

ANALYSIS OF SINO-INDIAN BILATERAL TRADE-A STUDY WITH SPECIAL REFERENCE TO COMPOSITION, INTENSITY AND REVEALED COMPARATIVE ADVANTAGE

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***Abstract:** As neighbours and two of the world's oldest civilizations, China and India have shared a long history of cultural, scientific, and economic linkages. Asia's two largest and most dynamic economies, India and China, are emerging as new trend setters in global economic affairs. The economic growth in these economies during last decade and half is surely very impressive. But in accordance of the size of the economy, population and importance in the region and the globe, both the economies have failed to tap the potential of their economic strength in the region and the globe. However, in spite of their combined population strength of 34 percent of the world's total and combined GDP of 13.88 percent (World Bank 2014), The volume of trade between these does not reflect the share what they deserve in the global economy. The relationship of these economies is of more than thousand years but still there are some unresolved issues between these economies. Beside many other strategic problems, the problem of trade deficit has grown remarkably in recent decades. It increased about 34 percent to US\$ 48.43 billion in 2014-15 from US\$ 36.21 billion in the previous fiscal year. During the period of April-January of 2015-16, this deficit increased to US\$44.7 billion. India's export to China stood at US\$ 7.56 billion during the period whereas the import has jumped to US\$ 52.26 billion during April- January.*

***Keywords:** Trade, Asia, India, China and Trade deficit*

***JEL Classification:** F10, F14, F15, F17.*

INTRODUCTION

Liberalization of international trade creates competitive pressures and potential for technology transfer leading the trade integration with other economies resulting better productivity growth and comparative advantage of trade. The bilateral trade relationship between India and China does not only affect the economic relations of

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these economies but to the whole world. India's share in China's exports and Imports increased from 0.51 per cent and 0.30 per cent in 1995 to 2.66 per cent and 1.34 per cent in 2011 respectively. During the period of 1995- 1999, the actual growth rates of Indian exports to and imports from China were 3.07 per cent and 6.05 per cent respectively. The trade between these two giant economies has been identified as the most sensible and reliable instrument, in recognizing the impact on the dynamism of the global economy and its vibrant growth speed. It is in this context of their changing behaviour, the current paper makes an endeavour to appraise that how the bilateral trade between the two economies becomes as a tool in intensifying their partnership for their joint advantages in the future time. It is important therefore, to explore the composition, intensity and revealed comparative advantage of India and China. This paper makes an attempt to develop some insights on the issue.

SELECTIVE REVIEW OF LITERATURE

Several studies have been undertaken using the concept of revealed comparative advantage. A majority of these studies use data on export shares. Balassa (1977) has undertaken an analysis of the pattern of comparative advantage of industrial countries for the period 1953 to 1971. The evidence provided in the paper supports the available evidence on trade in research intensive products, indicating the continuous renewal of the product cycle, with the US maintaining its ever increasing technological lead. Based on the standard deviation of the RCA indices for different countries an association is also seen to hold between size and diversification of exports. Balassa's results show that while the extent of export diversification tends to increase with the degree of technological development a reversal takes place at higher levels.

Yeats (1997) studies the possible distortions in trade patterns on account of discriminatory trade barriers that are characteristic of the RTAs. He uses the index of revealed comparative advantage in conjunction with the changes in the regional orientation of exports to identify any apparent inefficiency in trade patterns for the Mercusor group of countries. Richardson and Zhang (1999) have used the Balassa index of RCA for the U.S to analyze the patterns of variation across time, sectors and regions. They find the patterns to differ across different parts of the world, over time as also for different levels of aggregation of the export data. Differentials are accounted for by factors like geographical proximity of trading partners and per capita income with the extent of influence of these factors varying over time and across sectors/sub sectors.

Yue (2001) uses the RCA index to demonstrate the fact that China has changed its export pattern to coincide with its comparative advantage and that there are distinct differences in export patterns between the coastal regions and the interiors in China.

Bender and Li (2002) examine the structural performance and shift of exports and revealed comparative advantage of the East Asian and Latin American regions over

the period 1981-1997. It examines, if there is a relation between changes in export pattern among different regions and shifts in comparative advantage between regions. The Vollrath (1991) index that accounts for double counting in world trade has been used for analysis.

Fertý and Hubbard (2002) assess the competitiveness of Hungarian agriculture vis-à-vis EU using four indices of revealed comparative advantage. The four indices are -original Balassa index, relative trade advantage, relative export advantage, logarithm of the relative export advantage (original Balassa index) and relative competitiveness (difference of the log values of relative export and import advantage).

A categorization of indices as cardinal (identifies the extent to which a country has comparative advantage/disadvantage), ordinal (provides a ranking of products by degree of comparative advantage), and dichotomous (a binary type demarcation of products based on comparative advantage/disadvantage) has been undertaken in their study. The results show that the indices were less cardinal in identifying whether Hungary has a comparative advantage in a particular product group, but were useful as a binary measure of comparative advantage.

Leu's paper (1998) examines the systematic shift of comparative advantage in East Asian economies by computing and comparing revealed comparative advantage indices for ten selected East Asian economies in the U.S market. The results show that conventional wisdom of shifting comparative advantage in accordance with the level of development continues to hold true.

The dynamics of Chinese comparative advantage has been analyzed in several studies. Prominent among these is the Hinloopen and Marrewijk (2004) study. The study uses the Balassa index with some innovations to identify the dynamics. The pattern of China's revealed comparative advantage and its implications in terms of competition for other exporting countries has been analyzed using the methodology of market share changes. Weiss (2004), Lall and Albaladejo (2003) and Lall and Weiss (2004) analyze the aspect of threat/opportunity in the context of China's economic relations with South East and East Asia.

Lall and Weiss focus on the competitive threat to the Latin American economies. There has thus far been no attempt to analyze the competitiveness that Chinese exports may pose for Indian exports in the global economy. Given the similarity in size, factor endowments and geographical proximity of the two economies it is imperative that an analysis of comparative advantage that India and China hold in the world market be undertaken. This paper is the first to attempt a systematic evaluation of the similarities of the patterns of revealed comparative advantage for India and China in the global market.

OBJECTIVES OF THE STUDY

Specifically the paper makes an attempt to analyse the following aspects during the period during 1995 to 2015.

1. To analyse the trade composition between India and China.
2. To examine the Trade Intensity between India and China.
3. To evaluate the Revealed Comparative Advantage of trade between India and China.

METHODOLOGY AND DATA SOURCES

The present study is based on the secondary data and information collected from various sources. The main sources of data are UN Comtrade database , RBI database and WTO database. The study has been conducted on the methodology as below :

(a) Trade Intensity

The trade intensity index (Brown 1949; Kojima 1964) 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 appears in two forms. Export Intensity Index (XII) and Import Intensity Index (MII).

They are defined as follows :

$$XIIa = \frac{xab / Xaw}{Mbw / (Mw - Maw)}$$

$$MIIa = \frac{mab / Maw}{Xbw / (Xw - Xaw)}$$

Where $XIIa$ stands for export intensity index of a country and $MIIa$ stands for import intensity index for a country. xab stands for export of a economy to b economy. Xaw the country a 's total export to world. Mbw the country b 's total import from the world. Mw the world's total import. Maw the county a 's total import from the wold. mab the economy a 's import from economy b . Maw the economy a 's total import from the world. Xbw the economy b 's total export to the world. Xw the total world export and Xaw the economy a 's total export to the world.

Export and import indices indicate the ratio of the share of economy a 's trade with economy b relative to the share to the world with economy b . The average amount of this index is equal to one, if an index is greater than one, which means there is a higher degree of trade intensity (indication of larger than expected trade flow) between two given countries. On the other hand, if the index is closer to zero, that shows lower degree (lower than expected trade flow) of trade intensity.

(b) Intra-Industry Trade

Another measures that is employed by the various studies to examine the bilateral trade relations is the intra- industry index, introduced by Herb Grubel and Peter Lloyd in 1971.

$$IIT_{ai} = \frac{x_{ai} + m_{ai} - |x_{ai} - m_{ai}|}{x_{ai} + m_{ai}}$$

Where, IIT_{ai} is the index of intra industry trade in commodity group I for economy a , x_{ai} the value of export of commodity group i for economy a , m_{ai} the value of import of commodity group I for the economy a . The intra-industry trade index for specific sector ranges between 0 to 1 or 0 to 100 in percentage form.

(c) Revealed Comparative Advantage Index

In absence of sufficient data on factor costs, particularly pre-trade prices that are not observable, the calculation of commodity wise comparative advantage of a country is always questionable because relative prices and therefore costs play a crucial role in determining the comparative advantage across commodities between countries. Balassa introduced a measure called “Revealed comparative advantage” (RCA) index. Since the analysis is based on realized observed export data, it is called “Revealed Comparative Advantage”. It is also used to compare the competitiveness of each economy in the trade of a particular commodity group.

The RCA index of country a for product i is often measured by the product’s share in the country’s exports in relation to its share in world trade:

$$RCA_{ai} = \frac{x_{ai} / X_{aw}}{X_{iw} + X_w}$$

Where RCA_{ai} is the revealed comparative advantage index of commodity group i for economy a , x_{ai} the value of export of commodity group i by economy a , X_{aw} the value of total exports by economy a , X_{iw} the value of world export of commodity group i , and X_w is the value of total world 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.

TRADE COMPOSITION

The usefulness of foreign trade depends upon the structure and pattern of trade which is determined by the nature of commodities exported and imported by a country (Singla and Brar, 2008). During the liberalization era, Indian dependency on Chinese items increased rapidly. Due to the cheap prices of Chinese products, Indian imports from China increased at a tremendous pace. Commodity wise India-China trade between

the selected period has been presented in the following two tables. The table 1 explains the commodity wise share of India's imports from China since 1995 based on the Standard International Trade Classification (SITC) Revision IIIrd¹ for single digit commodities as specified by UN Comtrade . The table explains that India's import from China for SITC 2 and 3 commodities which comprises Crude materials, inedible, except fuels and Mineral fuels, lubricants and related materials has gone down drastically from 14.44 percent and 16.41 percent (1995) to 0.84 percent and 1.16 percent respectively.

Table 1
India's Import from China (in Percent)

<i>SITC one digit Classification</i>	1995	2000	2005	2010	2015
0. Food and live animals	1.92	1.40	0.50	0.53	0.35
1. Beverages and tobacco	0.00	0.02	0.03	0.01	0.00
2. Crude materials, inedible, except fuels	14.44	14.35	3.86	1.18	0.84
3. Mineral fuels, lubricants and related materials	16.41	17.59	8.15	1.55	1.16
4. Animal and vegetable oils, fats and waxes	0.31	0.12	0.02	0.02	0.01
5. Chemicals and related products, <i>n.e.s.</i>	32.83	23.22	16.94	17.21	20.90
6. Manufactured goods classified chiefly by material	14.73	12.44	19.86	17.25	15.95
7. Machinery and transport equipment	12.82	23.97	43.79	48.59	51.61
8. Miscellaneous manufactured articles	2.80	5.71	5.81	5.88	7.51
9. Commodities and transactions not classified elsewhere in the SITC	3.74	1.02	0.72	7.89	1.70

Source: Author's own calculation based on UN Comtrade database

This may be due to higher production growth rate domestically or/and trade integration with other economies. The import of SITC 5 (Chemicals and related products, *n.e.s.*), SITC 6 (Manufactured goods classified chiefly by material) and SITC 7 (Machinery and transport equipment) commodities explained that they collectively represent 60 percent, 59 percent, 80 percent, 83 percent and 88 percent import during 1995, 2000, 2005, 2010 and 2015 respectively. The SITC 8 (Miscellaneous manufactured articles) shows a growth from 2.8 percent in 1995 to 7.51 percent in 2015. The shrinking trend is presented in case of SITC 0 (Food and live animal), 1 (Beverages and tobacco), 4 (Animal and vegetable oils, fats and waxes) and 9 (commodities and transactions not classified elsewhere in the SITC).

Table explains the commodity wise exports of India to China during the period of last twenty years. The table shows that the export of SITC 2 in 1995 was 41.53 percent reduced to 28.1 percent in 2000 and in 2005 and 2010 it increased to 65.15 percent and 51.08 percent respectively. In 2015, this commodity's export reduced sharply up to 19.17 percent. The table explains that the main India's exporting commodities to China are SICT 2 (Crude Material, inedible, except fuels), SICT 5 (Chemicals and related products, *n.e.s.*) and SITC 6 (Manufactured Goods classified mainly by material) during this period.

Table 2
India to China Exports (in Percent)

<i>SITC Classification one digit</i>	1995	2000	2005	2010	2015
0. Food and live animals	14.67	16.73	3.00	2.70	2.44
1. Beverages and tobacco	0.43	0.01	0.01	0.00	0.05
2. Crude materials, inedible, except fuels	41.53	28.10	65.15	51.08	19.71
3. Mineral fuels, lubricants and related materials	0.05	0.12	0.34	2.13	6.29
4. Animal and vegetable oils, fats and waxes	5.96	3.12	0.60	1.39	3.00
5. Chemicals and related products, <i>n.e.s.</i>	14.78	25.45	12.45	7.84	15.57
6. Manufactured goods classified chiefly by material	20.18	17.85	14.50	30.31	39.47
7. Machinery and transport equipment	1.57	5.35	2.52	3.29	9.35
8. Miscellaneous manufactured articles	0.80	3.11	1.20	1.14	4.12
9. Commodities and transactions not classified elsewhere in the SITC	0.01	0.15	0.25	0.11	n.a

Source: Author's own calculation based on UN Comtrade database

INTENSITY OF TRADE

The intensive dominance of commodities in trade has been presented below with the help of export and import intensities indices. The table analyses the ratio of the share of India's trade with China relative to the share of the world with China. The index of more than one unit interprets an indication of larger than expected trade between the countries and *vice-versa*. The table demonstrates that almost all the trade indices (export and import) are less than unity with exception to four cases.

Table 3
Intensity of Trade between India and China

	1995	2000	2005	2010	2015
Export Intensity (China to India)	0.67072	0.743659	0.817359	1.015767	0.831191
Export Intensity (India to China)	0.385577	0.49778	1.121398	0.836429	0.301797
Import Intensity (China from India)	0.445725	0.860566	1.38748	0.902564	0.364188
Import Intensity (India from China)	0.716025	0.702129	0.953956	1.096401	0.97452

Source: Author's own calculation using data from UN Comtrade database SITC Revision III.

The table shows that India is relatively importing more from China with exception to year 2000 and 2005 when China's imports were relatively higher than India. It implies that in spite of huge potential of trade; the trade relationship between India and China is not at par. Both the countries are trading less than their potential. The table demonstrates that the trade deficit between the economies during the period which seems to be widened during 2010 to 2015. These under potential trade relationship between India and China is not only due to economic factors like gap between the opening up the economy of both the nations, differences in their gross domestic product etc but because of some unresolved issues, maintenance of peace and lack of confidence and other non-economic factors may also be responsible.

INTRA-INDUSTRY TRADE

An attempt has also been made to analyse the trade relationship between India and China using the technique of intra-industry index, the technique introduced by Herb Grubel and Peter Lloyd in 1971. The intra industry trade, on the basis of India's export to China and India's import from China has been presented in Table 4. The intra-industry trade index for specific sector ranges between 0 to 1 or 0 to 100 in percentage form. The index closer to 0 explains, the greater the potential for intra industry trade for the specific commodity i.e the country is completely specialized or unspecialized in the sector. If it is closer to 1 means the heavier the weight of intra-industry trade *i.e.* the value of export and import of a specific sector are more or less equitant.

The table 4 demonstrates that intra industry indices for SITC 0, 3 and 6 in 2015 is 0.95, 0.92 and 0.56 which indicates that there are major trade activities (Export and/or Import) for these commodities between India and China. These trade activities have increased over the period especially in case of SITC 0 and 3. For SICT 2, opposite picture appears. It decreased from 0.92 in 1995 to 0.43 in 2015. Beretta and Lenti (2012) point out that in Chemicals sector, India imports raw material from China and exports finished products. Over the years, there is remarkable development in the field of chemicals, finished plastic and pharmaceuticals products which are exported to China.

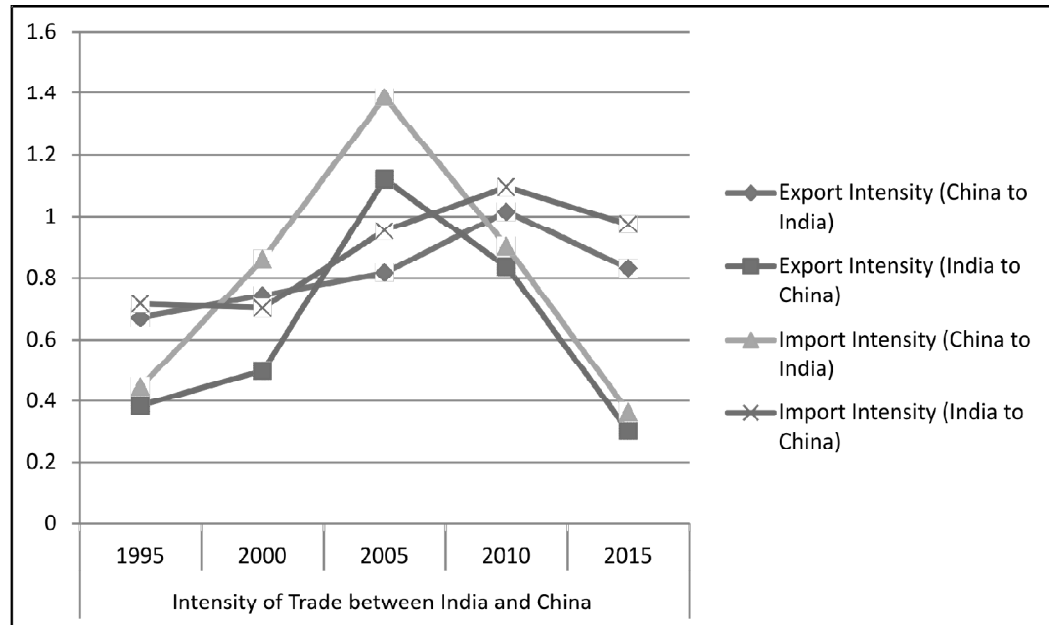


Figure 1: India-China Trade Intensity Index

Source: Author's compilation from table 3.

Basically, Indian pharmaceuticals companies depend on China as one of their primary suppliers of concerned ingredients. (Gupta and Wang, 2009). India's high-technology manufactured exports are specifically concentrated in pharmaceuticals products.

Table 4
India-China Intra-Industry trade indices
(on the basis of India's Export to China and India's Import from China)

<i>SITC Classification one digit</i>	<i>1995</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>
0. Food and live animals	0.49	0.29	0.38	0.63	0.95
1. Beverages and tobacco	0.00	0.42	0.33	0.24	0.48
2. Crude materials, inedible, except fuels	0.92	0.99	0.16	0.10	0.43
3. Mineral fuels, lubricants and related materials	0.00	0.01	0.06	0.74	0.92
4. Animal and vegetable oils, fats and waxes	0.23	0.14	0.09	0.07	0.02
5. Chemicals and related products, <i>n.e.s.</i>	0.31	0.70	0.68	0.32	0.21
6. Manufactured goods classified chiefly by material	0.72	0.83	0.68	0.85	0.56
7. Machinery and transport equipment	0.10	0.20	0.08	0.06	0.05
8. Miscellaneous manufactured articles	0.21	0.43	0.25	0.15	0.16
9. Commodities and transactions not classified elsewhere in the SITC	0.00	0.14	0.39	0.01	0.00

Source: Author's estimations from UN Comtrade Database.

REVEALED COMPARATIVE ADVANTAGE

Commodity wise revealed comparative advantage (RCA) index between India and China has been calculated to compare the competitiveness of each country in the trade of a particular commodity group. This measure is also used to 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. RCA index for India and China has been presented in Tabel 6 and Table 7 respectively. Table 6 demonstrates that India's revealed comparative advantage lies in the area of Food and live animals (SITC-0), Crude materials, inedible, except fuels (SITC-1), Mineral fuels, lubricants and related materials (SITC-3), Chemicals and related products, *n.e.s.* (SITC-5), Manufactured goods classified chiefly by material (SITC-6) and Miscellaneous manufactured articles (SITC-8) in 2015 and the overall structure of RCA since last 20 years is almost barring some minor fluctuation and exceptions.

The RCA picture of last 20 year establishes the fact that India is having the advantage of exporting these cited product groups. As far as China's revealed comparative advantage is concerned, it can be observed from Table 7 which explains that China's RCA lies in the area of Manufactured goods classified chiefly by material (SITC-6), Machinery and Transport Equipments (SITC-7) and Miscellaneous manufactured articles (SITC-8) and the picture remains almost same during the period of last twenty years *i.e.* during 1995 to 2015 with some minor fluctuations.

Table 6
Revealed Comparative Advantage indices for India

<i>SITC Classification one digit</i>	1995	2000	2005	2010	2015
0. Food and live animals	2.38	2.15	1.56	1.24	1.55
1. Beverages and tobacco	0.41	0.52	0.42	0.59	0.50
2. Crude materials, inedible, except fuels	1.22	1.24	2.34	1.73	1.00
3. Mineral fuels, lubricants and related materials	0.30	0.34	0.85	1.20	1.33
4. Animal and vegetable oils, fats and waxes	1.50	1.85	0.91	0.67	0.98
5. Chemicals and related products, n.e.s.	0.84	1.14	1.07	0.97	1.16
6. Manufactured goods classified chiefly by material	2.34	2.92	2.41	2.19	2.05
7. Machinery and transport equipment	0.19	0.18	0.27	0.42	0.43
8. Miscellaneous manufactured articles	1.54	1.72	1.45	1.12	1.15
9. Commodities and transactions not classified elsewhere in the SITC	0.54	0.47	0.30	0.40	0.00

Source: Author's own calculations based on UN Comtrade Database.

Both India and China have comparative advantage in the area of manufactured goods classified chiefly by material (SITC-6) indicating the higher amount of competition between India and China for this group of commodities at more disaggregated level.

The table also reveals that there are areas where there is no overlap in the countries' comparative advantage and the countries do not compete with each other which include group of Food and live animals (SITC-0), Beverages and tobacco (SITC-2), Mineral fuels, lubricants and related materials (SITC-3), Chemicals and related products, n.e.s. (SITC-5) and Machinery and transport equipment (SITC-7).

DISCUSSION

Trade is not only an economic issue as it is being affected by a number of non-economic variables such as political relations, strategic ties and different other issues. India-China economic relationship is no exception. This paper makes the smell that the bilateral trade relationship between India and China, especially during last two decades, has not succeed to tap the huge potential. The calculated values of export and import intensities, the intra-industry indices and revealed comparative advantage indices confirm the huge amount of potential availability. The comparative advantage indices reveal the fact that each county holds advantage in some respective commodities. The question is how to exploit this opportunity? The proper exploitation of this opportunity will not be in the interest of bilateral trade between these countries but it will be proved as a long term trend setters in Asia and the globe.

Basically, trade is a multi dimensional and multi-sectoral phenomenon which is directly and positively affected by rules and regulations related to labor laws, land acquisition, infrastructural development, exchange rate management, environment and other various economic and non-economic factors. In case of India and China, maintenance of peace and confidence building will be determining factors.

In this reference, various issues related to production & export of iron ore and coal mining for which the Supreme Court of India has ordered seems to be as obstacles and convey a negative message to the foreign investors in making the business environment favourable for the economy.

Therefore, an internal strategic policy framework and external strategic platform needs to exploit the potential of bilateral trade and minimize the trade deficit.

CONCLUSION

The present paper is an attempt to highlight the issues related to the potential, competitiveness and comparative advantage of trade during 1995 to 2015. As both countries have historical relationship since more than a thousand of year with huge potential of trade, tapping this potential will not only be in the interest of these economies but for the region also. The paper suggests that the available comparative advantage in many commodities as discussed earlier may boost the economies to minimize the trade deficit. There is also a wide scope for intra-industry trade as indicated through the intra-industry indices for both the economies which has been discussed earlier. Finally, it can be concluded that the future strategy for bilateral trade between Indian and China should not be prepared not for India and China only but for India, China and the world keeping the interest of both the economies intact.

Notes

- ¹ The SITC Rev. IIIrd was adopted in 1988 and maintains the basic 10-section structure of the previous editions; the sections are subdivided into 67 two-digit divisions, 261 three-digit groups, 1,033 four-digit groups, and 3,121 five-digit headings.

References

- Amita Batra, Zeba Khan, (2005), "Revealed Comparative Advantage: An Analysis For India And China", *Indian Council For Research On International Economic Relations*, New Delhi.
- Balassa, Bela (1977), "'Revealed' Comparative Advantage Revisited: An Analysis of Relative Export Shares of the Industrial Countries, 1953-1971", *The Manchester School of Economic & Social Studies*, vol. 45, issue 4, pp. 327-44.
- Balassa, Bela (1986), "Comparative Advantage in Manufactured Goods: A Reappraisal" *The Review of Economics and Statistics*, Vol. 68, No. 2, pp. 315-319.
- Bender, Siegfried and Kui-Wai Li (2002) "The Changing Trade and Revealed Comparative Advantages of Asian and Latin American Manufacture Exports", Yale University, Economic Growth Center Discussion Paper Series No. 843.
- Boillot J. and Mathieu Labbouz, (2006), "India-China Trade Lessons Learned and Projections for 2015", *Economic and Political Weekly*, June 30, pp 2893-2901.
- Brown, A. J. (1949), "*Applied Economics: Aspects of World Economy in War and Peace*", London: George Allen and Unwin.

- Economic Outlook for Southeast Asia, China and India (2016), Enhancing Regional Ties. OECD.
- Ferti, Imre and Lionel J. Hubbard (2002), "Revealed Comparative Advantage and Competitiveness in Hungarian Agri-Food Sectors", Institute of Economics, Hungary Academy of Sciences, Discussion paper series-8.
- Grubel, H. and P. J. Lloyd. (1975), *Intra-Industry Trade: The Theory and Measurement of International Trade in Differentiated Products*. London: Macmillan
- Harris, N. (1974), *India-China: Underdevelopment and Revolution*. Delhi:Vikas Publishing house.
- Hinloopen, Jeroen and Charles van Marrewijk (2004), "Dynamics of Chinese Comparative Advantage", Tinbergen Institute Discussion Paper No. 034/2.
- International trade Statistics 2015, WTO
- Kojima, K. (1964), "The Pattern of International Trade among Advanced Countries", *Hitotsubashi Journal of Economics*, Vol. 5, No. 1, 16-36.
- Lall, Sanjaya and John Weiss (2004), "People's Republic of China's Competitive Threat to Latin America: An Analysis for 1990-2002", Asian Development Bank Institute, Discussion Paper No. 14.
- Lall, Sanjaya and Manuel Albaladejo (2003), "China's Competitive Performance: A Threat to East Asian Manufactured Exports?" , Queen Elizabeth House Working Paper Series No. 110.
- Leu, Dr. Gwo - Jiun Mike (1998) " Changing Comparative Advantage in East Asian Economies", School of Accountancy and Business Research Centre, Nanyang Technological University, Working Paper No. 3-98.
- Nassir ul haq wani and Jasdeep kaur dhani, (2016), "India's merchandise trade with China: growth, prospects and future potential?" available at -Online at <https://mpr.ub.uni-muenchen.de/70638/MPRA Paper No. 70638>, posted 13 April 06:47 UTC
- Reserve Bank of India Bulletin, 2016.
- Rahul Arora, Sarbjit Singh, and Somesh K. Mathur (2015), "Assessment of the Proposed India-China Free Trade Agreement:A General Equilibrium Approach", *Indian Institute of Technology Kanpur, Kanpur, India*.
- Richardson, David. J and Chi Zhang (1999), "Revealing Comparative Advantage: Chaotic or Coherent Patterns Across Time and Sector and U.S Trading Partner?", National Bureau of