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India's Agricultural Commodity Trade Relations with China in the Era of Globalization

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Abstract

In this study, we attempt to analyse the trade relations between India and China especially in agricultural commodity since 2004. In this analysis, we use the concept of trade intensity, long-term trend analysis and statistical test i.e. time horizon during 2004 to 2011. Overall results show that the liberalization process has led a significant changes and growth rate of India and China's trade has been higher than the world trade growth. Secondly, India's trade growth rate with China during later period (2009-2013) substantially has been felt declined. The composition of India's agricultural commodity basket reflects meager changes and result carries with domination of exports especially agricultural commodities, which does not have a positive sign in long term.

Keywords: Exports, Imports, Agricultural Commodity, Trade Intensity, Revealed Comparative Advantage.

1. Introduction

The rapid economic integration of China and India in the world economy has changed the trade and investment flows. India and China have been in bilateral relation for more than two centuries. Their millennia-old relation is strongly based on continuous exchange of culture, heritage, goods and services. The trade relation between the both parties has caught impetus with initiation of sub-regional and bilateral regional cooperation in areas of mutual benefits. Our exports to China and our imports from China have noted a sea-change from the pre-to-post liberalisation period.

2. Objective of study

- 1) To analyse the changes in India's trade with China in era of globalisation.
- 2) To study the agricultural commodity composition of India's trade with China.
- 3) To study the relative comparative advantage of India over China in export of agricultural commodities in the world market.
- 4) To analyse the trend of trade intensity with China during the period 2004-2011.

3. Research methodology

The study is analytical in nature and covers a period of 8 years (2004-2011) which is comprises into ten parts: Introduction, Objective of study, Research methodology, Literature Review, Trends of India's trade with China, Commodity Composition of trade, Trade intensity of India with China and Conclusion. It deals with detail view of our trade with China through the statistical analysis on secondary data which are collected from Handbook of Statistics on Indian economy, RBI; Economic Survey of India; UNCTAD publications; International Trade Statistics, WTO, AFO etc. The analysis has been done with the help of various statistical tools. The formula used to calculate the statistics are

(1) Export Intensity Index of India with China has been measured with the help of following formula:

$$X_{ij} = \left\{ \left(\frac{X_{ij}}{X_i} \right) / \left(\frac{M_i}{M_w - M_i} \right) \right\}$$

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Where:

X_{ij} is India's export intensity with China.

X_{ij} is export of India to China.

X_i is total export of India.

M_i is total import of China.

M_w is total world import and.

M_i is total import of India.

I & j denotes country India and China respectively.

(2) Import Intensity Index of India with China has been measured by using following formula:

$$III = \left\{ \left(\frac{M_{ij}}{M_i} \right) / \left(\frac{X_j}{X_w - X_i} \right) \right\}$$

Where

III is India's imports intensity index with China

M_{ij} denotes imports of India from trading partner China

M_i is a total import of India

X_j is a total export of China

X_w is total world exports

X_i total export of India

(3) The Commodity Index Intensity of India's exports to China is defined as:

$$I_{ic} = \frac{X_{ic}^h / X_{ic}}{M_c^h / M_j}$$

Where:

I_{ic} is commodity intensity index of India's export of a particular Commodity to China.

X_{ic}^h denotes India's export of particular commodity to China.

X_{ic} is India's total exports to China.

M_c^h is China's imports of particular commodity from all sources of supply.

M_j is China's total imports.

(4) Commodity Index Intensity of India's imports from China is defined as follows:

$$I_{ic} = \frac{X_{ic}^h / X_{ic}}{M_i^h / M_j}$$

Where:

I_{ic} - Commodity intensity index of India's import of particular commodity from China. X_{ic}^h - India's imports of particular commodity from China (China's exports of

particular commodity to India)

X_{ic} - India's total imports from China (China's total exports to India)

M_c^h - India's imports of particular commodity from all sources of supply

M_i - India's total imports.

(5) Balass's Revealed Comparative Advantage Index (RCA) has been computed as

$$R_{ih} = \left(\frac{X_{ih} / X_{it}}{X_{wh} / X_{wt}} \right)$$

Where:

R_{ih} = Balassa's index of RCA

X_{ih} = India's export of product h.

X_{it} = total export of country India.

X_{wh} = world export of product h

X_{wt} = total world exports

A country is said to have revealed comparative advantage (disadvantage) in product h if $R_{ih} > 1$ and $R_{ih} < 1$

4. Literature review

In the following section, a comprehensive review of literature on India's agricultural commodity trade relations with China is being undertaken to find out the research gap and to formulate the objectives of the present study.

Ganasemurthy, V.S [1], in his book "Indio-China Relations: Dimension and Prospective" 2009, examines Indo-China relations from various angles including regional and global dimensions. The book also describes about cultural exchanges and share perceptions of the two countries. The book also highlights obstacles in the way of India-China smooth relations. Author suggests that these problems can be removed through promotion of bilateral economic relations between the two countries. Author has taken current trend and prospects of Indo-China relation to discuss about these phenomena. But in this study author has not covered bilateral trade between India and China.

Srivastava, Anupam [2], in his article, "Strategic Context of India's Economic Engagement with China" 2007, highlights Sino-India security relations in the brief and discusses about key factors to explore closer economic ties. These factors are given priority to identify sustainable economic growth. China needs to expand its relations with India and to other economies of South Asia and India should seek to penetrate and profit from the immense market that China presents. In this article, author discusses very little about economic linkages and overlaps between the security and economic dimension.

Prof. S. K. Mohanty [3], "India-China Bilateral Trade Relationship." 2014, This study examined some broad macroeconomic developments in both countries, discussed trade policy review of China in the context of India's economic interest, analysed the bilateral trade relationship, tariff regimes in both the countries, focused on the trade potential existing and examines patterns. Study also examined the engagement of India and China in different regional trading arrangements and the implications of this for India. The conclusions and policy recommendations are presented in the last section.

Sheikh Mohd Arif [4], “A History of Sino-Indian Relations: From Conflict to Cooperation.” 2013, attempted to trace the history of Sino-Indian relations. India-China relations have undergone dramatic changes over the past five decades, ranging from the 1950’s with a deep hostility in the 1960’s and 1970’s to a rapprochement in the 1980’s and a readjustment since the demise of Soviet Union. This study does not cover the trade relations.

Prof. V. Balakrishnama Naidu [5], “An Analysis of Trade Relations between India-China.” 2013, analysed trade relations between India and China. India has already been the top trading partner of China in the recent time. The share of Indian exports to China picked up to 10.17 per cent in 2011-12 and during 1990-91 to 2011-12, the growth were registered 28.5 per cent per annum respectively. Imports from China share accounted 4.66 per cent in 2000-01, and further this imports share reached to 13.94 in 2011-12. During this period the growth were registered 28.5 per cent

per annum respectively. This study has not taken agricultural commodities in trade.

5. Trend in India’s Trade to China:

Table No 1 and 2 provide trends and growth rate of India’s trade to China. It also measures the percentage share of India’s export to China as compared to India’s total exports. The table No. 1 shows that the size of India’s exports to China amounted to \$ 4178 million in 2004. This improved gradually to \$18492 million in 2008. But it declined slightly to \$10370 million in 2009 and it was registered \$10370 million in 2010. Since 2011, India’s exports to China have exhibited continuous fluctuating trends. The magnitude of India’s exports to China reached to \$14729 million in 2012 and further \$ 16416 million in 2013. Thus India’s exports to China during 2004 to 2008 has increasing trends and in later period during 2009-2013 has fluctuating trends.

Table 1: Trends in India’s exports and imports from China (US \$ Million)

year	India's export to China	India's total export	% of world export	India's imports from China	India's total imports	% of world imports
2004	4178	75385	5.54	6073	99835	6.08
2005	6445	97918	6.58	9829	134690	7.29
2006	9518	122741	7.75	16047	185003	8.67
2007	10195	153960	6.62	24691	235182	10.49
2008	18492	198285	9.32	34668	313471	11.05
2009	10370	164912	6.29	30613	257200	11.9
2010	17439	226334	7.7	41249	350192	11.78
2011	16717	302892	5.52	55483	464507	11.94
2012	14729	296827	4.96	54140	489689	11.06
2013	16416	312246	5.26	51635	467039	11.06

Source: Direction of Trade Statistics (DOTS), Yearbook, IMF and World Integrated Solution

Table No. 1 also analyses India’s exports to China as percentage of India’s total exports to the world. It gives an idea about reflected India’s exports importance to China. The percentage share of India’s exports to China in India’s total exports improved continuously at steady rate during 2004-2006. In 2007, it was only 6.62 percent of Indian world exports and reached at pick in ensuing year with 9.32 percent in 2008. Whereas, Indian exports to China had declined to 6.29 percent of total Indian exports in 2009. In 2010, it was again slightly improved to 7.70 percent but later period it was slightly fluctuated with 5.52 percent in 2011, 4.96 percent in 2012 and 5.26 percent in 2013. This does not show a significant increase in Indian exports to China as a percentage of total Indian exports. On the other hand, Table No 1 reveals that the size of India’s imports from China accounted \$ 6073 million in 2004. This improved gradually to \$ 34668 million in 2008. But it declined slightly to \$ 30613 million in 2009 and it was registered \$ 41249 million in 2010 and \$ 55483 million in 2011. Since 2012, India’s imports from China have exhibited continuous declined trends. The magnitude of India’s imports from China was to \$ 54140 million in 2012 and further declined \$ 51635 million in 2013. Thus India’s imports from China during 2004 to 2008 has increasing trends and in later period during 2009-2013 has fluctuating trends. Table No. 1 also analyses India’s imports from China as percentage of India’s total imports from the world. It gives an idea about of reflected India’s imports importance to China. The percentage share of India’s imports from China in India’s total imports improved continuously at steady rate during 2004-2008. In 2004, it was only 6.08 percent of Indian world imports and reached at

pick with 10.49 percent in 2007. Since 2008, Indian imports share in world total import was almost constant around 11 percent.

Table No. 2 examines the average annual growth rate of India’s exports to and imports from China.

Table 2: Average Annual Growth Rate of Indo- China Trade

Year	Annual growth rate of India's Export to China	Annual growth rate of India's imports from China
2004 to 2008	47%	54.85%
2009 to 2013	15%	10.10%

Source: Average Annual Growth Rate is calculated by Table No.1

During 2004-2008, annual average growth rate of Indian exports to China was 47 percent whereas; it declined to 15 percent during 2009-2013. This shows drastically decline in annual average growth rate of India’s export to China in later period. During 2004-2008, annual average growth rate of Indian imports from China was 54.85 percent whereas; it was 10.10 percent during 2009-2013. This shows drastically decline annual average growth rate of India’s imports from China in later period. Thus, growth rate of Indian exports to China is relatively less than growth rate of Indian imports from China. Apart from this, in later period after 2008, growth rate of both, Indian export and import from China declined substantially.

6. Degree of Trade Intensity between Indo-China Trades:

The relative importance of two countries in their respective exports and imports is demonstrated by the trade intensity

index. Trade intensity index measures whether the value of trade between the two countries is greater or smaller than expected based on their relative importance in the world trade. The value of index less than unity indicates a bilateral trade flow is smaller than expected, given the partner country's importance in world trade and vice-versa.

Table 3: Trade Intensity of Indo- China Trade

Year	India's export intensity to China	India's import intensity from China
2004	0.92	1.13
2005	1.05	0.98
2006	1.19	1.05
2007	0.98	1.18
2008	1.3	1.22
2009	0.77	1.21
2010	0.82	5.01
2011	0.56	3.54
2012	0.48	3.03
2013	0.48	2.75

Source: Different publications of DOTS, IMF, WITS and UNCOMTRADE

Table No. 3 shows that during 2004 to 2008, the value of export intensity index of India to China was almost one. Whereas, since 2009 less than one. It implies that India's exports to China are similar as expected during 2004-2008. On the other hand, the table No. 3 shows that the value of export intensity index of China to India was almost one

during 2004 -2009. Since 2010, this value is more than one which implies that import inflow from China is similar as expected during 2004-2009 to the partner country India and more than expectation during later period (2010-2013). Thus, in the early period (2004-2008), India's export to China was more integrated and India's imports from China became more integrated in later period (2009-13)

7. Commodity Composition of India's trade with China (Agricultural Commodity)

Under this section, we took top twenty leading commodities of Indian exports and imports to analyse commodity composition of India's trade to China. We calculated the share of different commodities to find trends in commodity composition between both countries in table No.4 & 4A.

Table No. 4 shows that cotton lint was the most important commodity in Indian exports to China. Its average share has become more than half (69 percent). The second leading commodity was Cake Soybeans with 8 percent followed by Cake Rapeseed with 7 percent. The share of Sesame and Maize and Oil Essential were 5 percent, 4 percent and 3 percent respectively. Thus, total share of these six commodities in the basket was 93 percent. This shows that only six commodities have concentrated in the basket of India's export to China. Thus, in the remaining commodities, India has competition with China in the rest market of the world.

Table No. 4: India's Agricultural Commodity export to China (US \$ Million)

Commodity	2004	2005	2006	2007	2008	2009	2010	2011	Average
Cotton lint.	31.99	444.37	731.52	1065.53	325.63	1186.88	1901.97	2431.58	Share
	29%	67%	85%	75%	42%	84%	84%	81%	69%
Cake of Soybeans	11.81	130.92	25.21	48.74	123.16	33.06	108.5	108.74	
	11%	20%	3%	3%	16%	2%	5%	4%	8%
Sugar Refined	0	0.08	1.05	50.72	7.21	0	6.28	3.51	
	0%	0%	0%	4%	1%	0%	0%	0%	1%
Maize	1.99	0.23	1.24	59	132.99	22.64	10.94	95.08	
	2%	0%	0%	4%	17%	2%	0%	3%	4%
Groundnuts Shelled	0.74	0.38	0.53	5.91	6.24	4.79	13.58	49.09	
	1%	0%	0%	0%	1%	0%	1%	2%	1%
Cashew nut shelled	3.48	4.7	4.5	4.13	4.42	3.83	4.16	8.7	
	3%	1%	1%	0%	1%	0%	0%	0%	1%
Tea	2.1	3.88	3.15	3.38	3.4	3.82	6.71	15.66	
	2%	1%	0%	0%	0%	0%	0%	1%	1%
Coffee Green	0.39	0.35	0.41	0.52	0.52	0.13	0.21	1.11	
	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sugar Raw centrifugal	0.01	0	0.08	25.31	21.05	0	0.73	1.14	
	0%	0%	0%	2%	3%	0%	0%	0%	1%
Tobacco, Unmanufactured	0.3	0.33	1.85	3.73	2.35	2.65	0.44	2.52	
	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sesame seed	19.86	24.82	16.92	77.76	32.9	33.54	55.8	40.56	
	18%	4%	2%	5%	4%	2%	2%	1%	5%
Oil essential nes	10.71	14.21	18.35	22.93	23.78	32.78	34.07	52.79	
	10%	2%	2%	2%	3%	2%	2%	2%	3%
Chilies and peppers, dry	0.87	0.74	1.88	3.34	1.45	4.48	10.59	15.78	
	1%	0%	0%	0%	0%	0%	0%	1%	0%
Onion Dry	0.04	0.03	0.53	1.16	0.29	2.67	1.35	2.7	
	0%	0%	0%	0%	0%	0%	0%	0%	0%
Spices, nes	1.53	1.95	2.63	3.33	2.99	4.88	7.62	9.14	
	1%	0%	0%	0%	0%	0%	0%	0%	0%
Cake of Rapeseed	21.34	16.87	48.94	35.66	76.4	74.8	83	147.9	
	20%	3%	6%	3%	10%	5%	4%	5%	7%
Coffee extract	1.66	2.33	3.74	4.86	5.07	8.46	5.92	7.23	
	2%	0%	0%	0%	1%	1%	0%	0%	1%

Chick Peas	0	0.04	0.05	0.1	0.17	0.06	0.12	0.09	
	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pastry	0.22	13.9	0.34	0.19	0.38	0.43	0.58	0.82	
	0%	2%	0%	0%	0%	0%	0%	0%	0%
Total of given product	109.03	660.14	862.9	1416.3	770.41	1419.91	2252.59	2994.14	

Source: Food and Agricultural organization Statistics, UN Publication, online data access

Table No. 4A deals with commodity composition of India's imports from China. It shows that the most important commodity was Silk Raw which average share has become 62 percent. The second most important commodity was Beans Dry with 14 percent share and followed by Apple with 7 percent share. The share of Oil Essential Nes and Wool

Degreased were 6 percent and was 3 percent respectively. The share of these five commodities was 92 percent. Thus, Silk Raw, Beans Dry, Oil Essential and Wool Degreased were more concentrated commodities in India's imports from China.

Table 4: India's Agricultural Commodities Exports to China (US \$ Millions)

commodity	2004	2005	2006	2007	2008	2009	2010	2011	Average Share
Apples	2.93	3.45	6.93	14.24	26.58	33.4	37.88	67.89	
	2%	2%	3%	6%	8%	9%	14%	10%	7%
Beans, dry	8.93	19.9	40.08	19.49	39.53	126.9	45.55	74.23	
	6%	9%	18%	9%	12%	32%	17%	11%	14%
Beverages, distilled alcoholic	0.44	0.12	0.58	0.04	0.19	0.05	3.54	6.4	
	0%	0%	0%	0%	0%	0%	1%	1%	0%
Cashew nuts, with shell	0.07	0.01	0	0.1	0	0.02	0.33	8.65	
	0%	0%	0%	0%	0%	0%	0%	1%	0%
Chick peas	0	0	0.36	0	0	0.14	0	5.98	
	0%	0%	0%	0%	0%	0%	0%	1%	0%
Cotton lint	0.36	0	0.26	1.84	9.24	1.11	0	6.2	
	0%	0%	0%	1%	3%	0%	0%	1%	1%
Dates	0	0	0	0.01	0	0	0.25	2.37	
	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fatty acids	0.16	1.81	2.09	1.45	1.64	4.57	2.76	7.11	
	0%	1%	1%	1%	0%	1%	1%	1%	1%
Milk, skimmed dried	0	0	0	0.01	0	0	0	8.27	
	0%	0%	0%	0%	0%	0%	0%	1%	0%
Oil, essential nes	4.5	6.94	7.89	7.58	23.53	33.62	26.42	46.61	
	3%	3%	4%	3%	7%	9%	10%	7%	6%
Oil, palm	0	0	0.46	0	0	0	0.93	87.59	
	0%	0%	0%	0%	0%	0%	0%	13%	2%
Oil, palm kernel	0	0	0	0	0	0	1.01	5.74	
	0%	0%	0%	0%	0%	0%	0%	1%	0%
Oil, soybean	0.16	0.01	0.01	0	16.58	0	1.61	9.7	
	0%	0%	0%	0%	5%	0%	1%	1%	1%
Oil, sunflower	0	0	0	0	0.01	0	0	25.14	
	0%	0%	0%	0%	0%	0%	0%	4%	0%
Peas, dry	0.04	0	0.14	0	2.17	0.54	0.01	7.94	
	0%	0%	0%	0%	1%	0%	0%	1%	0%
Rubber natural dry	0	0	0	0	0.77	0.05	2.02	49.31	
	0%	0%	0%	0%	0%	0%	1%	8%	1%
Silk raw	123.79	173.7	143.6	176.3	207.41	188.8	144.41	212.1	
	79%	78%	66%	77%	63%	48%	53%	32%	62%
Wool, degreased	13.51	13.27	12.72	6.69	2.36	0.85	2.02	11.49	
	9%	6%	6%	3%	1%	0%	1%	2%	3%
Wool, greasy	2.21	2.69	2.08	1.43	0.74	0.58	2.19	12.48	
	1%	1%	1%	1%	0%	0%	1%	2%	1%
Total of the basket commodities	157.1	221.9	217.2	229.1	330.78	390.5	270.92	655.2	

Source: Food and Agricultural organization Statistics, UN Publication, online data access

8. Commodity Intensity of Indo-China Trade

To analyse commodity intensity of India with China, the whole period is bifurcated into early (2004-08) and later period (2009-11). Table No.5, the index intensity of India's commodity exports to China shows that the value of Cotton Lint was 12.78 in early period which reached to 25.44 in later period. The value of Groundnuts Shelled was increased more than double from 25.14 to 52.06 in later period. The value of Chillies and Peppers dry was amplified from 42.53 to 56.78 in later period. The value of Spices nes was 15.07 in

early and 29.33 in later period and Maize was 1.59 and 3.68 in respective period. The value of Oil Essential nes was slightly augmented from 15.95 to 18.74. Thus, Cotton lint, Groundnuts Shelled, Chillies and peppers dry, Spices nes, Oil Essential nes and Maize have increasing trends in commodity intensity of India's exports to China which implies that India is highly success to tap in these commodities for India's exports to China. On the other hand, the value of Cake of Soybean was 77.29 which radically declined to 67.97 in later period. Sugar Refined was 7 in

early period which declined drastically in later period with of 0.16. The value of Tea was almost constant in both period with 4.62 and 4.78 respectively. The value of Sesame Seed was 21.45 in early period which declined to 7.60 in later period. The value of Chick Peas was declined from 29.10 to 15.67. Thus, these commodities like Cake of Soybean, Sugar

Refined, Tea, Sesame seed; Chick Peas has declining trends in intensity of India's exports to China. Despite of these, India has been successful in tapping the all commodities in India's export to China except Sugar Refined, Coffee Green, Sugar, Tobacco Unmanufactured and Pastry.

Table 5: Agricultural commodity intensity of Indo- China trade India Export Intensity, India's Import Intensity

India's export intensity to China			India's import intensity from China		
Commodity	2004-07	2008-2011	Commodity	2004-07	2008-2011
Cotton lint.	12.78	25.44	Cotton lint	0.03	0.13
Cake of Soybeans	77.29	67.97	Beans, dry	0.97	0.18
Sugar Refined	7	0.61	Beverages, distilled alcoholic	0.09	0.02
Maize	1.59	3.68	Cashew nuts, with shell	0	0.02
Chick Peas	29.1	15.67	Chick peas	0.01	0.12
Cashew nut shelled	22.92	5.45	Apples	13.19	3.22
Tea	4.62	4.78	Fatty acids	0.12	0.15
Coffee Green	1	0.33	Milk, skimmeddried	0.01	0.14
Sugar Raw centrifugal	1.95	1.05	Oil, essential nes	2.58	3.14
Tobacco, Unmanufactured	0.27	0.18	Oil, palm	0	0.03
Sesame seed	21.45	7.6	Oil, palm kernel	0	0.07
Oil essential nes	15.95	18.74	Oil, soybean	0	0.11
Chilies and peppers, dry	42.53	56.78	Oil, sunflower	0	0.06
Onion Dry	2.95	9.27	Peas, dry	0	0.03
Spices, nes	15.07	29.33	Rubber natural dry	0	0.16
Cake of Rapeseed	7	47.79	Silk raw	12.3	8.29
Coffee extract	5.64	5.85	Wool, degreased	1.49	0.33
Pastry	0.08	0.09	Wool, greasy	0.26	0.15
Ground nut shelled	25.14	52.06	Date	0	0.04

Source: Data are taken from different source like FAOSTAT, International Trade Statistics Yearbook -2013 Publications, DOTS, IMF

The analyse of import intensity of India's from China shows that China has been the largest source of Indian imports of Silk Raw which was 12.30 in early period and 8.29 in later period. The value of Apple was declined from 13.19 to 3.22. The value of oil Essential nes was increased from 2.58 to 3.14. The value of Wool Degreased declined from 1.49 to 0.33. The values of remaining goods were not more than one in both periods. Thus, only in a few commodities such as

Apple, Oil Essential nes, Silk Raw, China has been successful in tapping Indian imports demand requirement.

9. Product Potential of Indo-China Trade

We took twenty leading commodities of India's export to and China's exports to the World to analyse export competitiveness in the world market.

Table 6: Product potential of Indo-Chinese Trade

INDIA'S RCA				CHINA'S RCA			
Item	2004-07	2008-11	Average	item	2004-07	2008-11	Average
Cake, rapeseed	14.7	9.28	11.99	Apples	1.12	1.32	1.22
Cake, soybeans	8.19	5.6	6.89	Beans, dry	3.01	2.5	2.75
Cashew nuts, shelled	39.02	20.2	29.61	Beverages, distilled alcoholic	0.29	0.34	0.31
Chick peas	9.9	12.78	11.34	Cigarettes	0.75	0.59	0.67
Chillies and peppers, dry	22.22	21.87	22.05	Crude materials	1.07	1	1.03
Coffee, extracts	3.1	2.37	2.73	Food prep nes	0.71	0.61	0.66
Coffee, green	2.57	1.52	2.04	Food wastes	0.38	0.7	0.54
Cotton lint	8.93	11.26	10.1	Fruit, prepared nes	1.34	1.28	1.31
Groundnuts, shelled	11.36	20.04	15.7	Garlic	8.32	7.04	7.68
Maize	1.42	1.95	1.68	Meat, chicken	0.46	0.54	0.5
Oil, essential nes	9.58	8.99	9.28	Meat, chicken, canned	2.1	1.19	1.64
Onions, dry	12.5	12.39	12.45	Vegetables, frozen	2.06	1.71	1.89
Pastry	0.46	0.52	0.49	Pastry	0.26	0.21	0.24
Sesame seed	26.18	18.06	22.12	Sugar confectionery	0.71	0.69	0.7
Spices, nes	13.73	13.81	13.77	Pet food	0.26	0.64	0.45
Sugar Raw Centrifugal	2.54	1.76	2.15	Vegetables, dehydrated	5.38	4.49	4.94
Sugar refined	2.96	3.03	2.99	Tomatoes, paste	2.44	2.8	2.62
Tea	11.44	7.92	9.68	Tea	1.93	1.39	1.66
Tobacco, unmanufactured	3.58	4.35	3.96	Tobacco, unmanufactured	0.52	0.53	0.53

Source: Data are taken from different source like FAOSTAT, International Trade Statistics Yearbook-2013 United Nations Publication and DOTS, IMF through online to calculate Trade intensity.

Table No. 6 shows that all commodities of India's exports have competitiveness in international market except Pastry because its average value was 0.49 in index. The ten leading commodities were Cashew nuts shelled followed by Sesame seed, Chilies & Peppers dry, Groundnuts shelled, Spices nes, Onions dry and Cake Rapeseed, Chick Peas, Cotton lint and Oil Essential nes respectively for India's exports. On the other hand, China had the highest indices for Garlic, Vegetables Dehydrated, Beans dry, Tomatoes paste, Vegetables frozen, Vegetables, Preserved nes, Tea, Meat chicken Canned, Fruit Prepared nes, Apples, Crude materials whose index value is more than one. It implies that China have competitiveness in exports of these commodities in international market. Whenever, index values of remaining commodities were less than one of China's exports. Our analysis shows that both India and China is competitor in Tea in the global market. And they are complementary to each other in Cashew nuts, Sesame seed, Chilies & Peppers dry, Groundnuts shelled, Spices nes, Onions dry and Cake Rapeseed, Chick Peas, Cotton lint and Oil Essential, Garlic, Vegetables Dehydrated, Beans dry, Tomatoes paste, Vegetables frozen, Vegetables, Preserved nes, Tea, Meat chicken Canned, Fruit Prepared nes, Apples, Crude materials. Therefore, trade expansion is possible in these commodities.

10. Conclusion and Suggestions

Liberalization of foreign trade sector has been the cornerstone of economic reforms in both economies. World Trade Organization (WTO) since its establishment in 1995 has been playing major role to integrate different economies with global economy. In recent years, both are developing closer economic relations with each other.

During early period (2004-2008) India's annual average export to China was 47 percent which decreased to 15 percent in later period (2009-2013). While during the same period annual growth rate of India's import from China was 54.85 percent and 10.10 percent. It shows that in later period both India's export to and imports from China has been declined.

From the discussion of agricultural commodity composition of India's exports and imports from China, Cotton lint, Cake Rapeseed, Sesame Seed Maize and Cake of Soybean were dominated in the basket of India's exports. On the other hand, Beans Dry, Apples, Oil Essential nes, Silk Raw were leading commodities in the basket of Indian imports from China.

The analysis of trade intensity of India during 2004-2013 shows that India's exports to China was more integrated in early period till 2008, while imports from China became more integrated in later period since 2008. From the estimates of commodity intensity of India's exports and imports from China, we found that India has been successful in tapping the all commodities except few like Sugar Refined, Coffee Green, Sugar Raw Centrifugal, Tobacco Unmanufactured and Pastry. On the other hand, only the few commodities which have been successful to tap Indian import demand requirement like Apples, Oil Essential nes and Silk Raw. Thus, in future our trade in these commodities is likely to increase except Oil Essential nes. Oil Essential nes is competitive goods in the rest of the world

Analysis of Revealed Comparative Advantage index shows that both India and China are competitors in Cashew nuts, Sesame seed, Chilies & Peppers dry, Groundnuts shelled,

Spices nes, Onions dry, Cake Rapeseed, Chick Peas, Cotton lint and Oil Essential, Garlic, Vegetables Dehydrated, Beans dry, Tomatoes paste, Vegetables frozen, Vegetables, Preserved nes, Tea, Meat chicken Canned, Fruit Prepared nes, Apples, Crude materials, they are complementary to each other. Therefore, trade expansion is possible in these commodities.

Ratio of Trade Intensity Index to Revealed Comparative Advantage Index (TI:RCA) shows that India enjoying competitiveness in Cotton lint, Cake Soybean, Sugar Refined, Maize, Groundnuts Shelled, Oil essential nes, Chilies and peppers dry, Spices nes, Cake of Rapeseed and Coffee extract. On the other hand, China enjoys competitiveness in Indian market as it in the world in Apples only.

Balance of trade position shows unfavourable to India during 2004 to 2013. There is great urgency to take steps to achieve balance in bilateral trade between the two countries. The major challenge is how can India use this opportunity of the changing China's economic and trade policies to improve trade and its trade balance.

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