

Indo – ASEAN Free Trade Agreement - Analysing Impact using Balassa Index

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Abstract

The historic signing of Indo-ASEAN Free Trade Agreement begins the new epoch in the evolution of the relationship between India and the Association of South East Asian Nations. Although the partnership between India and ASEAN only began to warm up about a decade ago, it has been moving at quite a rapid pace since then. The relationship got more strengthened in 2003 when the first proposal for free trade was put up by the ASEAN nations before India. The proposal was thought about and worked over by both the nations for a good time of 6 years and finally the India-ASEAN Free Trade Agreement (FTA) was signed on 13 August, 2009 at Bangkok.

Main objective of this paper is to analyze the impact of Indo-ASEAN Free trade Agreement in goods on Indian Exports. To achieve this objective, Pre and post agreement data analysis will be done using Balassa Index. Balassa Index is revealed comparative advantage index. Revealed comparative advantage Index will be calculated Sector wise and chapter wise. Data from 2003 to 2013 for the study will be taken from COMTRADE and World Bank.

Other objective of the paper is to study the potential market for India and to achieve this objective, Balassa Index will be calculated for each county with 2013 data and potential market will be identified. Potential product segment is also identified by calculating Balassa Index Sector wise.

Key Words: Revealed Comparative Advantage, Balassa Index, Competitive Advantage, ASEAN Countries .

INTRODUCTION

Indo-ASEAN Free Trade Agreement was India's first regional trade agreement with 10 Southeast ASEAN countries. The proposal was thought about and worked over by both the nations for a good time of 6 years and finally the India-ASEAN Free Trade Agreement (FTA) was signed on 13 August, 2009 at Bangkok and came into effect on January 1, 2010. The step is undoubtedly a historic development and an important step toward enhancing economic cooperation between India and ASEAN. At the same time attracted criticism from various interest groups like farmers, fishermen, textile & clothing manufacturer, plantation sector and light manufacturing and intermediate goods manufacturers.

The research problem was to study the impact of this agreement on Indian export. To check whether this agreement is trade enhancing and trade inhibiting and finally

to determine the gains and pains from this agreement to India's export to ASEAN market with respect to different sectors.

2. India's Export to ASEAN

Dream of globalisation will only be achieved by implementation of free trade by all countries in entire world which is a difficult task. So, best way to gain benefit of free trade is become a part of regional grouping and take advantage of at least that small regional group. Economic integration arrangements have become popular phenomenon and help different countries in extending the boundaries of their markets by removing barriers. All countries are member of at least one regional bloc. In the same marathon, India has also participated years back and signed few bilateral agreements with Singapore, Thailand and Sri Lanka etc. In 2006, India signed its first regional agreement with 10 East Asian countries at a time.

India's Export to ASEAN market has increased after implementation of Indo-ASEAN Free Trade agreement. Value of India's export to ASEAN market has increased from 2002 to 2013 i.e. \$ 4.5 billion to \$32.2 billion which 11.15 % of India's total export in 2012. India's export to ASEAN countries in year 2013 was 11.25 % of India's total export.

Table 1: India's Export to ASEAN and World

Year	India export to ASEAN (thousand million\$)	India Export to World (thousand million\$)	Share(percentage)
2002	4503303	50097958	8.988995
2003	5071800	59360659	8.544043
2004	7552218	75904200	9.949671
2005	10285769	100352637	10.24963
2006	12369341	121200606	10.20568
2007	13824081	145898053	9.475165
2008	19433467	181860898	10.6859
2009	17898835	176765036	10.12578
2010	22958453	220408496	10.41632
2011	34497614	301483250	11.44263
2012	32295000	289564769	11.15295
2013	37885468	336611389	11.25496

Source: Trademap.org (data accessed on 20.10.2014)

Table 2 Share of India's export to Individual countries of ASEAN market

Year	Singapore	Viet Nam	Indonesia	Malaysia	Thailand	Philippines	Myanmar	Cambodia	Lao	Brunei Darussalam
2004	4.50	0.70	1.59	1.37	1.13	0.48	0.15	0.02	0.00	0.01
2005	5.41	0.63	1.39	1.14	1.06	0.48	0.12	0.02	0.01	0.00
2006	5.06	0.72	1.54	1.10	1.11	0.49	0.10	0.04	0.00	0.04
2007	4.38	0.85	1.29	1.27	1.15	0.39	0.11	0.03	0.00	0.01
2008	4.87	1.00	1.46	1.67	1.10	0.42	0.13	0.03	0.00	0.01
2009	3.86	1.04	1.70	1.99	0.97	0.39	0.12	0.02	0.02	0.01
2010	4.11	1.12	2.07	1.61	0.97	0.36	0.12	0.03	0.00	0.01
2011	5.18	1.15	2.12	1.26	0.92	0.33	0.15	0.03	0.00	0.29
2012	4.68	1.26	2.08	1.31	1.19	0.39	0.18	0.04	0.01	0.01
2013	4.22	1.78	1.65	1.63	1.25	0.44	0.22	0.04	0.02	0.01

Source: Trademap.org (data accessed on 20.10.2014)

Above table depicts that ASEAN trade with each and every individual country is increasing over a period of time. Trade with less developed countries like Lao's, Brunei Darussalam, Cambodia and Myanmar have also increased after 2009 but not very significant in comparison to other countries like Singapore, Malaysia, Thailand, Indonesia, Philippines and Vietnam. These six countries contribute more than 90% in total export to ASEAN market.

The percentage increase in India's export to all individual in 2013 has increased except Indonesia. Share of India's export in ASEAN total import had increased in last 10 years where as export share of import from ASEAN in Indian total import has decreased in same years.

Table 3 Export & Import share of both the parties and CAGR of India

Year	India trade with ASEAN (Thousand Dollar)		ASEAN trade with India (Thousand Dollar)		Share of India export in ASEAN import	Share of ASEAN Export in India Import	CAGR (3 years)
	Import	Export	Import	Export			
2004	8549995	7552218	7278994	11137883	1.50	11.25	
2005	10632023	10285769	8611655	14962568	1.77	10.62	1.51
2006	16300608	12369341	10715166	19325924	1.86	10.84	1.71
2007	21031035	13824081	13699211	25139432	1.83	11.49	1.82
2008	26698438	19433467	20149807	31704526	2.08	10.04	1.92
2009	23968100	17898835	14263170	27045190	2.47	10.15	2.13
2010	29640182	22958453	19838209	37013743	2.41	10.57	2.32
2011	40331863	34497614	28423896	46079732	2.98	9.96	2.62
2012	42737956	32295000	27865526	43113738	2.63	8.81	2.67
2013	42308784	37885468	29509628	43099678	2.99	9.25	2.87

Above table shows that export of both the parties to the agreement has shown upward movement. Indian Export in 2013 is \$37.88 billion whereas ASEAN Export was \$ 43.09 billion. Export and Import of both the parties is increasing. Above table depicts that India's export are increasing at faster rate every year as compared to ASEAN.

Table 4 Share of Top 5 products in India's Total Export to ASEAN

Cate- Gory	Product	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
27	Mineral fuels, oils, distillation	26.77	22.97	33.07	28.40	28.86	17.59	31.00	33.59	31.70	29.25
2	Meat and edible meat offal	1.95	1.81	1.60	1.76	2.43	2.82	2.82	3.53	4.67	7.51
29	Organic chemicals	6.74	7.18	7.94	6.48	5.20	4.39	4.90	4.81	6.47	5.38
89	Ships, boats and other floating structures	1.83	2.45	3.56	2.70	7.12	12.94	7.99	12.26	6.93	4.88
84	Machinery, nuclear reactors, boilers, etc	4.75	4.16	3.61	4.06	4.42	5.21	4.41	3.77	4.27	4.59

Above table represents the share to top 5 products in India's total export to ASEAN market. Major export quantity is coming from mineral and fuel sector (27) followed by meat and edible oil. Export of organic chemical (29) transport equipment like ships, boats and other floating structures (89) and Machinery nuclear reactors boilers (84) have also significant contribution in total export. These 5 commodities contribute for more than 50% in total export. From above table, it is visible that export of transport equipment has reduced in space, boats and other floating structure (89) but increased in case of vehicles other than

railway tramway (87) after 2009. Exports in case of precious items have reduced from 6.41 to 4.11 since 2009 where as in case of fishery sector (2), export has increased significantly.

3. RESEARCH METHODOLOGY

3.1 Objectives of the Study

Objective of the proposed study are as follows:

1. To study the impact of Indo-ASEAN Free trade agreement on Indian Export using Balassa index in ASEAN market.
2. To study the change in competitiveness of Indian export products against world in ASEAN market.
3. To study the impact of Indo-ASEAN Free trade agreement on export of India to ASEAN countries with respect to different sectors in ASEAN market.

3.2 Hypotheses of the study

Ho1: There is no impact of Indo – ASEAN Agreement on Competitiveness of India's Export in ASEAN Market.

Ho2: There is no structural change in the competitiveness different sectors export after Indo-ASEAN Free Trade Agreement.

Ho3: There is no significant Impact of AIFTA on competitiveness of different sector's export to ASEAN.

3.3 Research Design

Descriptive design is selected due to nature of the data. Descriptive research, also known as statistical research, describes data and characteristics about the population or phenomenon being studied. Descriptive research answers the questions who, what, where, when and how.

3.3.1 Type of Study

This research is descriptive in nature and data is collected from secondary sources. Main aim of the study is to analyse the impact of bilateral trade between India and 10 ASEAN countries including Singapore, Malaysia, Thailand, Indonesia, Philippines, Brunei Darussalam, Cambodia, Laos, Myanmar and Vietnam.

3.3.2 Source of Data Collection

To study the impact of agreement, data is collected through various databases maintained by World Trade Organization, International Trade centre, World bank and IMF.

- a. **Nature of Data:** This bilateral Agreement was signed on 1st January, 2010 to increase the acceleration of trade

between India and ASEAN countries. Trade data from 2002 to 2013 has been taken under study. Data has been taken from trademap.org database which is maintained by ITC and World Bank Trade Statistics Database.

- 2004 to 2008 - Pre agreement data
 - 2009 to 2013 –Post agreement data
- b. **Sample under Study:** India and 10 ASEAN countries including Singapore, Malaysia, Thailand, Indonesia, Philippines, Brunei Darussalam, Cambodia, Laos, Myanmar and Vietnam.

3.3.3 Tools for Data Analysis

Data is analysed with help of statistical package like SPSS 17.0 and excel for graphs, tabulation and preparation of data.

3.4 DATA ANALYSIS

Balassa index is applied to calculate the competitiveness of Indian export in ASEAN market. Balassa index is also known as Revealed comparative advantage Index. Index is calculated for all products exported by in ASEAN market and importance of Indian product in ASEAN market is judged against world.

Measures of revealed comparative advantage (RCA) have been used to help assess a country's export potential. It can also provide useful information about potential trade prospects with new partners. Countries with similar RCA profiles are unlikely to have high bilateral trade intensities unless intra-industry trade is involved.. 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:

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

where x_{ij} and x_{wj} are the values of country i's exports of product j and of world exports of product j to partner country respectively and where X_{it} and X_{wt} refer to the country's total exports and world total exports to partner country respectively. 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.

5. ANALYSIS AND INTERPRETATION

Objective 1: To study the competitiveness of export products of India in ASEAN Market.

Test Applied: RCA Index

Revealed comparative advantage index is used to study India's comparative advantage in ASEAN market against world. RCA index was calculated for all the 97 product categories given under ITC (HS) product classifications at 2 digit level from period 2004 to 2013. Pre and Post Agreement data had analysed by comparing mean of 2004 to 2008 (Pre agreement) and Mean of 2009 to 2013(Post agreement). Results are given below:

Table 5 Revealed Comparative Advantage of India in ASEAN market.

	India	World
2004-08	35	62
2009-13	56	31

Before agreement India had comparative advantage in 35 products whereas after agreement India achieved comparative advantage in 56 Products with respect to ASEAN market against world. Results show that India had increased its exports in ASEAN market after 2009 and achieved comparative advantage in 56 product categories against world. List of top 20 products is given below.

Table 6 List of Top 20 Products in which India has comparative advantage in ASEAN Market viz a viz World

Rank	Product Name (HS -2)	Category	RCA	Product Name	Category	RCA
	(2004-2009)			(2009-2013)		
1	Meat and edible meat offal	2	9.240747	Meat and edible meat offal	2	15.86032
2	Residues, wastes of food industry, animal fodder	23	7.435929	Ships, boats and other floating structures	89	12.45928
3	Coffee, tea, mate and spices	9	7.208057	Oil seed, oleagic fruits, grain, seed, fruit, etc, nes	12	7.758512
4	Bird skin, feathers, artificial flowers, human hair	67	6.861997	Coffee, tea, mate and spices	9	7.702397
5	Silk	50	6.60456	Zinc and articles thereof	79	5.776821
6	Works of art, collectors pieces and antiques	97	6.207377	Bird skin, feathers, artificial flowers, human hair	67	5.454087
7	Carpets and other textile floor coverings	57	4.986873	Carpets and other textile floor coverings	57	5.438585
8	Ships, boats and other floating structures	89	4.725848	Residues, wastes of food industry, animal fodder	23	5.053275
9	Lac, gums, resins, vegetable saps and extracts nes	13	4.657809	Fish, crustaceans, molluscs, aquatic invertebrates nes	3	4.403258
10	Oil seed, oleagic fruits, grain, seed, fruit, etc, nes	12	4.274137	Silk	50	4.26748

11	Pearls, precious stones, metals, coins, etc	71	3.763846	Cereals	10	3.90068
12	Vegetable textile fibres nes, paper yarn, woven fabric	53	2.757197	Lac, gums, resins, vegetable saps and extracts nes	13	3.81998
13	Copper and articles thereof	74	2.734407	Vegetable textile fibres nes, paper yarn, woven fabric	53	3.299331
14	Edible vegetables and certain roots and tubers	7	2.604627	Edible vegetables and certain roots and tubers	7	3.181006
15	Cotton	52	2.597382	Organic chemicals	29	2.991091
16	Articles of apparel, accessories, not knit or crochet	62	2.336657	Raw hides and skins (other than furskins) and leather	41	2.873454
17	Manmade filaments	54	2.279001	Cotton	52	2.531178
18	Organic chemicals	29	2.215809	Mineral fuels, oils, distillation products, etc	27	2.503877
19	Raw hides and skins (other than furskins) and leather	41	2.093109	Tobacco and manufactured tobacco substitutes	24	2.286759
20	Commodities not elsewhere specifies	99	2.03295	Photographic or cinematographic goods	37	2.106462

Above table depicts top 20 products in which India has comparative advantage over world in ASEAN market. India has maximum comparative advantage in meat and edible offal (2) followed by ships, boat and other floating structure (89) which come at 2nd and 5th position in top 5 products exported from India to ASEAN in 2013. It is clearly visible that India increased index value of Revealed Comparative advantage over a period of time like for Meat and edible meat offal RCA value increased from 9.24 to 15.86. India has got increased in magnitude of revealed comparative advantage in ASEAN market against world. RCA value has increased in case of product category 2, 89, 12, 9, 57, 53, 7, 29 & 41 and decreased for silk, Lac, gums, resins and

vegetable sops (13), cotton, bird skin (67) and residual waste of food industry (23). Few new products like fish (3), cereal (10), tobacco and manufactured tobacco substitutes (24), Mineral Fuel, oils and distillation products (27) have come in top 20 product list. These products have increased their competitiveness after agreement.

Above table depicts that in post agreement era, RCA of top 20 products has increased. RCA for Bird skin, feathers, artificial flowers, human hair, Residues, wastes of food industry, animal fodder, silk and Lac, gums, resins and vegetable saps and extracts has decreased.

Table 7 List of Product in which India lost comparative advantage after agreement

Code	Product Name	2004-09	2009-13
	India lost comparative advantage after agreement		2 Products
17	Sugars and sugar confectionery (17)	1.46	0.99
14	Vegetable plaiting materials, vegetable products	1.32	0.41

For above two products mentioned in the list, India lost comparative advantage. Value of RCA decreased to less than which shows that India is no more competitive in these two sectors Sugars and sugar confectionery (17) and Vegetable plaiting materials, vegetable products nes (14).

Above analysis also shows that India has retained comparative advantage in 33 product categories and gained in another 23 product categories.

H0: There is no impact of Indo – ASEAN Agreement on Competitiveness of India’s Export in ASEAN Market.

Test Applied: T test (Paired T test)

Table8 Pre and Post Analysis of Competiveness of India’ Export in ASEAN Market

RCA	No of observation	Mean	St. Dev.	T value	Significance level
(2004-08)	97	1.3789	1.88033	-3.158	0.06
(2009-13)	97	1.8439	2.37675		

Above table depicts that there is difference in revealed comparative advantage of India with respect to world in ASEAN market before and after Indo-ASEAN free trade agreement. Mean value shows that post agreement, India have improved its competitive advantage in ASEAN market i.e. 1.843.

T value is 3.158 at $p= 0.06$, which is greater than 0.05 therefore not significant. Hence we can accept null hypothesis and reject alternate hypothesis. Therefore, it can be stated that “There is no significant difference in competitive advantage of India before and after agreement”

Though there is a significant growth in export and export share of Indian products in ASEAN total import but there is no significant increase in comparative advantage of India in ASEAN market over world. Total comparative advantage has increased but not significantly. **Revealed Comparative Advantage of India’s Export from Different Sectors**

Table 9 RCA Index of India’s Export of different sectors

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Agriculture & Food	2.98	2.14	2.43	2.44	2.70	2.30	1.99	1.87	2.05	2.41
Fishery	2.99	2.44	2.16	1.51	1.12	1.50	1.78	2.02	1.82	2.22
Raw Material	0.76	0.72	1.49	1.31	1.58	1.09	1.40	1.14	0.91	1.10
Fuel and Mining	1.65	1.10	1.73	1.65	1.52	1.36	1.90	1.72	1.59	1.35
Manufacturing Sector	0.720	0.900	0.693	0.704	0.653	0.770	0.630	0.635	0.666	0.725
Chemical and Allied Products	1.771	1.903	1.927	1.696	1.329	1.692	1.333	1.370	1.47	1.68
Pharmaceutical Products	3.7452	3.532	4.050	3.6611	3.103	3.560	3.26	3.321	3.466	4.006
Telecommunication	0.3152	0.1240	0.515	1.317	1.348	1.58	1.093	0.544	0.461	0.466
Transport Equipment	0.316	0.372	0.409	0.356	0.470	0.495	0.675	0.784	0.849	0.566
Automotive products	0.20	0.439	0.461	0.423	0.543	0.747	0.958	1.204	1.35	0.803
Textile	1.322	0.945	0.819	0.738	0.632	0.821	0.905	0.745	0.900	0.888
Clothing	1.77	2.42	1.599	1.664	1.216	1.618	1.661	1.357	1.364	1.475

Above table depicts that Competitiveness of Agriculture products in ASEAN market have decreased over a period of time. It reduced from 2.70 in year 2008 to 2.41 in year 2013. RCA index was least in year 2011 after signing of agreement between two parties. RCA index is above one so India has comparative advantage in ASEAN market over entire world. India has comparative advantage in agriculture product but competitiveness of Agriculture sector does not increase in ASEAN market after implementation of agreement.

Above table 9 depicts that in post agreement time period Fishery Export had taken pace and increased from 2008 to 2013, competitiveness increased from 1.12 to 2.22 on RCA Index. RCA is above one which means that India has comparative advantage over world in ASEAN market. Fish export is in the list of top 20 products of highest RCA index. This sector achieved 9th position in year 2013 with 4.40 RCA Index value. There is a positive impact of Indo-ASEAN Free trade agreement on fishery Sector.

Above table 9 depicts that RCA value of this sector has become more than one after 1 which shows that competitiveness of this sector has increased after 2007. Competitiveness of this sector is fluctuating after signing of agreement. In year 2009, RCA was 1.09 which increased to 1.40 in year 2010 but in two next years it went down to 1.14 and 0.91 respectively. This situation again improved in year 2013 with RCA 1.10.

India has comparative advantage in exporting Fuel and Mining Products because of natural resources like iron and steel and significantly exporting fuel and mining product to ASEAN market since agreement. RCA value is more than 1 which means that India has comparative advantage over world in ASEAN market. India has not faced any significant change in comparative advantage for export of fuel and mining products. RCA was 1.36 in 2009 which reduced to 1.35 in year 2013.

Above table represents that there is no significant increase in RCA index of manufacturing sector. It was 0.770 and 0.73 in year 2009, 2013 respectively. RCA of this sector was decreased in year 2010 to 0.65 which increased in subsequent years. RCA value is less than 1 which means that India does not have comparative advantage in ASEAN market over India. Above table 10 represents that there is an increase between years 2010 to 2013 which shows that there is an increase in export competitiveness of chemical products from India to ASEAN market. Organic chemical has achieved 15th position from 18th position. RCA is more than 1 which means that India has comparative advantage in

chemical & allied product sector over world. There is positive impact of AIFTA on India's export of chemical and allied products. India has comparative advantage in chemical & allied product sector over world.

Above table 9 depicts that RCA of pharmaceutical products has increased from 3.56 to 4.06 RCA value in 2009 to 2013. This segment has shown increase in competitiveness index. RCA index is always greater than 1 which means that India has comparative advantage over India in pharmaceutical sector. There is impact of this agreement on competitiveness of pharmaceutical products. Pharmaceutical sector is one of India's main competitiveness.

Above table depicts that RCA value has become less than 1 which means that India lost comparative advantage over world after 2010 in ASEAN market. Above graph depicts that there is steep downward fall in telecommunication sector. RCA decreased from 1.58 to 0.49 in year 2009 to 2013. There is a negative impact of AIFTA on competitiveness of Telecommunication sector export. India does not have comparative advantage in ASEAN market over entire world.

RCA decreased from 0.84 to 0.56 in one year 2012 - 2013 otherwise it increased in post agreement time period from 0.42 to 0.84. As RCA value has become less than 1 which means that India does not have comparative advantage over world after 2010 in ASEAN market but it got increase after 2009 which means that there is a change in competitiveness of India in transport sector.

RCA decreased from 1.35 to 0.80 in one year 2012 - 2013 otherwise it increased in post agreement time period from 0.74 to 1.35. There is a positive impact of AIFTA on competitiveness of automotive sector export. India gained comparative advantage in automotive sector over world in ASEAN market.

Index value is also less than 1 which explains that World is more competent than India for textile product in ASEAN market. There is no significant impact on competitiveness of textile product export to ASEAN market. As per table 5, Competitiveness of silk products (ITC (HS) - 50) and cotton products (ITC (HS)-52) have decreased after AIFTA whereas competitiveness of products coming under carpet & other textile floor covering (ITC (HS) -57 and Vegetable textile fibre made products have increased their competitiveness in ASEAN market.

Above table 9 shows fall in export competitiveness of clothing sector in 2011 which was further increased in year

2012 and 2013. RCA index was 1.47 in 2013 which was lesser than 1.61 in 2009. RCA index value is greater than 1 which explains that India always had comparative advantage in Clothing sector over world in ASEAN Market. There is significant no impact of AIFTA on export of Clothing

sector to ASEAN market.

Ho: There is no significant Impact of AIFTA on competitiveness of different sector.

Table 10 Mean and t value of different sectors before and after agreement

Table Paired Samples Statistics					
		Mean	N	T value	Significance level
Pair 1	Agriculture pre	2.5425	5	4.329	.012
	Agriculture Post	2.1309	5		
Pair 2	Fishery Pre	2.0504	5	.403	.707
	Fishery Post	1.8735	5		
Pair 3	Raw material Pre	1.1762	5	.180	.866
	Raw material Post	1.1345	5		
Pair 4	Mining Pre	1.5323	5	-.274	.798
	Mining Post	1.5852	5		
Pair 5	Manufacturing Pre	.7345	5	.807	.465
	Manufacturing Post	.6856	5		
Pair 6	Chemical Pre	1.7257	5	1.249	.280
	Chemical Post	1.5116	5		
Pair 7	Pharmaceutical Pre	3.6184	5	.350	.744
	Pharmaceutical Post	3.5244	5		
Pair 8	Tele communication Pre	.7241	5	-.237	.824
	Tele communication Post	.8301	5		
Pair 9	Transport Pre	.3851	5	-4.120	.015
	Transport Post	.6743	5		
Pair 10	Automotive Pre	.4137	5	-5.326	.006
	Automotive Post	1.0131	5		
Pair 11	Textile Pre	.8916	5	.301	.779
	Textile Post	.8523	5		
Pair 12	Clothing Pre	1.7355	5	1.476	.214
	Clothing Post	1.4958	5		

Above table depicts that export competitiveness of agriculture, transport and automotive sector was affected significantly as t value is 4.32, -4.12 and -5.326 at 0.012, 0.015 and 0.06 significance level. Significance level for these three sectors is less than 0.05 which means null hypothesis will be rejected in case of these three products. In case of other sector, there is no significant impact on export of their respective exports.

Means value of agriculture after agreement is less than before agreement so export competitiveness of agriculture has significantly decreased after agreement.

- There is a significant impact of agreement on competitiveness of agriculture products, transport products and automotive products in ASEAN market over world.

- In case of agriculture, impact is negative and export competitiveness of agriculture has significantly decreased after agreement.

Ho: There is no structural change in the competitiveness of the Indian Export after Indo-ASEAN Free Trade Agreement.

Test Applied: Rank Co-relation

Table 11: Results of Spearman's Rank Co-relation

		RCA (2004-2008)	RCA (2009-13)
RCA (2004-2008)	Correlation Coefficient	1.000	.759**
	Sig. (2-tailed)	0.000	0.000
	N	97	97
RCA (2009-13)	Correlation Coefficient	.759**	1.000
	Sig. (2-tailed)	0.000	0.000
	N	97	97

** Correlation is significant at 0.01 level (2-tailed)

Rank correlation between Mean RCA (2004-2008) and Mean RCA (2009-13) is .754 at $p = 0.000$ which tells that there is a significant co-relation between both the variables. Hence null hypothesis will be rejected and accept alternate.

Alternate hypothesis states that there is a significant relationship between competitiveness before and after agreement. Export competitiveness is highly correlated and hence changes after agreement are not significant.

Here it can be inferred that there is no structural change in export competitiveness of the products after AIFTA came in to existence.

6. CONCLUSION AND DISCUSSION

- Overall results shows that this agreement was not very fruitful for Indian exports in ASEAN market as expected. India got benefit only in two segments i.e. transport equipment sector and automotive sector.
- RCA values shows that India has maintained competitiveness advantage in Agriculture products, raw material products, fishery sector, pharmaceutical products, clothing sector, fuel and mining and chemical & allied products as RCA is greater than 1. But it is visible that in agriculture sector, raw material, fuel and mining and textile product sector magnitude of RCA has reduced after implementation of agreement.
- Above analysis also shows that this agreement has significant impact on exports of agriculture sector, transport sector and automotive sector. If we look at results, impact of agreement on agriculture sector is negative. For transport and automotive sector it is

positive as magnitude of RCA has increased after implementation of agreement. That means these are two sectors which have gained comparative advantage.

- Results of rank correlation suggest that there is no change in comparative advantage of Indian exports when all 97 chapters ranked as per their RCA value. Correlation was that shows that changes were less. There was no major change in comparative advantage of different products.
- Few new products like fish (3), cereal (10), tobacco and manufactured tobacco substitutes (24), Mineral Fuel, oils and distillation products (27) have come in top 20 product list after implementation of agreement. These products have increased their competitiveness after agreement.

7. SUGGESTIONS

The above study reveals that agreement is not beneficial in first phase of implementation but in next two phases India will get unrestricted access of ASEAN market, then India will gain benefit of this agreement.

Secondly India should concentrate on fishery sector, clothing sector, transport sector and automotive sectors because RCA is more than one so that India can increase export in ASEAN market.

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