
**TRADE COMPLEMENTARITY AND SIMILARITY BETWEEN INDIA
AND BIMSTEC COUNTRIES IN THE CONTEXT OF THE REGIONAL
TRADE AGREEMENT (RTA)**

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ABSTRACT

India has undertaken a series of economic reforms towards opening up of the economy in the decade of the nineties. India has gone for free trade agreement with many nations. BIMSTEC is an important element in India's "Look East" strategy and adds a new dimension to India's economic cooperation with South East Asian countries. India BIMSTEC free trade agreement will promote trade and greater connectivity between India, Nepal, Bangladesh, Myanmar, Sri Lanka, Bhutan and Thailand. In this context the paper tries to identify complementary and competing sectors of trade between India and BIMSTEC countries to consolidate their strengths and to overcome the pitfalls. To study the trade complementarity and similarity the paper has used trade intensity index and revealed comparative advantage as a tool. The paper identifies the pattern of revealed comparative advantage using the Balassa (1965) index for export data.

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INTRODUCTION

Reduction of trade barriers forms bloodthirsty strains and the potential for technology move so as to escort to productivity gains and restructuring of an economy toward its comparative advantage. 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. After initiating bilateral trade agreements with Sri Lanka, Thailand, for the first time it signed a RTA with a regional block, BIMSTEC on 14th March 2014 [1]. 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. For any Regional Trade Agreement (RTA) to be successful, it is imperative on partner countries to have complementary trade structure to be exploited for mutual benefit. Countries which got complementary trade structure are likely to trade more where as economies with similar trade structure often struggle to improve trade share unless there is substantial intra industry trade. RCA indices, despite their limitations, provide a useful guide to underlying comparative advantage and offer a further insight into the competitiveness of participating countries and hence reveal the possibility of increased trade cooperation between them. In this context the paper tries to identify complementary and competing sectors of trade between India and BIMSTEC countries to consolidate their strengths and to overcome the pitfalls. The synergies between India and BIMSTEC need to be identified for further cementing the economic cooperation and deepening the relationship.

METHODOLOGY

The study used Trade Intensity Index (TII) and Revealed Comparative Advantage (RCA) Index to see trade complementarity and Similarity between India and BIMSTEC countries. The trade intensity index (TII) is used to determine whether the value of trade between two countries is greater or smaller than would be expected on the basis of their importance in world trade. It is defined as the share of one country's exports going to a partner divided by the share of world exports going to the partner. It is calculated as, Where X_{ij} and X_{wj} are the values of country i's exports and of world exports to country j and where X_{it} and X_{wt} are country i's total exports and

total world exports respectively. An index of more (less) than one indicates a bilateral trade flow that is larger (smaller) than expected, given the partner country's importance in world trade.

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

Trade Intensity Index is further divided in to Export Intensity Index (EII) and Import Intensity Index (III) for looking the pattern of exports and Imports. Following Kojima (1964) and Drysdale (1969), the index of trade intensity is restated as follows,

Export intensity index is the ratio of a trading partner's share to a country/region's total exports and the share of world exports going to the same trading partner. It is calculated as:

$$EII_{ij} = \frac{(X_{ij}/X_{iw})}{(X_{wj}/X_{ww})}$$

where X_{ij} is the dollar value of exports of country/region i to country/region j , X_{iw} is the dollar value of the exports of country/region i to the world, X_{wj} is the dollar value of world exports to country/region j , and X_{ww} is the dollar value of world exports. An index of more than one indicates that trade flow between countries/regions is larger than expected given their importance in world trade. On the other hand, **Import intensity index** is the ratio of a trading partner's share from a country/region's total imports and the share of world imports coming from the same trading partner. It is calculated as:

$$III_{ik} = \frac{(X_{ik}/X_{iw})}{(X_{wk}/X_{ww})}$$

where X_{ik} is the dollar value of imports of country/region i from country/region k , X_{iw} is the dollar value of the imports of country/region i from the world, X_{wk} is the dollar value of world imports from country/region k , and X_{ww} is the dollar value of world imports.

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 nontraditional 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.

TRADE INTENSITY INDEX BETWEEN BIMSTEC AND INDIA

It is revealed from Table 1 that India's export intensity as well as import intensity with BIMSTEC is above one for most of the years. This means India's exports and imports are intense with BIMSTEC countries compared with its trading pattern with rest of the world. The natural trading partner theory reveals countries tend to trade more with neighbours and close proximate partners. BIMSTEC countries being geographically closer to India, value of these indices are likely to come down once it is adjusted for geographical distance. BIMSTEC's Import Intensity Index is higher than Export Intensity Index as it imports more from India compared to its exports.

Table: 1 Trade Intensity Index between BIMSTEC and India

Year	India's EII with BIMSTEC	BIMSTEC's EII with India	India's III with BIMSTEC	BIMSTEC's III with India
1997-98	0.8723	1.2311	0.9241	1.1732
1998-99	0.8478	1.2398	0.9831	1.1439
1999-00	0.9457	1.2745	1.1283	1.1951
2000-01	0.9821	1.3189	1.1637	1.2731
2001-02	1.0921	1.2962	1.2948	1.2467
2002-03	1.1256	1.3751	1.3471	1.3621
2003-04	1.2398	1.4261	1.4156	1.3821
2004-05	1.5672	1.4628	1.4928	1.6621
2005-06	1.4261	1.3891	1.5267	1.6832
2006-07	1.5821	1.2634	1.5782	1.4623
2007-08	1.7349	1.4932	1.7429	1.8323
2008-09	1.7621	1.1721	1.8135	1.6934
2009-10	1.8238	1.2634	1.8437	1.8231
2010-11	1.7967	1.5371	1.8931	1.9135
2011-12	1.8591	1.4742	1.9274	1.7492
2012-13	1.8797	1.7357	1.9725	1.8932

Source: Computed from UN COMTRADE Statistics, WTO.

Country wise look at the trade intensity shows India's export Intensity is above one for Bangladesh, Nepal, Bhutan and Srilanka. For others (Myanmar, Thailand) the export intensity is fluctuating over the years. Bangladesh, Nepal and Bhutan are the three countries with whom India got high export intensity.

Table: 2 India's Export and Import Intensity Index with BIMSTEC Countries

Year		BAN	MYAN	SRI	NEP	BHU	THAI
1997-98	EII	0.23	0.49	0.42	0.65	0.57	0.72
	III	0.18	0.64	0.21	0.21	0.37	0.89

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1998-99	EII	0.37	0.30	0.47	0.41	0.34	0.91
	III	0.26	0.73	0.28	0.29	0.31	1.12
1999-00	EII	0.17	0.34	0.39	1.23	1.41	0.65
	III	0.38	0.71	0.23	0.17	0.29	1.32
2000-01	EII	0.29	0.64	0.53	1.17	0.46	0.67
	III	0.51	1.27	0.01	0.01	0.19	0.78
2001-02	EII	0.42	0.71	1.63	1.42	0.51	0.51
	III	0.59	1.36	0.38	0.09	0.41	1.27
2002-03	EII	0.76	0.85	1.71	1.53	1.52	0.71
	III	0.62	2.07	0.31	0.03	0.44	1.84
2003-04	EII	1.40	0.59	2.83	1.64	0.74	0.75
	III	0.77	1.89	0.09	0.21	0.24	1.91
2004-05	EII	2.31	0.69	0.91	2.06	0.81	0.83
	III	0.59	0.67	0.36	0.24	0.07	2.06
2005-06	EII	0.64	0.64	0.97	2.29	1.12	0.87
	III	0.67	0.24	0.56	0.31	0.26	2.19
2006-07	EII	1.29	0.72	0.77	1.09	0.79	0.69
	III	0.28	0.67	0.03	0.36	0.33	1.05
2007-08	EII	0.23	0.79	0.98	1.12	0.64	0.52
	III	1.57	0.72	0.20	0.39	0.79	0.66
2008-09	EII	0.97	0.81	1.17	0.97	0.81	0.71
	III	0.91	1.12	0.41	0.31	0.81	0.83
2009-10	EII	0.77	0.68	2.01	0.83	1.14	0.63
	III	0.74	1.36	0.57	0.18	0.67	0.94
2010-11	EII	0.90	0.21	2.46	1.03	0.78	0.78
	III	0.84	1.61	0.61	0.41	0.55	0.97
2011-12	EII	1.89	0.34	0.45	0.87	1.32	0.81
	III	0.85	1.74	0.73	0.52	0.49	0.59
2012-13	EII	0.99	0.67	0.72	1.21	1.47	0.84
	III	0.93	0.98	0.62	0.36	0.69	0.71

Source: Computed from UN COMTRADE Statistics, WTO.

India's import intensity with Thailand for many years improved strongly after signing the bilateral trade agreement. Import intensity is markedly high with Myanmar as it shares geographical border with India and in close proximity with north eastern states of India. This exceptionally high import intensity is also due to Myanmar's low imports from the rest of the world due to political reasons. India's export business with Bangladesh is flourishing due to the favourable and strategic geographical location of both the countries, strengthening the process, economic ties between the two countries. Traders in West Bengal's Siliguri District have favoured Bangladesh, as there are several transit routes for exchange of goods. India's total earnings from trade with Bangladesh, both legal and illegal and in goods and services, may very well be in the range of 14 to 15 billion dollars per annum. This makes Bangladesh one of the most important export markets for India in the world [2]. The bilateral trade with Bangladesh is dominated by a huge trade surplus for India. In the NER, the India-Bangladesh border trade at Meghalaya, Assam and Tripura with US\$ 47 million export rate over US\$ 16 million import rate mirrors this overall picture, except for Tripura, whose import rates of US\$ 11 million indicates a significant trade deficit [3].

ANALYSIS OF REVEALED COMPARATIVE ADVANTAGE (RCA) BETWEEN INDIA AND BIMSTEC

The table-3 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 Srilanka 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: 3 Mean RCA for India and BIMSTEC 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

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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 a scope to trade food items between India and low RCA of BIMSTEC countries such as Myanmar, Bangladesh, Nepal, Bhutan, Srilanka 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, Srilanka 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 Srilanka. 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 [4]. 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 [5]. 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.

CONCLUSION

Inferences from the trade indices calculated for understanding the trade structure between India and BIMSTEC exposed that there are complementary sectors and products available for enhancing trade cooperation between the trading partners. 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, Gems and Jewellery and can export them to many BIMSTEC countries. Thailand (BIMSTEC) 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.

REFERENCES

- [1] http://commerce.nic.in/trade/international_ta_current_details.asp
- [2] <http://ibcci-rnd.com/country-profile/india-bangladesh-trade/>.
- [3] <http://www.thaiemb.org.in/en/information/bilateral.php>
- [4] http://www.jetro.go.jp/bangladesh/Services_Activities/Export_Japan/
- [5] <http://www.business.vic.gov.au/export/choose-an-export-market/china>
- [6] http://www.wto.org/english/res_e/statis_e/its_e.htm
- [7] <http://comtrade.un.org/pb/CountryPagesNew.aspx?y=2012>
- [8] <http://wits.worldbank.org/CountryProfile/Country/IND/Year/2012/Summary>
- [9] Batra, Amita and Zeba Khan. 2005. "Revealed Comparative Advantage: An Analysis for India and China". Indian Council for Research on International Economic Relations (ICRIER), Working Paper No. 168, New Delhi.
- [10] Subramanian, Arvind & Wei, Shang-Jin, 2007. "The WTO promotes trade, strongly but unevenly," *Journal of International Economics*, vol. 72(1), 151-175.S