

PalArch's Journal of Archaeology of Egypt / Egyptology

An Assessment Of Trends In India's Comparative Advantages In Textile And Clothing Exports

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Anudeep Arora, Durgesh Batra, Shikha Sharma, Vandana Tandon: An Assessment Of Trends In India's Comparative Advantages In Textile And Clothing Exports -- Palarch's Journal Of Archaeology Of Egypt/Egyptology 17(9). ISSN 1567-214x

Keywords: India, apparel and clothing industry, textile exports, comparative advantage, Constant market share

ABSTRACT

India enjoyed distinctive advantage in the apparel and clothing industry in the aftermath of 1991, when India initiated structural reforms to integrate with the global economy. This paper analyses India's comparative advantage in apparel and clothing exports between years 2001 to 2019. The analysis utilizes a variant of Balassa's Revealed Comparative Advantage method and Constant Market Share (CMS) to analyses the trade competitiveness. Overall the findings reflect that India enjoys comparative advantage in HS61 product group. As per CMS the apparel and textile exports reflect competitive advantage.

1. Introduction

The term textile and clothing industry are wrongly used interchangeably. Clothing sector can be broadly understood as two segments, the high quality fashion market, which employs a lot of innovation & modern technology, fairly paid designers and workers. The competitive advantage in this market is related to the ability to produce designs which interest the consumer and are in sync with the latest fashion. The firms working under this segment mostly operate in developed countries. The second segment is the bulk production of low or moderate quality t-shirts, uniforms etc. Such firms are usually employ

unskilled or semi-skilled workers and are found in developing countries. Outsourcing to households is a common practice. Textile sector on the other hand deals with 3 functions, spinning, weaving and finishing, all of which are implemented in an integrated fashion. It is more capital-intensive as compared to the clothing sector and operates on considerably large amount of minimum orders and hence allows limited flexibility in accordance with the trending fashion.

The textile industry contributes a significant share in the Indian Export market as India is the second largest producer of fibre, particularly cotton. Jute, wool, silk are some of the other fibres produced in our country. Sufficient availability of raw material due to strong backward linkage with agriculture make the availability of the raw material cost-effective. China ranks first in terms of amount of Textile and garment production, followed by India and USA, and then UAE. China also imports large quantity of fibre and yarn from India.

The textile and apparel Industry contributes substantially in the economic development of major developing and developed economies of the world. One major advantage the industry hold is that it generates employment for the economy.

Textile industry employs a large workforce with substantial share in the industrial production linkages. After independence, the focus of Indian government was to strengthen the textile sector which was completely devastated after the war and dependent on imports. Restoring and strengthening the mills by modernisation and initiating textile exports became an important agenda for the Indian government.

There are a number of agreements and policies that shaped the contribution of trade in the overall economic growth and development of countries, such as the General Agreement on Tariffs and Trade (GATT) in 1947 whose sole purpose was to remove the trade protectionism and to facilitate the entry of developing countries into the export market and help them to overcome the economic depression caused by World War II.

Post-independence with three decades of slow growth, the growth gained momentum in 1980 and ushered an era of opportunities for Indian textile sector when economic reforms were initiated in India in 1991, followed by abolishing of Multiple Fibre Agreement in 1995 and adoption of Agreement on Textiles and Clothing (ATC) by WTO members ushered a new era of opportunities for developing countries to explore new destinations for their product by diversifying into new markets.

The diminishing implementation of the Multi-Fibre agreement (1974-1994) which imposed restrictions on the amount of export from developing countries to the developed countries. This was a turning point in the trade economy of developing countries, particularly India. India and China being intensely populated countries have always had the advantage of producing textiles and garments at a reasonable cost due to the availability of cheap semi-skilled labour and abundance of raw materials. In the year 2000, the textile and clothing industries accounted for nearly 13 million people and 1/4th of the total earnings from exports in both the countries.

Dushyant Kumar (Feb, 2015) researched on “**EXPORT COMPETITIVENESS OF INDIAN TEXTILE INDUSTRY**” and found that sector-wise structure of world trade as well as a country’s condition in competitiveness is reflected in its export performance. Here Dushyant Kumar used constant market share (CMS) to analyze and measure variations in market share and described the geographical structure of exports. His investigation was basically focused on analyzing the export performance and export competitiveness from 2010 to 2013. He analyzed both the export performance and export competitiveness over these three years and for examining these two factors he used Balassa (1965) formula where he got Revealed Comparative Advantage (RCA) which represents a nation’s competitiveness. The Indian Trade Center has served as a wellspring of datum for estimating the export performance and export competitiveness. Export performance indicates the relative success or failure of exports over the years. As we have profit or loss in the trade, our exports increase or decrease likewise our production too increases or decreases. On the other hand, export competitiveness compares our product in export market with those of other countries. Thus, it can be inferred that both export competitiveness and export performance are essentials for a developing nation.

Girish Kumar Gupta and Mohd.Asif Khan (2017) probed on “**Exports Competitiveness of the Indian Textile Industry during and after ATC**” and found the level of the productivity of the country by calculating its export competitiveness. Their study, explained the way to calculate export competitiveness. They also analyzed the intercontinental marketplace dividend, exposed proportional benefit, and amalgamated yearly development tempo and standard deviation. For analyzing all these results, whole data was gathered from International Trade Center. They concluded, production of textiles is on a rise in our country. He further assessed comparative analysis. If we look profoundly, then we will find that in consonance with percentage contribution viewpoint there is an enormous competition between India and China, however, the position of Brazil has not improved after ATC. This research paper is based on past 22 years from 1995 to 2016, where 1995 to 2004 is considered as ATC period and 2004 to 2016 is considered as after ATC period.

Samar Verma (November, 2002) researched on “**EXPORT COMPETITIVENESS OF INDIAN TEXTILE AND GARMENT INDUSTRY**” and inferred competitiveness in whole of the industry together with garments and yard goods. Domestic fabrics as well as garment firms have a significant position in the monetary system with a 4% contribution to GDP and 14% to manufacturing yield. It means that the primary sector is ranked first towards providing employment occasions. The paper in hand has investigated India’s competitive activities of all major export items manufactured, in the overseas markets of EU and US. The investigator found that total exports of India to US and EU countries are export competitive. This study outlines the varying scenario in the global trading territories that is bound to lay stress considerably on international fabric and garments trade.

It was then that the World Trade Organization's Agreement of Textile & Clothing (ATC) came into force on 1st January 1995. The Agreement on Textiles and Clothing (ATC) and all restrictions there under terminated on January 1, 2005. The expiry of the ten-year transition period of ATC implementation means that trade in textile and clothing products is no longer subject to quotas under a special regime outside normal WTO/GATT rules but is now governed by the general rules and disciplines embodied in the multilateral trading system.

The table below signifies how the abolition of the Multi-Fibre agreement (1974-1994) has positively impacted the quantity of exports in Textile and clothing sector in the two major nations of textile & clothing sector, namely China and India.

Year	China			India		
	Total exports	Total Exports of textiles & clothing	Share (%)	Total exports	Total Exports of textiles & clothing	Share (%)
1985	274	65	23.77			
1986	309	86	27.80			
1987	394	133	33.72			
1988	475	131	27.57	139	33	23.79
1989	525	156	29.69	170	44	25.81
1990	621	168	27.06	179	52	28.99
1991	719	201	27.95	179	52	29.05
1992	849	262	30.85	207	61	29.45
1993	917	280	30.52	222	61	27.43
1994	1210	367	30.33	263	76	28.86
1995	1488	388	26.08	317	85	26.81
1996	1511	379	25.09	335	96	28.68
1997	1828	465	25.44	348	98	28.17
1998	1837	434	23.62	332	95	28.61
1999	1949	441	22.62	367	104	28.36
2000	2492	533	21.39	453	123	27.18
2001	2661	543	20.41	443	109	24.60
2002	3256	628	19.29	525	121	23.06

Source: Textiles and Clothing Exports from India and China: A Comparative Analysis V. N. BALASUBRAMANYAM & YINGQI WEI International Business Research Group, Department of Economics, Lancaster University, UK

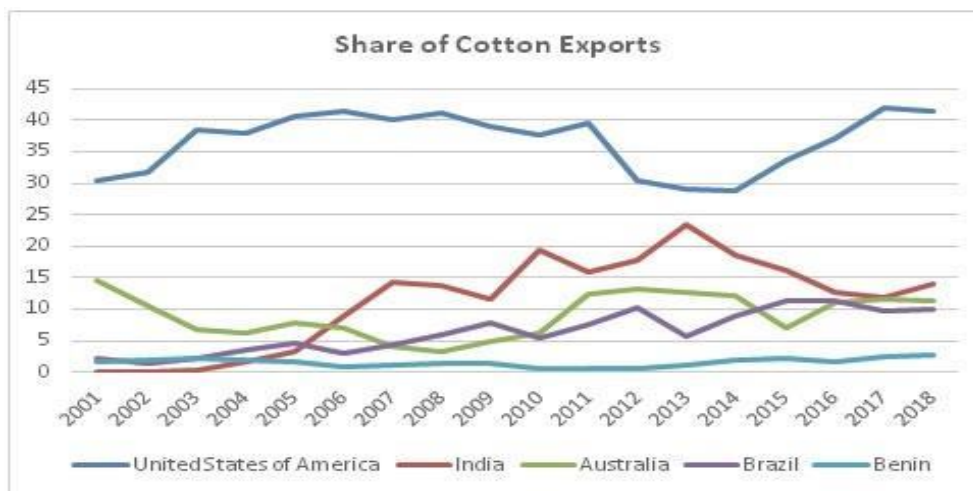
The table below signifies the how the contribution of China and India in the global textile and clothing market has shown a considerable increase from 1985 to 2002.

Table 2. Share of China's and India's exports of textiles and clothing in world exports (Unit: US\$100 million)

Year	Textiles					Clothing				
	World	China		India		World	China		India	
	Value	Value	Share (%)	Value	Share (%)	Value	Value	Share (%)	Value	Share (%)
1985	564	40	7.09			492	25	4.98	9	1.86
1986	696	45	6.47			638	41	6.35	11	1.73
1987	874	80	9.15			788	53	6.77	15	1.90
1988	955	65	6.80	17	1.79	858	66	7.75	16	1.83
1989	988	74	7.49	21	2.12	951	82	8.59	23	2.40
1990	1147	71	6.20	27	2.34	1096	97	8.83	25	2.31
1991	1178	73	6.24	27	2.28	1214	128	10.55	25	2.09
1992	1154	95	8.22	30	2.63	1326	167	12.62	31	2.32
1993	1118	95	8.51	31	2.81	1366	185	13.53	30	2.18
1994	1190	129	10.85	39	3.28	1496	238	15.90	37	2.48
1995	1610	147	9.11	44	2.76	1632	241	14.78	41	2.53
1996	1635	128	7.84	54	3.31	1714	251	14.65	42	2.47
1997	1414	146	10.35	55	3.90	1906	319	16.73	43	2.23
1998	1499	134	8.96	47	3.10	1753	300	17.14	48	2.45
1999	1740	140	8.06	52	2.97	1826	301	16.47	52	2.82
2000	1841	172	9.35	61	3.32	1907	361	18.92	62	3.24
2001	1755	176	10.01	54	3.10	1943	367	18.86	55	2.82
2002	1786	215	12.02	61	3.43	1907	413	21.66	60	3.17

Source: Textiles and Clothing Exports from India and China: A Comparative Analysis V N. BALASUBRAMANYAM & YINGQI WEI International Business Research Group, Department of Economics, Lancaster University, UK

Reduction in tariff barriers, coupled with technological integration helped Indian textile industry to take advantage of its comparative advantage. Being in the thrust sector of Indian policy, Indian textile industry, domestic textile production and textile exports have always been at centre stage of strategic planning. Textile sector in India occupies a wide spectrum in terms of textile products and its linkage with technology. While the handloom sector is predominantly labour intensive, advanced technology-based capital-intensive textile units with plethora of textile variants occupy a significant space in textile sector. India is a leading cotton producing nation of the world, accrediting the success of cotton production to launch of Technology Mission on Cotton in 2000.



The foundation of Textile industry rests on cotton production with textile industry in India consuming 70% of country's total fibre production (Indian Textile and Apparel Industry Analysis, 2019). The domestic textile and apparel market has grown at a CAGR of 10 per cent since 2005-06. The textile industry has around 4.5 crore of workers employed in textiles sector including 35.22 lakh handloom workers all over the country. Growth in demand is expected to continue at 12 per cent CAGR to reach US\$ 220 billion by 2025.

Objective of Study

The paper examines the comparative advantage of India in textile exports.

The purpose of this study was to study the export competitiveness of India in Textile and clothing segment of India's exports. The research is focused on investigating the answers to the given research problems

Is India losing upon its comparative advantage in textile and clothing exports to its competitors the period of study?

Does the pattern of comparative advantage in textile and clothing exports varies at different level of disaggregation?

The study analyses the HS codes 61 and 62 of India. The paper analyses the following specific objectives:

- To assess export competitiveness of India (In HS 61 and 62) in export of Textile and Clothing.
- To examine the changes in export competitiveness of Indian textile and clothing Exports over the study period.

2. Methodology

The data for trade was obtained from Intracen for the years 2000 to 2018. The rationale for choosing the period was to understand long- term trends and the availability of data for textile, especially for selected product group i.e. readymade garments. The internationally accepted nomenclature Harmonized System (HS) classification of export products published by the World Customs Organization has been used for study.

From HS code listing, HS code 61 Articles of apparel and clothing accessories, knitted or crocheted and HS code 62 Articles of apparel and clothing accessories, not knitted or crocheted were chosen for study. HS code 61 included 17 items from HS code 610 to 6117 and HS code 62 included 17 items from HS 6201 to HS 6217.

The study uses RCA index and CMS method to investigate the stated objectives. RCA and CMS have been calculated at the two digit level of HS classification.

Measures of RCA-

The study uses Balassa Index for to measure the comparative advantage of Indian textiles industry. The Balassa index is the more frequent measure used to compare relative advantages in export performance, by country and by industrial sectors. This index is defined as a country export share for a specific industrial sector divided by the export share of a group of countries, named “reference group”, for the same industrial sector.

The Balassa index for the country I, compared to the World, for the industrial sector J should be calculated as follows:

$$B_{i,j} = (X_{i,j} / X_{world,j}) / (X_{i,total} / X_{world,total})$$

Where, ‘i’ is the country under study ‘j’ is the industrial sector being compared. If $B_{i,j}$ exceeds 1, it may be said that the country I has a ‘revealed comparative advantage’ in industrial sector J, since this sector is more important for country I’s exports than for the exports of the reference countries.

The Balassa index has been subject to several critiques, leading some authors to propose several modified versions. Laursen (1998) suggests a transformation that produces a symmetric outcome, ranging from -1 to 1 with a threshold of 0. Comparative patterns were Vollrath (1991) offered three alternative specifications of revealed comparative advantage. The first of these measures is the relative trade advantage (RTA). It is calculated as the difference between relative export advantage (RXA), which equates to the Balassa (B) index, and relative import advantage (RMA):

$$RTA = RXA - RMA, \quad (2) \quad \text{Where } RXA = B;$$

$$RMA = (M_{ij} / M_{it}) / (M_{nj} / M_{nt}); \quad M - \text{import.}$$

The positive value of RTA indicates comparative trade advantages, while negative indicates comparative trade disadvantages. If $RTA > 0$, then a comparative advantage is revealed, i.e. a sector in which the country is relatively more competitive in terms of trade. RTA measures a country’s exports and imports of a commodity relative to its total exports and imports.

ImreFerto classified RTA index in three categories:

$RTA < 0$ refers to all those product groups with a comparative trade disadvantage. $RTA = 0$ refers to all those product groups in a break-even point without trade advantage or trade disadvantage. $RTA > 0$ refers to all those product groups with comparative trade advantage (Ferto, 2008). To measure the patterns of comparative advantage in trade between the Baltic States and the EU, this study uses relative export advantage index (RXA).

Vollrath’s second measure is simply the logarithm of the relative export advantage (in RXA); and his third measure is revealed competitiveness (RC), defined as:

$$RC = \ln RXA - \ln RMA \quad (3)$$

The advantage of expressing these latter two indices in logarithmic form is that they become symmetric through the origin. Positive values of Vollrath’s three measures, RTA, ln RXA and RC, reveal a comparative advantage (Ferto & Hubbard, 2002).

Laursen (1998) adjusted the RCA index to make it symmetric, the RSCA which is defined as:

$$RSCA_{ij} = (RCA_{ij} - 1) / (RCA_{ij} + 1);$$

similar but not identical.

The most popular in the second group is the Lafay index, known as LFI index, suggested by Lafay (1992). LFI index takes imports into account in measuring specialization of export and is represented as a modified version of international trade specialization, and the competitiveness structure of the domestic manufacturing sector, measured by a set of industry and country-specific variables. LFI determines the comparative share of product’s international trade among other products. Country receives the net export earnings, if the indicator value is greater than zero.

$$LFI = 100 * \left(\frac{X_i - M_i}{X_i + M_i} - \frac{\sum (X_j - M_j)}{\sum (X_j + M_j)} \right) \frac{X_i + M_i}{\sum (X_i + M_i)}$$

Where:

X_i - Country A exports of product i ;

M_i - Country A imports of product i ;

X_j - Country A exports of all others products except i ($j = 1$ to n and $j \neq i$);

M_j - Country A imports of all others products except i ($j = 1$ to n and $j \neq i$)

CMS

Constant Market Share method decomposes the export growth to provide a better understanding of whether this growth is coming from increased competitiveness or resulting from various other structural factors.

$$\Delta q = \left[\sum_{i=1}^n r q_i^1 \right] + \left[\sum_{i=1}^n r_i q_i^0 - r q_i^0 \right] + \left[\sum_{i=1}^n \sum_{j=1}^m r_{ij} q_{ij}^0 - \sum_{i=1}^n r_i q_i^0 \right] + \left[\sum_{i=1}^n q_i^1 - q_i^0 - \sum_{i=1}^n \sum_{j=1}^m r_{ij} q_{ij}^0 \right]$$

Here, Superscript 1 and 0

1 = Terminal time period

0 = Initial time period

$i = 1, 2, \dots, n$ = Number of commodities

$j = 1, 2, \dots, n$ = Number of markets

q_i^0 = Total exports by the focus country of commodity i , in the initial period

q_i^1 = Total exports by the focus country of commodity i , in the terminal period

Theoretical and Empirical Foundations

Divergent views exist to assess the trade competitiveness and various approaches have been applied in analysing determinants of trade competitiveness. Removal of trade barriers, and abolition of trade quota helped textile industry to capture far reaching audience across the world and In the aftermath of globalization several researches have been conducted worldwide to determine and evaluate the impact of key determinants of trade in both export and import dimensions of textile and apparel and the change in competitiveness of the textile and apparel industry.

(Bhavani & Tendulkar, 2010) The comparative advantage of India in garments is due to low wage in relation to productivity of that labor and not due to cheap labor. Better technology plays an important role in defining the competitiveness of the firm, combined with the scale of operations which has a positive influence on firms export performance (Prasanna, 2017) studied the impact of FDI inflow on the export performance of India. FDI leads to expansion in manufacturing and export, accompanied by deeper integration with global economy. While, FDI helped increase the exports in short-run, to accentuate the export pace in long-run, domestic manufacturing should be expanded in line with the FDI policy framework. (Bhattacharyya & Ghosh, 2019) The financial meltdown of 2008 had a significant impact on India's export performance. Well set policy support from Indian government to generate demand helped address the problem of slow-down.(Rasiah, Kaur , & Kumar, 2011) compared differences in export, technological, and marketing intensities between Large Enterprises (LE) and Small and Medium enterprises (SME) for garment exports and found that SME have deep integration with global value chain and have strong export intensity with positive relationship with technology. LE has advantage in technological intensity marketing intensities.

(Ramaswamy & Gereffi, 2000) While India leads in Apparel production, but to integrate in global value chain by diversifying in new product lines , policy support to boost investment and restructuring production base. Easy access to import fabric, trimmings, and accessories will further facilitate exports of textiles.

(Thee, 2009)Indonesia's garment, a labor intensive industry lost its sheen after scrapping of Multi Fibre Agreement (MFA), losing its competitive position in the international market. To increase the international competitiveness of garment industry in Indonesia minimum wages be increased, accompanied by rising labor productivity, restoring the comparative advantage in Indonesia's garment industry and meeting the problem of unemployment in the country.

(Chen, Lau, Boansi, & Bilgin, 2016) Textile industry prior to abolition of MFA was bounded by stringent policy measures restricted deep integration of textile industry with the world. How these policy measures generate impact on trade was analysed, the study investigated reasons behind the implications for tariffs and NTB. It was found that imports of apparels are more reactive than textile imports to changes in various trade-related costs, geographic and economic indicators. (Kimura & Chen, 2018) emphasised on the unbundling model in

Indonesia, claiming that a country tends to export the goods that intensively use its unevenly distributed factor of production. The research focuses on three distinct levels of unbundling backed by technological advancements to overcome geographical distance. In the three bundling regime suggested, the first unbundling involved Indonesia specialising and upgrading their capabilities in industries with comparative advantage which are labor intensive like garments to integrate with the global value chains. (Chi & Kilduff, 2010) China has a comparative advantage in labor intensive textile products, the comparative advantage in capital intensive textile exports was offset by low-medium and low-income countries. (Batra, 2007) While analysing the pattern of specialization of India and China in the world and ASEAN markets using relative market shares methodology and RCA analysis found that China offers direct threat to India in all major export performing sectors of India, with highest level of risk in apparel sector and accessories. (Hossain & Karunaratne, 2010) The acceleration of manufacturing exports have contributed in making Bangladesh an export-led economy (Alam, Selvanathan, & Selvanathan, 2017) has become a major exporter of garment exports, next to China, contributing immensely to GDP and generating employment opportunity in the economy. The research suggested that major drivers to outstanding performance of garment industry are low cost production, nearness of firms to port, firm size, high labor productivity and preferential trading agreement compliment to Bangladesh's garment performance. (Hasan, Kapoor, Mehta, & Sundaram, 2017) argued that the unique advantage that abodes India is a well-developed supply chain for manufacturing the apparel products. Right from cotton production, to spinning, weaving and processing of textiles and further designing of RMG's India enjoys advantage and expertise in all these supply chain activities. Being labour-intensive industry and employing maximum labour, Indian apparel industry meets the objective of inclusive growth. However, what dissuaded the apparel Industry in India to achieve phenomenal growth is the labour regulation and a large size of informal sector in India. (Anner, 2019) investigated that the buyers in Indian garment export sector use predatory purchasing practices over their suppliers, with suppliers having no regards for workers fundamental rights, job stability and use their influence over the workers to squeeze down their wages and impose upon overtime during prime production orders.

3. Analysis

61-RCA

HSCODE	6101	6102	6103	6104	6105	6106	6107	6108	6109	6110	6111	6112	6113	6114	6115	6116	6117
2001	7.655618	1.329537	2.712491	2.647851	13.94647	2.91843	6.719923	3.716152	4.973029	0.880746	3.837157	0.23078	0.125366	0.734638	0.953919	0.668229	0.829886
2002	14.67957	1.205012	3.027109	2.359514	14.20576	1.636061	7.300431	3.849535	5.451035	0.81621	4.885205	0.329843	0.459783	0.779422	0.867502	0.642663	0.720726
2003	16.53065	4.848647	2.685103	1.932048	10.97755	4.269834	7.393753	3.569062	5.793619	0.66857	4.073703	0.990984	0.386749	0.676518	0.771636	0.681999	0.991276
2004	10.77673	3.008208	2.296858	1.816841	11.20855	4.651165	6.487614	3.282259	4.260247	0.672068	3.643475	0.701457	0.81332	1.071925	0.474615	0.825798	1.639408
2005	7.220822	0.376292	2.305032	1.817669	8.889185	4.60821	5.971746	2.9524	4.324271	0.613042	3.947948	0.310369	0.687879	1.20635	0.418803	0.442233	1.044567
2006	3.163779	0.325154	1.715401	1.350929	6.091673	4.890208	5.227327	2.453207	4.679917	0.633575	4.321393	0.2171	0.463456	1.608445	0.449268	0.39545	0.782828
2007	0.886086	0.283335	1.291936	1.299191	6.175512	4.03317	5.294492	2.53933	4.471407	0.560513	4.846166	0.143008	0.161338	2.21202	0.391485	0.360193	0.726523
2008	0.674612	0.21067	1.254924	1.471617	5.348771	4.328575	4.834888	2.386951	3.927796	0.48336	4.967293	0.15312	0.216734	2.753991	0.276952	0.375473	0.878628
2009	0.451032	0.35416	1.549623	1.388473	5.25165	5.226775	5.104081	3.714378	4.338879	0.47175	5.412618	0.190183	0.069319	2.418293	0.267962	0.222661	0.764708
2010	0.215822	0.132113	1.25449	1.038758	4.93779	4.13537	3.742005	1.96266	3.324493	0.358936	4.803408	0.118111	0.02558	2.09466	0.221528	0.408407	0.684113
2011	0.244903	0.145649	0.993326	0.882911	5.325772	3.527427	3.28627	2.411986	3.130466	0.328029	5.156195	0.192342	0.052935	2.510973	0.211014	0.440496	0.802548
2012	0.253024	0.118747	0.946524	0.819366	4.383338	2.615603	3.519924	2.503203	3.38888	0.275592	5.914456	0.369644	0.036361	3.284072	0.226121	0.396791	0.359995
2013	0.166197	0.217288	0.936074	0.812107	4.221216	2.599494	3.752908	2.468597	3.440966	0.30338	5.863373	0.234061	0.027376	4.384884	0.297119	0.347811	0.817865
2014	0.242906	0.180541	1.310254	0.978349	4.399056	2.03685	3.931188	2.473699	3.525158	0.35966	5.700369	0.141354	0.032499	5.36932	0.330199	0.351181	2.071073
2015	0.26056	0.179473	1.775208	1.242984	5.885891	2.339128	4.535418	2.672629	3.997942	0.370134	6.762007	0.13616	0.025312	5.781638	0.31039	0.382652	1.942034
2016	0.173914	0.100508	2.422333	1.300101	5.676497	1.916988	4.815344	2.847567	3.866963	0.365507	7.171511	0.116859	0.027276	5.208236	0.35879	0.374088	0.968575
2017	0.263831	0.113773	3.066506	1.239498	5.41763	2.133365	5.841107	2.66481	3.590767	0.36457	7.034502	0.097687	0.062654	4.569571	0.585527	0.394598	1.032688
2018	0.462316	0.110514	2.032155	0.926737	4.399545	1.87027	4.666053	2.608673	3.103537	0.380949	6.375003	0.097929	0.020313	4.423608	0.690013	0.374506	0.972036

61-RMA

Year	6101	6102	6103	6104	6105	6106	6107	6108	6109	6110	6111	6112	6113	6114	6115	6116	6117
2001	0.038619	0.004205	0.291745	0.003244	12.40914	2.596711	5.979184	3.30651	4.424851	0.783661	3.414186	0.205341	0.111547	0.653659	0.848768	0.59457	0.738407
2002	0.019196	0.008097	0.050747	0.005178	12.72723	2.833851	6.540605	3.448877	4.883693	0.731259	4.376755	0.295513	0.141929	0.65883	0.777213	0.575775	0.645713
2003	0.007317	0.001377	0.019509	0.007148	9.255	3.59983	6.233556	3.00902	4.884509	0.563661	3.434475	0.835483	0.326062	0.570362	0.650555	0.574982	0.83573
2004	0.028462	0.000556	0.015105	0.0052	8.871671	3.68144	5.135006	2.597938	3.372025	0.531948	2.883844	0.55521	0.64375	0.848439	0.375663	0.653627	1.297607
2005	0.012013	0.001132	0.018729	0.009111	6.497079	3.368127	4.364732	2.1579	3.160597	0.448071	2.885544	0.226848	0.502769	0.881718	0.306102	0.323227	0.763471
2006	0.006101	0.001948	0.017374	0.007724	4.248361	3.410454	3.645562	1.710878	3.263796	0.441858	3.01376	0.151407	0.323216	1.121747	0.313322	0.257789	0.545948
2007	0.002769	0.001457	0.034911	0.009579	4.199674	2.742768	3.600534	3.040792	0.381179	3.295649	0.097253	0.109718	1.504414	0.506475	0.24495	0.494074	
2008	0.013364	0.002185	0.028217	0.01178	3.152066	2.550859	2.849233	1.406647	2.314677	0.284848	2.92726	0.090234	0.127223	1.622946	0.16321	0.221269	0.517782
2009	0.004364	0.001298	0.046844	0.006835	3.561157	3.544289	3.46109	2.518729	2.942205	0.319895	3.67031	0.128963	0.047005	1.63985	0.181705	0.150987	0.51855
2010	0.007277	0.003275	0.024721	0.013211	3.154971	2.64227	2.390932	1.25403	2.124165	0.22934	3.069109	0.075466	0.016344	1.33837	0.141544	0.260949	0.43711
2011	0.007657	0.002959	0.054691	0.014433	3.156328	2.328975	2.169752	1.592507	2.066883	0.21658	3.404365	0.126993	0.03495	1.657863	0.139292	0.290836	0.529881
2012	0.009359	0.003463	0.027671	0.015406	2.610316	1.557614	2.096146	1.490679	2.018108	0.164118	3.52211	0.220126	0.02165	1.955693	0.134657	0.236293	0.21438
2013	0.018619	0.008361	0.053169	0.027473	3.050271	1.878407	2.71187	1.78382	2.486459	0.219224	4.236902	0.169133	0.019782	3.168538	0.214699	0.25113	0.590993
2014	0.013129	0.007906	0.067031	0.032797	3.04431	1.409576	2.720528	1.711892	2.43954	0.248898	3.944867	0.097822	0.02249	3.715769	0.22851	0.243466	1.433259
2015	0.0509	0.016705	0.086211	0.040566	4.012494	1.594616	3.091858	1.821968	2.725453	0.252326	4.609754	0.092822	0.017256	3.941423	0.211597	0.260859	1.323912
2016	0.072193	0.027965	0.102829	0.053679	4.184392	1.413095	3.5496	2.099065	2.850507	0.269431	5.286432	0.086142	0.020109	3.839217	0.26448	0.275756	0.713979
2017	0.065014	0.026129	0.101877	0.048075	3.659673	1.441114	3.945737	1.800111	2.425606	0.246271	4.75189	0.065988	0.042323	3.086799	0.39553	0.266556	0.697593
2018	0.085573	0.026393	0.155955	0.052673	2.85543	1.213859	3.028402	1.693103	2.014284	0.247247	4.137559	0.063559	0.013184	2.871047	0.447838	0.243065	0.630879

61-RC

HSCODE	6101	6102	6103	6104	6105	6106	6107	6108	6109	6110	6111	6112	6113	6114	6115	6116	6117
2001	7.655618	1.329537	2.712491	2.647851	13.94647	2.91843	6.719923	3.716152	4.973029	0.880746	3.837157	0.23078	0.125366	0.734638	0.953919	0.668229	0.829886
2002	14.67957	1.205012	3.027109	2.359514	14.20576	1.636061	7.300431	3.849535	5.451035	0.81621	4.885205	0.329843	0.459783	0.779422	0.867502	0.642663	0.720726
2003	16.53065	4.848647	2.685103	1.932048	10.97755	4.269834	7.393753	3.569062	5.793619	0.66857	4.073703	0.990984	0.386749	0.676518	0.771636	0.681999	0.991276
2004	10.77673	3.008208	2.296858	1.816841	11.20855	4.651165	6.487614	3.282259	4.260247	0.672068	3.643475	0.701457	0.81332	1.071925	0.474615	0.825798	1.639408
2005	7.220822	0.376292	2.305032	1.817669	8.889185	4.60821	5.971746	2.9524	4.324271	0.613042	3.947948	0.310369	0.687879	1.20635	0.418803	0.442233	1.044567
2006	3.163779	0.325154	1.715401	1.350929	6.091673	4.890208	5.227327	2.453207	4.679917	0.633575	4.321393	0.2171	0.463456	1.608445	0.449268	0.39545	0.782828
2007	0.886086	0.283335	1.291936	1.299191	6.175512	4.03317	5.294492	2.53933	4.471407	0.560513	4.846166	0.143008	0.161338	2.21202	0.391485	0.360193	0.726523
2008	0.674612	0.21067	1.254924	1.471617	5.348771	4.328575	4.834888	2.386951	3.927796	0.48336	4.967293	0.15312	0.216734	2.753991	0.276952	0.375473	0.878628
2009	0.451032	0.35416	1.549623	1.388473	5.25165	5.226775	5.104081	3.714378	4.338879	0.47175	5.412618	0.190183	0.069319	2.418293	0.267962	0.222661	0.764708
2010	0.215822	0.132113	1.25449	1.038758	4.93779	4.13537											

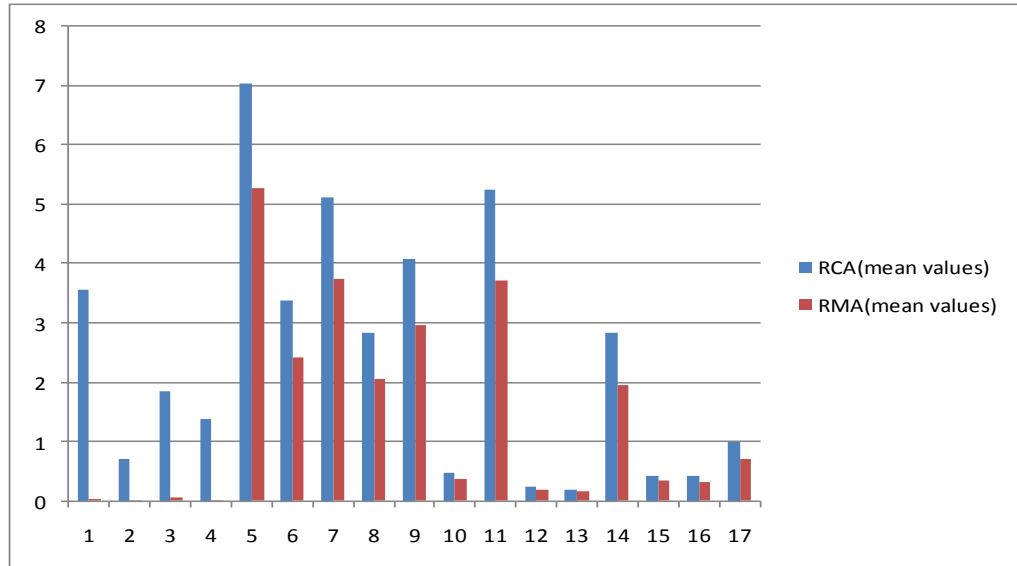
62-RMA

Year	6201	6202	6203	6204	6205	6206	6207	6208	6209	6210	6211	6212	6213	6214	6215	6216	6217
2001	0.040487	0.002618	0.007298	0.049034	0.048789	0.001765	0.005016	0.002409	0.004279	0.019691	0.013511	0.015652	0.007053	0.478645	0.143518	0.0343	0.04666
2002	0.003139	0.001407	0.004732	0.004817	0.025186	0.002181	0.033347	0.011587	0.010239	0.024505	0.004268	0.067119	0.01423	0.088175	0.056798	0.016433	0.11393
2003	0.007541	0.004452	0.015354	0.003358	0.085803	0.004508	0.073774	0.021154	0.009739	0.04833	0.006972	0.038663	0.017285	0.084118	0.049162	0.01992	0.149308
2004	0.011094	0.00142	0.013344	0.003369	0.047579	0.005496	0.023561	0.009162	0.027849	0.025328	0.006378	0.015783	0.009	0.053156	0.066798	0.023473	0.137301
2005	0.005991	0.002293	0.016513	0.007878	0.039602	0.009725	0.012545	0.010205	0.026219	0.014571	0.004038	0.007165	0.030516	0.128681	0.064362	0.010783	0.174515
2006	0.007807	0.002826	0.025736	0.00883	0.058518	0.019475	0.023459	0.007984	0.039946	0.010437	0.004332	0.011348	0.038072	0.050613	0.059065	0.013454	0.189802
2007	0.009228	0.004046	0.040432	0.013368	0.052438	0.020245	0.015805	0.022358	0.040393	0.009833	0.003838	0.014722	0.028648	0.068315	0.109574	0.01925	0.144838
2008	0.00621	0.004885	0.03591	0.01332	0.059059	0.014071	0.034906	0.016019	0.055994	0.013166	0.004887	0.0202	0.092057	0.059508	0.132148	0.029593	0.104894
2009	0.008364	0.003476	0.026204	0.01262	0.046211	0.012724	0.021943	0.01415	0.047262	0.013702	0.003665	0.017969	0.04704	0.039921	0.0715	0.038081	0.089595
2010	0.008378	0.006912	0.037888	0.018105	0.049663	0.015561	0.148214	0.016142	0.0627	0.012336	0.006625	0.01737	0.062623	0.030949	0.101901	0.031366	0.07823
2011	0.014991	0.006787	0.055409	0.021354	0.065294	0.017843	0.194792	0.01527	0.048039	0.017104	0.005972	0.024614	0.053176	0.033667	0.065203	0.050157	0.081549
2012	0.001539	0.000836	0.060128	0.026181	0.100166	0.025238	0.069985	0.017049	0.052837	0.015869	0.010295	0.037937	0.061569	0.036562	0.081669	0.034906	0.107162
2013	0.029357	0.012896	0.08838	0.034532	0.141375	0.035324	0.052513	0.024658	0.066189	0.023543	0.012004	0.039327	0.05151	0.033867	0.089015	0.050575	0.085841
2014	0.02528	0.01508	0.105639	0.046426	0.114832	0.040958	0.036951	0.029737	0.096038	0.024338	0.020204	0.049788	0.081549	0.048332	0.115334	0.04887	0.093107
2015	0.031122	0.018077	0.114092	0.053186	0.135053	0.05161	0.030514	0.031091	0.095187	0.032532	0.022046	0.078626	0.075907	0.042009	0.131576	0.05741	0.07591
2016	0.036713	0.015479	0.132756	0.057192	0.167776	0.062199	0.032865	0.061821	0.199968	0.044688	0.022051	0.086341	0.099347	0.050399	0.126122	0.064107	0.154489
2017	0.037993	0.017613	0.120793	0.056956	0.129646	0.05703	0.032119	0.060558	0.238409	0.054285	0.026838	0.100412	0.092029	0.055733	0.125459	0.074608	0.202544
2018	0.057	0.019974	0.181238	0.079611	0.287799	0.080127	0.04931	0.038779	0.290951	0.05887	0.034848	0.166515	0.124387	0.063322	0.100432	0.073472	0.20667

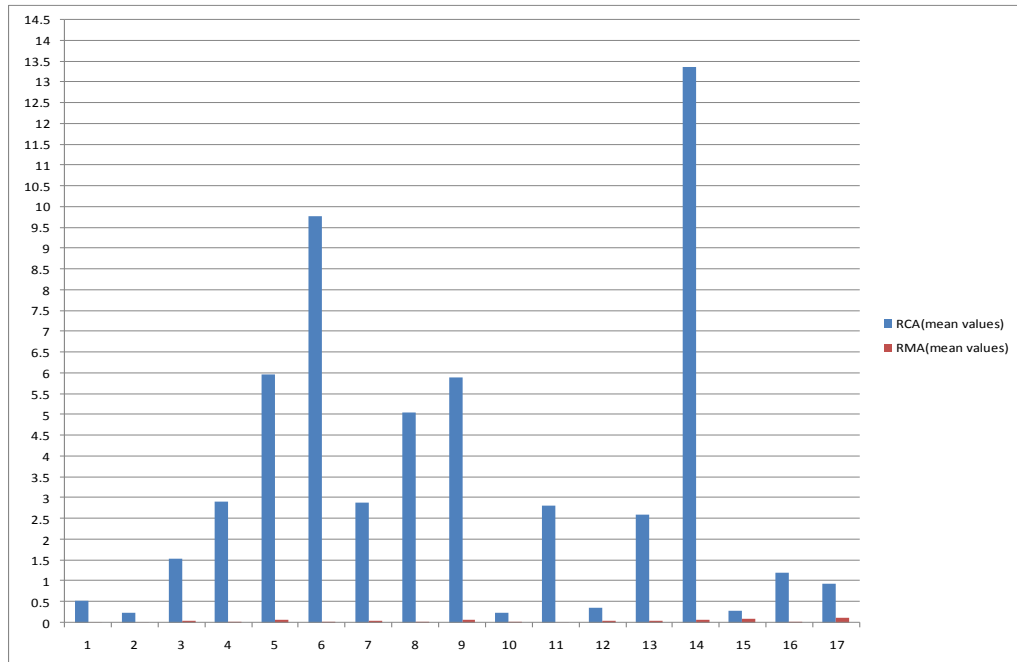
62-RC

Year	6201	6202	6203	6204	6205	6206	6207	6208	6209	6210	6211	6212	6213	6214	6215	6216	6217
2001	3.863567	5.624735	5.54332	4.537813	5.403365	8.953536	6.883862	8.024968	7.590481	3.104553	4.705238	2.786876	6.291071	3.589918	1.292886	3.857501	2.722982
2002	6.010766	5.873103	5.863863	6.579565	5.937945	8.796901	4.620148	6.382495	6.639781	2.819194	5.697233	1.517549	6.329734	5.275187	0.944426	3.935153	1.481668
2003	5.072948	5.091137	4.605543	6.757081	4.611706	7.953989	3.56408	5.932861	6.47858	2.269092	5.111119	1.957554	5.610943	5.284958	1.084236	4.251087	1.424514
2004	4.986834	6.187063	4.735251	6.72993	5.128456	7.807109	5.009111	6.547148	5.278926	3.56382	5.19952	1.529784	5.571099	5.801425	1.24503	3.815179	1.63076
2005	5.489255	5.6235	4.632244	6.097747	5.263679	7.352723	5.441636	6.250922	5.149595	3.837393	5.763524	3.049422	4.111943	4.894602	1.142157	4.728679	1.730433
2006	4.362672	4.394232	4.280737	6.03152	4.72307	6.521258	4.392892	6.58448	4.810368	3.840887	5.741356	2.543116	4.028773	5.861084	1.362225	4.469563	1.413617
2007	3.857499	3.914802	3.803934	5.466117	4.692465	6.187941	4.745409	5.325177	4.760492	2.248828	5.717449	3.003768	4.155213	5.498113	0.45514	4.376902	1.813509
2008	3.933403	3.537787	3.897133	5.439001	4.511448	6.52286	3.837483	6.564668	4.334644	1.743587	5.593086	2.541341	3.055516	5.681038	1.241445	3.689855	2.537123
2009	3.120841	3.244747	4.07606	5.475528	4.602254	6.61439	4.347401	5.603506	4.654361	1.361361	5.867717	3.009943	4.005252	5.941113	2.312075	3.62984	2.900546
2010	2.220063	2.560769	3.542697	4.996787	4.475909	6.406059	2.272175	5.246468	4.273359	1.096781	5.249368	3.004091	3.244639	5.977593	1.776815	3.57419	2.887142
2011	1.440454	2.14662	3.136489	4.884627	4.154243	6.196461	1.941792	5.444644	4.641708	0.898102	5.955253	2.541874	3.570515	5.759965	2.403026	2.955072	2.647744
2012	1.591538	1.925209	3.147008	4.638751	3.726827	5.641982	3.386888	5.533755	4.668044	1.747734	5.895525	2.661173	3.493201	5.675941	0.310465	3.475442	2.613916
2013	1.188131	1.363884	2.747294	4.256832	3.388219	5.273306	3.883255	5.139729	4.653284	1.542703	5.775857	2.636535	3.417903	5.683518	0.282823	3.070601	2.267045
2014	1.22357	1.23934	2.574222	3.916624	3.593081	5.106335	4.113474	4.82763	4.179869	0.862337	5.452968	2.356656	3.02575	5.49991	0.267692	3.114245	2.396308
2015	1.199055	1.1844	2.598137	3.9009	3.56126	4.996852	4.813369	5.016676	4.241151	0.771235	5.556455	2.097723	3.242627	5.505308	-0.13524	3.161057	2.542717
2016	0.632843	1.211676	2.482094	3.742203	3.427673	4.621652	5.180305	4.555445	3.497681	-0.03757	5.598161	1.997366	3.016091	5.24916	0.667325	3.103391	1.665505
2017	0.27322	1.237105	2.460325	3.654476	3.710375	4.638225	5.076162	4.404875	3.367423	0.62092	5.4377	1.554335	3.275741	4.978001	0.396063	2.938739	1.043598
2018	0.372141	1.089623	1.873646	3.250347	2.717877	4.194562	4.14707	4.603142	3.099527	1.165771	5.057575	1.166639	2.983502	4.628248	0.518693	2.798044	0.88411
HSCODE	6101	6102	6103	6104	6105	6106	6107	6108	6109	6110	6111	6112	6113	6114	6115	6116	6117
RCA(mean values)	3.573465	0.735535	1.865297	1.406941	7.041214	3.403351	5.134693	2.837617	4.088299	0.494811	5.261988	0.265055	0.205236	2.838264	0.450178	0.449214	1.001638
RMA(mean values)	0.025663	0.008078	0.066521	0.020229	5.278309	2.433771	3.750796	2.062809	2.968786	0.365545	3.714709	0.199128	0.156212	1.950897	0.336733	0.330238	0.718293
HSCODE	6201	6202	6203	6204	6205	6206	6207	6208	6209	6210	6211	6212	6213	6214	6215	6216	6217
RCA(mean values)	0.541494	0.250375	1.540893	2.914531	5.97903	9.770352	2.882329	5.054877	5.911427	0.240915	2.816117	0.371541	2.605172	13.35728	0.291659	1.211018	0.929734
RMA(mean values)	0.019777	0.008288	0.060103	0.028341	0.091933	0.026449	0.049535	0.022785	0.078458	0.025729	0.011821	0.0044975	0.054781	0.079776	0.093869	0.038348	0.123814

The higher value of RCA in HS 61 indicates the export advantages of India in these products which can be further verify by the lower values of RMA. The main product in this category are 6101, 6103, 6104, 6105, 6106, 6107, 6108, 6109, 6111, 6114, 6117.HS 61 means Articles of apparel and clothing accessories, knitted or crocheted, signifying India's comparative advantage in Readymade garments. Similarly, the greater values of RCA in product 62 also indicated the export advantage of products specially 6203, 6204, 6205, 6206, 6207, 6208, 6209, 6211, 6213, 6214, 6216. HS 62 meaning Articles of apparel and clothing accessories not knitted or crocheted, wherein India has consistently enjoyed comparative advantage.



HS code-62



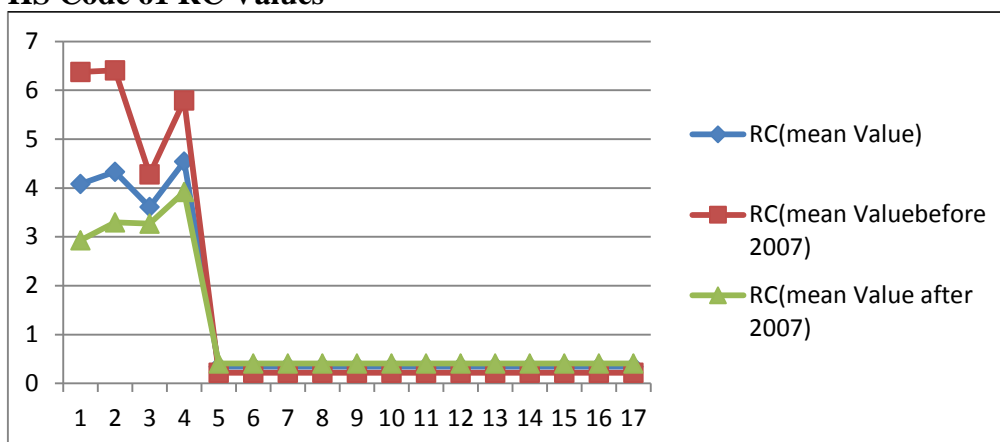
HS Code-62

Further the trend line of the RC values which are positive and high, leading towards conclusion that these products have competitive export advantages.

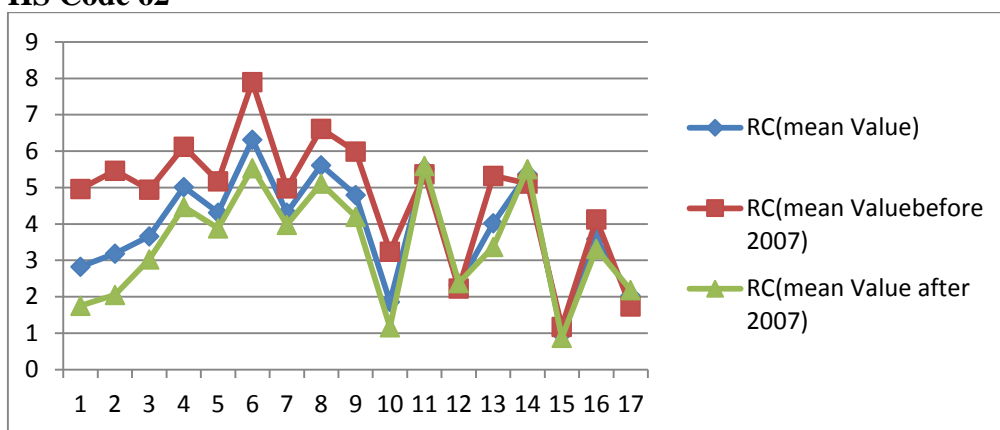
HS CODE(61)	6101	6102	6103	6104	6105	6106	6107	6108	6109	6110	6111	6112	6113	6114	6115	6116	6117
RC(mean Value)	4.07916	4.331386	3.607373	4.541931	0.344168	0.344168	0.344168	0.344168	0.344168	0.344168	0.344168	0.344168	0.344168	0.344168	0.344168	0.344168	0.344168
RC(mean Value before 2007)	6.373023	6.407681	4.278716	5.790377	0.217512	0.217512	0.217512	0.217512	0.217512	0.217512	0.217512	0.217512	0.217512	0.217512	0.217512	0.217512	0.217512
RC(mean Value after 2007)	2.932228	3.293239	3.271702	3.917708	0.407496	0.407496	0.407496	0.407496	0.407496	0.407496	0.407496	0.407496	0.407496	0.407496	0.407496	0.407496	0.407496

HS CODE(62)	6201	6202	6203	6204	6205	6206	6207	6208	6209	6210	6211	6212	6213	6214	6215	6216	6217
RC(mean Value)	2.824378	3.191652	3.666666	5.019769	4.312769	6.321452	4.314251	5.616588	4.795515	1.858707	5.520839	2.330875	4.024112	5.376949	0.97596	3.59303	2.033513
RC(mean Value before 2007)	4.96434	5.465628	4.943493	6.122276	5.178037	7.897586	4.985288	6.620479	5.991288	3.239157	5.369665	2.230717	5.323927	5.117862	1.178494	4.131194	1.733996
RC(mean Value after 2007)	1.754397	2.054663	3.028253	4.468516	3.880136	5.533385	3.978732	5.114643	4.197629	1.168482	5.596426	2.380954	3.374204	5.506492	0.874694	3.323948	2.183272

HS Code 61 RC Values



HS Code 62



RC values are low in HS code 62 after 2007 than before 2007 where as in case of HS code 61 mean RC values are usually higher after 2007.

CMS

To further analyse CMS is applied to both the HSCODE taking 2007 as interval period

The 4 key components of Constant Market Share model are

1. World Trade Effect (WTE);
2. Commodity Composition Effects (CCE);
3. Market Distribution Effects (MDE)
4. Competitiveness Effects (CE).

World Trade Effect measures the part of change in country's export if exports of the country under study are expected to change in synchronization with the world average. This means that if there is some change in country's export, some part of this change is attributed to the general change in world exports.

Thus r_{q0i} may be considered as the change in the exports of country because of change in world trade assuming that country would be able to retain its initial market share. So, the rise in the country's export may be because of overall increase in the total demand world over.

The Commodity Composition Effect (CCE) measures the extent of concentrations of country's export composition in products where import demands are high. It is the weighted sum of export values of chosen commodities. The weights are calculated by subtracting the individual commodity's growth rate from the world's total export growth rate in aggregate ('r').

The market distribution effect (MDE) is a component which is the size of country's export concentrations to importing countries where the demand is changing relatively at different rate as compared to total increase of world exports of particular product in markets (ri). It is the weighted sum of export values for individual products directed to particular importing country. The weight is calculated as difference of the export growth rate of individual product in particular market and the aggregate growth rate of world exports for that individual product (ri).

The MDE takes place because of 2 things

1. Trade policies of trading countries
2. Income growth of importing countries.

Thus if a country has maintained its shares in various countries it does not necessarily means that the country has same level of exports but just it is gaining or losing the market rate so that it may maintained the constant market share.

Thus distribution effect express the degree to which exports of a country are focused in markets where demand is relatively faster or slower to the total demand of the world. The positive market distribution indicates towards the magnitude of the exports of the concern country in relatively faster growing markets.

The Competitiveness effect measures the difference between the change in the exports of country (under study) and change that would have taken place if country maintained the constant market share in the importing countries. The effect is usually calculated as the residual term after subtracting the above three effects from the exports. Thus positive effect indicates that the competitiveness of country is maintained or improved.

The CMS calculations carried on the basis of data from Intracen from year 2001 to 2017. The complete period is divided into two periods 2001-2006 and 2007-2017 as the WTO policy may have started impacting from 2007. On calculating and applying the CMS (as discussed in methodology chapter) in these two periods, the results are as summarized:

	2001-2006 as compared to 2007-17		2001-2006 as compared to 2007-17	
	HS 61		HS 62	
Decomposition	Value	%	Value	%
Change in Exports	3628205	100	3593831	100
World Trade Effect	2134210	58.82	1780590	49.55
Commodity Composition Effect	248462.1	6.85	482648.5	13.43
Market Distribution Effect	262914.6	7.25	3023238	84.12
Competitiveness Effect	982618.6	27.08	-1692645	-47.10

The summary table indicates the relative contribution of each of the components of CMS model on the expansion of export of during the given period. World Trade effect, Commodity Composition Effect Competitiveness Effect have positively contributed to the change in the total export of India in HS 61 and HS 61. The marginal low values of market distribution effects indicate in HS 61 that Indian export is concentrated in the markets where demand is rising slower than the world export. The positive value of commodity composition effect in HS 61 and 62 indicates that the export emphasis of India is more on faster growing markets. From the competitiveness component being positive it is also an indication that India has gained the market share in various countries because of its export competitiveness in the HS 61 but not in HS 62.

While world demand for exports is an important source for overall growth of exports the competitiveness of India's exports is dependent on the inconsistencies arising due to volatility in the external environment. Negative competitiveness effect in HS 62 reflects decrease in competitiveness of India's Exports. While Competitiveness effect is high in HS 61 it is reflecting increasing concentrations of country's export composition in products where India's import demands are high. While MDE has risen marginally in HS 62, further policy impetus is required to diversify into new markets for both HS 61 and HS 62, especially the non-traditional markets. To achieve export diversification rapidly, India needs to enter into Free trade agreement and Preferential trade agreement with new countries, this would also help increase competitiveness in the existing markets. Ensuring that there is an overall growth in the entire value chain of textile and clothing production would generate higher efficiency to reduce the cost of production. Import of textile for value added exports needs to be streamlined and simplified. Infrastructure support in terms of logistics and low power supply rates can help decreasing the cost of production. Export incentives should be increased for exports of Textile and clothing, particularly the duty drawback rates should be increased for the exporters. China is faced with rising cost of labour, increasing cost of raw material and scarcity of power. While China has decided to reduce its activity in labour and energy related industry including the textile and clothing it is a big opportunity for India to capitalize.

The future prospects of Indian Textile and clothing exports depend on how sustainable is India export competitiveness in terms of different markets over the years. Complete backward linkages in cotton production can leverage India's potential in this sector policy support from government to enhance the competitiveness in exports will definitely enhance India's presence in exports of Textile and clothing. Rates under Merchandise Export from India Scheme (MEIS) can benefit the readymade garments and made up segment.

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