pharmaceutical	0.72	0.35	0.40	0.46	0.48	0.11	**1.02**
Machinery & transport equipment	0.49	0.36	0.31	0.25	0.52	0.23	**1.34**
Office & Tel equipments	0.56	0.10	0.16	0.28	0.22	0.18	**1.31**
Edp and office equipments	0.84	0.16	0.04	0.18	0.06	0.12	**1.03**
Tel. Equipments	0.80	0.21	0.11	0.18	0.14	0.11	**1.18**
Ic and Ec products	0.59	0.29	0.19	0.17	0.12	0.04	**1.53**
Automative	0.70	0.25	0.23	0.17	0.12	0.12	0.99
Textiles	**1.31**	**2.30**	0.61	0.84	0.70	0.36	0.98
Clothing	**1.47**	**2.16**	0.86	0.67	0.67	0.60	0.91

Source: Computed from WTO database, World Integrated Trade Solution.

This means there is opportunity of trade in food items between India and low RCA BIMSTEC countries such as Myanmar, Bangladesh, Nepal, Bhutan, Sri Lanka and Thailand. Manufactured commodities are value added products and exports of these products depend on the industrial development of the country. The computation of RCA for manufacture products showed India and Thailand had RCA above one where as Myanmar, Bangladesh, Nepal, Bhutan, Sri Lanka got RCA below one. But the disaggregation of Manufacture products in to different categories shows that countries enjoy clear RCA in specific product categories. In the case of Iron and Steel industry, all the BIMSTEC countries except India got comparative disadvantage. India enjoys a high RCA in this product category. This industry depends on the availability of natural resource in a country and India got huge iron ore reserve in the country. India can export iron and steel to most of the BIMSTEC countries. The computation of RCA for Chemicals showed that India developed comparative advantage in the product category over the period of time. Currently India is exporting different chemical products and increasing the export share in its export basket. India got Revealed Comparative Advantage in Chemicals where as all the other BIMSTEC countries have revealed comparative disadvantage pointing out India can improve trade in Chemical products with the BIMSTEC countries. Thailand has comparative advantage in the pharmaceutical industry. This is the reflection of the capacity developed over the period of time. Thailand has also been exporting more Machinery and Transport Equipment and has Comparative Advantage in this product category. The disadvantaged countries in the product group include India, Myanmar, Bangladesh, Nepal, Bhutan and Sri Lanka. This reveals there is scope for trading Machinery and Transport Equipment within BIMSTEC countries. The mean RCA of office & Tel equipments is above 1 for Thailand whereas it is below 1 for other BIMSTEC countries. Integrated Circuits and Electronic Components are an important input for the development of electronics and communication industry which is growing at a rapid rate in this information age. East Asian Countries like Thailand developed competencies in this sector and have a strong RCA. Automotive is an important component in the manufacturing sector with strong backward linkage and employment potential. But other BIMSTEC countries including India do not have comparative advantage in this sector. This is because of the dominance of Japanese companies for long and of Korea recently. India has been attracting foreign entry and investment in this sector and exporting cars manufactured by Multinational (Maruthi Suzuki, Hyundai) particularly to European nations but yet to develop RCA for sizable export share and market dominance.[8] Textiles are labour intensive sector with high employment potential and most of the developing countries of Asia depend on their export to earn their foreign exchange. India traditionally exports large quantity of Textile products and has revealed significant Comparative Advantage. Most of the BIMSTEC countries have low RCA showing the complementarity existing in the sector and they can trade more with India and Bangladesh for their requirement. But the dismantling of MFA (Multi Fibre Agreement) bring in strong players like China dominating the market and India need to equip itself to take
care of this advantage.[9] There is increased competition in the clothing sector between India and Bangladesh as these countries having strong comparative advantage. The mean RCA in this product category for India (1.47) and Bangladesh (2.16) are high and these countries are major exporters of clothing to the rest of the BIMSTEC nations. India is also a major exporter

of clothing and there is limited complementarity between India and BIMSTEC countries for increased trade in this sector.

5. Changes In RCA

The RCA for agricultural commodity of India in 1997-98 was 0.74. It has increased to 0.79 in

Table 2: RCA OF INDIA

Commodity Categories	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Agriculture	0.74	0.79	0.82	0.89	0.82	0.89	0.94	0.92	0.98	0.97	0.98	1.02	0.76	0.98	0.95	0.66
Food	0.92	0.98	0.96	0.98	1.34	1.23	1.02	1.08	1.09	1.08	1.07	1.13	0.74	0.94	0.87	0.96
Fuel & Mining	1.1	1.16	1.15	1.17	1.12	1.08	0.56	0.54	0.57	0.59	0.57	0.63	0.82	0.91	0.79	0.65
Fuels	1.25	0.72	0.67	0.64	0.62	0.65	0.69	0.62	0.69	0.72	0.79	0.82	0.64	0.76	0.94	2.14
Manufacture	0.96	1.67	1.21	1.09	1.12	0.98	0.84	1.81	0.83	1.89	0.81	0.31	1.29	0.86	0.79	0.50
Iron & Steel	1.12	1.19	1.17	1.19	1.25	1.36	0.82	0.89	0.92	0.99	0.69	1.07	1.16	1.29	2.07	2.09
Chemicals	1.37	1.42	1.32	1.34	1.23	1.1	1.09	1.08	1.14	1.26	1.38	1.23	1.22	1.2	1.21	1.79
Pharmaceutical	0.91	0.81	0.45	0.48	0.41	0.35	0.49	0.39	0.42	0.47	0.43	0.58	1.12	0.54	1.43	2.24
Machinery & trransport equipment	0.79	0.72	0.43	0.42	0.39	0.34	0.05	0.08	0.62	0.72	0.89	0.39	0.4	0.37	0.28	0.95
Office & Tel equipments	0.84	0.96	0.39	0.36	0.32	0.37	0.32	0.32	0.36	0.39	0.36	0.42	0.49	0.64	1.56	0.88
Edp and office equipments	0.19	0.18	0.21	0.28	0.29	0.32	1.36	1.26	1.38	1.52	1.53	1.08	1.71	1.36	0.51	0.25
Tel. Equipments	0.67	0.32	0.79	0.76	0.52	0.57	0.49	0.72	0.76	0.79	0.75	0.32	0.47	3.46	0.37	1.03
Ic and Ec products	0.52	0.49	0.32	0.39	0.34	0.39	0.43	0.45	0.42	0.49	0.48	0.28	0.29	2.37	1.32	0.46
Automative	0.69	0.46	0.44	0.45	0.21	0.24	0.98	0.92	0.94	0.96	0.92	0.9	0.97	0.29	0.68	1.14
Textiles	1.12	1.2	1.25	1.34	1.51	1.64	1.12	1.29	1.34	1.29	1.49	1.14	1.27	1.26	2.16	0.62
Clothing	2.09	1.07	1.59	1.79	1.76	1.89	1.49	1.09	1.18	1.23	1.23	1.05	1.33	0.94	1.89	1.88

1998-99. In 1999-00 the RCA for agricultural commodity of India was 0.82. The RCA for agricultural commodity of India was less than one from 1997-98 to 2012-13.For Food items the RCA of India was less than one before 2000-01.But after that it has increased upto 2008-09. India is the second largest producer of food, just behind China. Before 2000, the activities of food processing sector in India were mainly limited to the food preservation, packaging and transportation. However, after 2000, with the emergence of new markets and technologies, the sector has extended its scope. It has started producing many new items like ready to eat food, beverages, processed and frozen fruit and vegetable products, marine and meat products, etc .[10] The RCA for fuels and mining was less than 1 from 2000 to 2012-13. The mining sector in the last couple of years has been hit hard due to policy paralysis on a whole gamut of issues, irrespective whether they are in the domain of the Centre of the States. As a result mining projects across the country has remained stalled owing to court cases, environmental, regulatory and land acquisition issues. The sector has also been reeling under high borrowing costs. Moreover, despite India's significant geological potential, the country does not rank very high in terms of its mineral resource base amongst similarly geological endowed nations. There is significant mineral potential that still lay untapped in India for the growth of mining but historically, mining sector has struggled to exploit the potential due to three big factors i.e. regulatory and administrative procedures, inadequate infrastructure facilities and sustainability. [11]The RCA for manufacturing goods of India has been fluctuating over the years. The main export market for Indian manufacturing goods was the US and Western Europe. Within Western Europe, Germany and UK are two of the most important export markets. The Middle East is also a key destination for Indian goods with the UAE in particular a major market for Indian gems and jewellery, engineering goods .[12] During the recession of 2000-01 and 2008-09 India's export to these countries has got affected. On the other hand India's neighbouring countries has got benefited from this. The RCA for Iron and steel was high for most of the years. India is being increasingly considered an attractive global alternative for creation of new steel capacities. Iron ore exports are higher than the domestic consumption by steel plants in India. Attractiveness of India as an investment destination emerges largely from the fact that India has large reserves of Iron ore, the basic raw material required for steel production. The RCA for chemicals products was more than 1 from 1997-98 to 2012-13 in India. Growing disposable incomes and increasing urbanization are fuelling the end

consumption demand for paints, textiles, adhesives and construction, which, in turn, leads to substantial growth opportunity for chemicals companies. Chemicals constitute 5.4% of India's total exports. India already has a strong presence in the export market in the sub-segments of dyes, pharmaceuticals and agro chemicals. In case of textiles the RCA for India is very high over the years. Because India is the second largest producer, after China, of textiles and garments. India is also second largest producer of cotton in the world. This is due to Long textile tradition, Large pool of skilled and cheap work force, Entrepreneurial skills, Efficient multi-fiber raw material manufacturing capacity, Large domestic market, Enormous export potential, Very low import content, Flexible textile manufacturing systems.

Table 3: RCA OF BANGLADESH

Commodity Categories	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Agriculture	0.62	0.65	0.79	0.82	0.87	0.85	0.82	0.89	0.92	0.98	0.81	0.75	0.81	0.92	0.89	0.56
Food	0.49	0.42	0.45	0.46	0.44	0.47	0.41	0.45	0.49	0.53	0.47	0.34	0.31	0.36	0.27	0.04
Fuel & Mining	0.81	0.79	0.74	0.76	0.79	0.82	0.84	0.87	1.02	1.09	1.07	0.17	0.41	0.54	0.75	0.08
Fuels	0.54	0.62	0.69	0.62	0.64	0.69	0.79	0.82	0.84	0.89	0.86	0.09	0.19	0.17	0.09	0.00
Manufacture	0.29	0.39	0.05	0.06	0.02	0.12	0.14	0.19	0.24	0.27	0.07	0.03	0.71	0.81	0.74	1.74
Iron & Steel	0.79	0.81	0.49	0.52	0.57	0.67	0.62	0.64	0.72	0.79	0.76	0.42	0.49	0.52	0.39	0.02
Chemicals	0.82	0.89	0.34	0.38	0.39	0.42	0.47	0.49	0.42	0.45	0.49	0.44	0.53	0.58	0.38	0.22
Pharmaceutical	0.01	0.05	0.43	0.49	0.53	0.59	0.62	0.63	0.69	0.72	0.43	0.09	0.07	0.15	0.06	0.05
Machinery & trransport equipment	0.07	0.17	0.24	0.21	0.29	0.27	0.29	0.31	0.36	0.39	0.79	0.52	0.59	0.62	0.59	0.02
Office & Tel equipments	0.01	0.04	0.02	0.01	0	0.02	0.04	0.03	0.31	0.42	0.29	0.17	0	0.09	0.06	0.03
Edp and office equipments	0.29	0.19	0.13	0.08	0	0	0.01	0.01	0	0.49	0.36	0.12	0	0.52	0.35	0.04
Tel. Equipments	0.55	0.25	0.21	0.09	0	0	0	0	0	0.52	0.49	0.29	0.09	0.18	0.67	0.00
Ic and Ec products	0.29	0.31	0.19	0.14	0.16	0	0	0	0.28	0.39	0.57	0.46	0.71	0.92	0.18	0.03
Automative	0.32	0.37	0.31	0.27	0.24	0.08	0.07	0.08	0.01	0.06	0.39	0.41	0.39	0.96	0.08	0.01
Textiles	1.34	1.23	1.35	1.82	1.86	2.49	2.64	2.78	3.06	2.97	2.86	1.94	1.72	1.75	2.81	4.17
Clothing	1.79	1.86	1.67	1.17	1.14	1.46	1.98	1.96	2.89	3.06	1.73	3.17	2.34	2.01	3.08	3.18

Source: Computed from WTO database, World Integrated Trade Solution

The RCA for agricultural commodity of Bangladesh is less than 1 over the years. This is because agricultural productivity remains low. However, a major difficulty is that of securing regular water supply. A solution to this issue is not entirely in the hands of policy-makers since much depends on how the issue of sharing the water resources of the major common rivers with India is resolved. The RCA for agricultural commodity is not so high over the years. From various research papers it has been found that it is due to the large number of very small suppliers and a complex and irregular system of intermediaries.[13] The RCA for pharmaceutical products is also very low. It is due to lack of power supply and gas. Companies are not

able to provide instant power supply which hampers the production quality. Energy cost of pharmaceuticals industry is too high. There is also lack of raw materials and drug testing laboratory. [14] Bangladesh chemical industry is of key importance from the point of view of domestic industries i.e. it caters to various industries and has a high potential of growth in the Bangladesh market. So far because of high demand in the domestic market itself, most of the chemical producers were focused on meeting domestic demand rather than exports. [15] Bangladesh's textile industry, which includes knitwear and ready-made garments along with specialized textile products, is the nation's number one export earner, accounting for $21.5 billion in 2013 – 80% of Bangladesh's total exports of $27 billion. Bangladesh is 2nd in world textile exports, behind China, which exported $120.1 billion worth of textiles in 2009. The textile and clothing sector in Bangladesh is by far the main and most important industry (consisting of 85.9% of total exports). Very low wages and trade deals with Western countries have helped Bangladesh to emerge as the world's second-largest garment exporter after China, with 60% of its clothes going to Europe and 23% to the US. Bangladesh has 5 000 textile and garment factories and 4 million textile workers.[16]

Table 4: RCA OF MYANMER

Commodity Categories	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Agriculture	2.05	2.01	1.75	1.72	1.36	2.34	1.98	2.34	1.92	2.78	3.01	2.98	3.16	3.42	1.92	4.27
Food	1.86	1.36	1.34	1.09	0.79	0.73	0.63	0.69	0.63	0.61	0.54	0.57	0.98	1.27	0.86	0.76
Fuel & Mining	1.24	0.69	0.69	0.78	0.46	0.42	0.46	0.24	0.22	0.29	0.21	0.26	0.01	0.07	0.67	0.27
Fuels	0.89	0.84	0.82	0.89	0	0.02	0.09	0.08	0.06	0.08	0.01	0	0.38	0.14	0.24	0.52
Manufacture	0.52	0.72	0.75	0.38	0.28	0.57	0.52	0.56	0.62	0.69	0.65	0.71	0.73	0.94	0.89	0.03
Iron & Steel	0.07	0.14	0.19	0.14	0.19	0.24	0.29	0.31	0.32	0.34	0.19	0.12	0.16	0.09	0.06	0.00
Chemicals	0.32	0.36	0.31	0.21	0.34	0.36	0.32	0.35	0.35	0.27	0.34	0.28	0.01	0.01	0.21	0.04
Pharmaceutical	0.21	0.11	0.39	0.34	0.29	0.39	0.37	0.32	0.39	0.36	0.72	0.09	0.49	0.52	1.36	0.00
Machinery & trransport equipment	0.28	0.18	0.21	0.19	0.18	0.31	0.41	0.39	0.41	0.42	0.49	0.54	0.19	0	0.63	0.15
Office & Tel equipments	0.06	0.01	0.05	0.01	0.01	0.21	0.24	0.14	0.19	0.27	0.37	0	0	0	0.89	0.10
Edp and office equipments	0.07	0.09	0.13	0.06	0.04	0	0	0.09	0.08	0.06	0	0	0	0.01	0.01	0.00
Tel. Equipments	0.01	0.03	0.06	0.01	0	0	0	0.21	0.28	0.12	0	0	0.22	0	0.78	0.02
Ic and Ec products	0.41	0.31	0.28	0.35	0.28	0	0	0.19	0.21	0	0	0.27	0	0.35	0.36	0.00
Automative	0.29	0.41	0.45	0.41	0.39	0.24	0.14	0.04	0.02	0	0.14	0.32	0	0.52	0.25	0.00
Textiles	0.75	0.25	0.21	0.17	0.21	0.34	0.36	0.92	0.97	0.28	0.28	0.91	1.21	1.52	1.45	0.01
Clothing	0.97	0.89	0.69	0.71	0.69	0.81	0.48	1.54	1.67	0.37	0.31	0.87	1.05	0.96	1.61	0.10

Source: Computed from WTO database, World Integrated Trade Solution

Myanmar is traditionally an agricultural country and agriculture sector remains as a major contributor to GDP, and its share of export earnings is about 40%. At the same time, agriculture sector provides employment to more than 60 per cent of work force. The overwhelming majority of Myanmar's

population live in rural areas and much of the nation's wealth is generated there. Firstly, Myanmar is blessed with abundant natural resources such as fertile land and water resources which provide the right environment for agribusiness development and domestic food production. It is also geopolitically well positioned between China and India, two of the largest food and beverage consuming nations in the world, and accessible to the rest of South East Asia. This means the potential for local food production and trade is significant, which is crucial to Myanmar's overall economic development, given agriculture accounts for almost 50 per cent of GDP and 75 per cent of Myanmar's workforce .[17] Burma's mining industry suffered a steady decline because no new mines were developed while many of the old mines were left to deteriorate without the much needed renovation in the past years.[18]

Table 4: RCA OF SRI LANKA

Commodity Categories	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Agriculture	0.62	0.69	0.72	0.75	0.74	0.79	0.76	0.98	1.05	1.09	1.42	1.29	1.39	2.53	1.15	2.78
Food	0.79	0.81	0.85	0.89	0.86	0.81	0.82	0.89	0.92	0.93	0.94	0.92	0.89	0.86	0.84	0.62
Fuel & Mining	0.78	0.01	0.03	0.04	0.06	0.05	0.01	0.05	0.07	0.09	0.07	0.02	0	0.03	0.08	0.01
Fuels	0.34	0.05	0.08	0.08	0.03	0.04	0.09	0.01	0.03	0.02	0.04	0.07	0.03	0.21	0.55	0.00
Manufacture	0.26	0.29	0.34	0.32	0.29	0.23	0.32	0.34	0.36	0.29	0.29	0.36	0.72	0.15	0.34	1.93
Iron & Steel	0.01	0.32	0.31	0.36	0.34	0.31	0.37	0.39	0.41	0.46	0.43	0.21	0.09	0.33	0.46	0.01
Chemicals	0.23	0.19	0.21	0.24	0.28	0.26	0.46	0.48	0.52	0.39	0.23	0.12	0.12	0.14	0.18	0.41
Pharmaceutical	0.37	0.32	0.39	0.43	0.45	0.42	0.49	0.52	0.47	0.31	0	0	0.97	1.62	0.67	0.01
Machinery & trransport equipment	0.48	0.21	0.29	0.32	0.42	0.49	0.52	0.49	0.34	0.15	0	0	0.04	0.04	0.17	0.06
Office & Tel equipments	0.29	0.05	0.38	0.37	0.39	0.41	0.62	0.53	0.16	0.21	0	0.06	0.09	0.07	0.46	0.33
Edp and office equipments	0.51	0.09	0.41	0.43	0.05	0.02	0.05	0.01	0.02	0.07	0.27	0	0	0.01	0.87	0.06
Tel. Equipments	0.29	0.01	0.02	0.49	0.19	0.12	0.19	0.17	0.29	0.09	0.36	0.26	0.12	0	0.24	0.03
Ic and Ec products	0.01	0.34	0.09	0.05	0.14	0.08	0.16	0.12	0.17	0.18	0.37	0.31	0.46	0	0.18	0.02
Automative	0	0.04	0.01	0.01	0.14	0.21	0.24	0.25	0.32	0.38	0.42	0.45	0.23	0	0.04	0.04
Textiles	0.97	0.78	0.39	0.26	0.23	0.52	0.36	0.29	0.24	0.21	0.98	0.92	1.85	2.6	2.39	0.47
Clothing	0.82	0.94	0.57	0.44	0.48	0.59	0.17	0.12	0.18	0.19	0.91	0.38	0.83	1.01	1.28	1.84

Source: Computed from WTO database, World Integrated Trade Solution

Sri Lanka introduced liberalizing economic policies including low tariff structure, removing non-tariff barriers, and relaxing exchange rates in 1977. Actually, it was the first country to implement free trade among South Asian countries. Historically, Sri Lanka has been an agricultural economy where agriculture accounted for more than 50% of the total GDP. However, agriculture still accounted for about 35% of the total labour force and 23% of total exports in 2008 (Central Bank of Sri Lanka, 2008).Statistics show that there is a significant increase by 265% in rice production during the last three decades under the open economic policy framework introduced in 1977.[19] Tea is the most prominent crop of the Sri Lankan plantation sector and Sri Lanka is one of the largest suppliers of black tea in the world. Statistics also shows that the tea sector benefited from liberalized trade policies. The RCA shows that Sri Lanka is in a better position in recent years in terms of export of products in relation to textiles and clothing. This has become

possible due to advantageous location of the port at Colombo and its better infrastructure. [20] Another reason is a ready supply of raw materials and an expanding resource base-both foreign and local companies have up textile mills to serve the increasing needs of the industry. Most of the companies are labour intensive, however modern technology and capital infusion has helped automate and upgrade many existing factories.[21]

Table 5: RCA OF NEPAL

Commodity Categories	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Agriculture	0.57	0.62	0.69	0.74	0.76	0.79	0.82	0.84	0.82	0.89	0.82	0.71	0.78	1.89	0.96	1.23
Food	0.61	0.51	0.62	0.64	0.62	0.64	0.69	0.72	0.79	0.72	0.79	0.89	1.17	1.84	2.14	0.18
Fuel & Mining	0.39	0.29	0.45	0.42	0.48	0.41	0.44	0.47	0.42	0.47	0.43	0.31	0.06	0.01	0	0.53
Fuels	0.88	0.78	0.32	0.29	0.32	0.39	0.32	0.36	0.39	0.34	0.34	0.24	0.01	0	0	0.00
Manufacture	0.45	0.35	0.21	0.24	0.28	0.24	0.21	0.24	0.21	0.26	0.29	0.17	0	0.18	0.17	0.29
Iron & Steel	0.34	0.24	0	0.01	0.02	0.14	0.19	0.39	0.19	0.21	0.31	0.21	0.23	0.23	0.27	0.24
Chemicals	0.77	0.67	0.49	0.57	0.69	0.72	0.78	0.82	0.42	0.47	0.28	0.64	0.65	0.7	0.04	0.52
Pharmaceutical	0.01	0.37	0.39	0.43	0.38	0.41	0.48	0.39	0.52	0.53	0.67	0.68	0.77	0.87	0.37	0.35
Machinery & trransport equipment	0	0.46	0.19	0.24	0.29	0.39	0.44	0.42	0.47	0.49	0.69	0.12	0	1.21	2.36	0.48
Office & Tel equipments	0	0	0.14	0.19	0.21	0.27	0.21	0.29	0.51	0.42	0.74	0.29	0.05	0.08	0	0.14
Edp and office equipments	0.09	0	0.01	0.06	0.05	0.01	0.03	0.06	0	0.59	0	0	0.08	0	0	0.00
Tel. Equipments	0.46	0	0	0.01	0.02	0	0	0.01	0	0.53	0	0.03	0	0	0.62	0.60
Ic and Ec products	0	0.04	0	0.2	0.01	0	0	0.08	0	0.37	0.68	0	0	0.51	0	0.00
Automative	0.01	0	0.01	0.02	0	0	0.23	0.02	0	0	0.89	0	0.12	0.23	0.42	0.00
Textiles	0.98	0.84	0.55	0.34	0.39	0.43	0.18	0.36	0.38	0	0.58	0.89	1.23	1.67	1.83	0.63
Clothing	0.92	0.91	0.79	0.82	0.85	0.96	0.23	0.76	0.36	0	0.67	0.46	0.56	1.34	0.38	0.77

Source: Computed from WTO database, World Integrated Trade Solution

The RCA for agricultural commodity of Nepal was less than one from 1997-98 to 2009-10. Only in 2010-11 the RCA was 1.89.Because Nepal was an agricultural country. But for the last one decade in Nepal agricultural production has come down. Then in 2009-10 Nepal govt has focused on irrigation, the use of fertilisers and insecticides and the provision of credit.It has also helped to increase food production. That's why the rca for food items has increased from 2009-10.[22] The RCA for machinery & transport equipment, office & tel equipments, EDP and office equipments, tel. equipments, manufacture, iron & steel, chemicals was low in Nepal over the years. This is because frequent changes of govt. and instable political situation, lack of capital, slow infrastructure development, and shortage of machinery equipments and technologies.[23] For textiles and clothing the rca for Nepal was also low over the years except 2009-10, 2010-11 and 2011-12.

Table 6: RCA OF BHUTAN

Commodity Categories	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Agriculture	0.21	0.14	0.19	0.21	0.24	0.21	0.24	0.21	0.24	0.29	0.39	0.36	0.41	0.24	0.13	0.21
Food	0.37	0	0.01	0.04	0.05	0.03	0.05	0.08	0.09	0.07	0.09	0.07	0.02	0.01	0.08	0.12
Fuel & Mining	0.56	0.29	0.27	0.32	0.32	0.29	0.32	0.34	0.21	0.26	0.42	0.31	0.23	0	0.02	0.23
Fuels	0	0.24	0.31	0.38	0.38	0.32	0.38	0.46	0.42	0.37	0.67	0.39	0.28	0.03	0.01	0.06
Manufacture	0.27	0.17	0.14	0.17	0.19	0.15	0.17	0.08	0.04	0.01	0.05	0.01	0	0.26	0.08	0.15
Iron & Steel	0	0.12	0.19	0.24	0.21	0.09	0.12	0	0.02	0	0	0	0.17	0	0.37	0.24
Chemicals	0	0	0	0.01	0	0	0.02	0	0.67	0.07	0	0.21	0.95	1.5	1.29	1.81
Pharmaceutical	0.54	0.05	0.01	0.03	0	0	0	0	0.09	0.09	0	0.72	0.11	0.13	0	0.00
Machinery & trransport equipment	0.64	0	0	0.21	0	0	0	0.43	0.76	0.72	0.75	0.19	0	0.03	0	0.00
Office & Tel equipments	0.72	0	0	0.21	0.13	0.19	0	0.19	0.24	0.21	0.19	0	0.15	0	0.64	0.00
Edp and office equipments	0	0	0.24	0.39	0.36	0.32	0.12	0.07	0.05	0.01	0	0	0.32	0.09	0	0.00
Tel. Equipments	0	0.09	0.09	0.21	0.24	0.06	0.37	0	0	0	0	0.37	0	0.38	0	0.00
Ic and Ec products	0	0.06	0	0.06	0.04	0.01	0	0	0	0	0.37	0	0	0	0.16	0.00
Automative	0.23	0.34	0	0	0	0	0	0.29	0.32	0.34	0.34	0	0	0.04	0.09	0.00
Textiles	0.28	0.46	0.39	0.67	0.89	0	0.02	0.62	0.69	0.63	0.38	0.41	0.07	0.01	0	0.19
Clothing	0.78	0.59	0.52	0.12	0.92	0.82	0.89	0.84	0.92	0.91	0.96	0.92	0.34	0.05	0.05	0.00

Source: Computed from WTO database, World Integrated Trade Solution

The RCA for agricultural commodity of Bhutan was less than one from 1997-98 to 2012-13.The RCA for all the major commodity was less than one for Nepal except chemicals in 2010-11,2011-12, and 2012-13.Because Bhutan is poor resource country. In the economic policy area, the performance of public enterprises needed improvement. Most of the country's large-scale firms were in the public sector, and many of these enterprises either were protected or subsidized, which inhibited their efficiency. Most public enterprises also lacked a sound financial footing. More than fifty public enterprises dominated major sectors of the economy. These enterprises included energy, basic utilities, oil, telecommunications, water supply, cement, jute, tobacco, and sugar. Some of these enterprises, for example, the Agricultural Inputs Corporation and the Bhutan Food Corporation, incurred losses year after year. [24] Bhutan suffered, however, from technology deficits, as well as fro shortfalls in its literacy rate, basic science education, and technical training. Although there had been some progress in raising the literacy rate, properly trained technicians remained in short supply.[25]

Table 7: RCA OF THAILAND

Commodity Categories	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Agriculture	0.75	0.65	0.72	0.79	0.82	0.89	0.92	0.71	0.73	0.79	0.81	0.79	0.72	0.59	0.89	0.77
Food	0.72	0.67	0.69	0.76	0.79	0.81	0.78	0.84	0.81	0.83	0.86	0.84	0.97	1.27	2.49	1.60
Fuel & Mining	0.69	0.53	0.59	0.64	0.61	0.65	0.67	0.54	0.51	0.64	0.61	0.63	0.72	0.76	0.54	2.17
Fuels	0.39	0.47	0.24	0.29	0.31	0.27	0.29	0.52	0.57	0.59	0.57	0.59	0.57	0.58	0.25	0.23
Manufacture	1.09	1.61	0.51	1.64	0.64	0.63	0.67	1.24	1.21	1.06	1.44	1.73	2.12	1.28	1.65	1.35
Iron & Steel	1.39	1.51	1.48	1.39	1.34	1.23	1.23	0.84	0.89	0.82	0.79	0.86	0.57	0.51	0.49	0.37
Chemicals	2.98	1.36	1.29	1.14	1.09	0.89	0.37	0.52	0.54	0.67	0.8	0.82	0.39	0.44	0.52	0.58
Pharmaceutical	3.1	1.41	0.89	0.83	0.89	0.72	0.79	1.36	1.28	1.29	0.83	0.42	0.91	0.68	0.73	0.17
Machinery & trransport equipment	2.27	2.36	1.36	1.24	1.25	0.31	0.38	1.62	1.65	1.08	1.36	1.37	1.26	1.54	0.65	1.82
Office & Tel equipments	1.36	1.09	2.04	1.79	1.86	0.42	0.39	1.08	1.23	1.56	1.08	1.09	1.37	1.39	1.28	1.87
Edp and office equipments	1.38	0.89	1.36	0.82	0.8	0.25	0.21	0.69	0.67	0.64	1.29	1.27	1.26	1.24	0.89	2.75
Tel. Equipments	1.67	1.31	2.45	0.72	0.76	1.86	1.89	0.89	0.82	0.39	0.59	0.56	1.32	0.96	0.92	1.76
Ic and Ec products	1.91	0.78	1.07	0.81	0.81	2.76	2.56	2.67	2.09	0.78	0.75	0.72	0.75	0.75	2.72	2.49
Automative	0.26	0.94	1.09	0.62	0.67	1.68	1.29	1.78	0.38	0.34	0.84	0.89	0.83	0.38	2.24	1.62
Textiles	0.19	0.97	2.01	1.91	1.98	0.39	0.35	1.35	1.08	1.83	0.89	0.42	0.62	0.47	0.92	0.35
Clothing	1.19	1.12	0.89	0.72	0.57	0.24	0.29	3.02	0.95	1.37	1.06	0.79	0.79	0.68	0.76	0.11

Source: Computed from WTO database, World Integrated Trade Solution

The RCA for agricultural commodity of Thailand is less than one because soil throughout most of the country is of low fertility, largely as a result of leaching by heavy rainfall. Differences between the various soil types are the result of differences in parent rock material, variations in the amount of rainfall, length of wet and dry seasons, type of vegetable cover, and other natural factors. For food items productivity is low. Manufacturing was the most important industrial subsector in Thailand, comprising on average 35 percent of each addition to GDP (incremental GDP), or 70 percent of all industrial value added during the 2000-01 and mid-2011-12. Textile, apparel, and leather firms had the highest share of manufacturing employment, with 25.8 percent in the early 1990s, followed by processed food, beverage, and tobacco firms, which accounted for 19.9 percent. [26] Furniture and other wood products firms accounted for 15.8 percent of manufacturing employment; minerals, metals, and metal products, 12.6 percent; transportation equipment, 10.5 percent; and other manufacturing firms accounted for the remaining 17.4 percent. [27] The RCA for machinery & transport equipment, office & telecom equipments, EDP and office equipments, tel. equipments, manufacture, iron & steel, chemicals was above one in Thailand over the years.

6. Conclusion

BIMSTEC countries are in different phases of economic development. India, with trade cooperation with some of them, in all product categories can be a vital player in the region. While India can export food grains to small and developing countries of BIMTEC, it can import edible and other agricultural products

from other BIMSTEC countries. India enjoys advantage in minerals whereas they can import crude oil from BIMSTEC. India had advantage in some manufactured items like chemicals, Iron and Steel, Jems and Jewellery and can export it to many BIMSTEC countries. Thailand has comparative advantage in Electrical and Electronic components and India can import them from Thailand. With regard to Textiles and Clothing there is passionate competition between Bangladesh and India to increase market share. India's average tariff is higher than BIMSTEC countries and reduction of tariffs will have a short term crash on India's exports but can unite in the medium term through productivity gains and efficiency. Also emerging economic structure warrants greater cooperation from India in the regionalization efforts in Asia.

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