

## Revealed Comparative Advantage and Competitiveness for RMG Industry of Bangladesh: A Pre & Post US-GSP Suspension Analysis

Ayub Ali<sup>\*</sup>, Rashedul Kabir<sup>\*\*</sup>  
Samim Uddin<sup>\*\*\*</sup>

### **Abstract**

*This study investigates the Revealed Comparative Advantage (RCA) analysis for the Ready-Made Garment (RMG) sector of Bangladesh along with few other selected countries like India, Sri Lanka, Vietnam, Pakistan, China, Cambodia, and Turkey to explore the impact assessment on the US-GSP suspension for Bangladesh. It aims to explore how US-GSP suspension influences Bangladesh's manufacturing sectors and the export of RMG goods.*

*This study uses the RCA framework to analyze the extent of export competition amongst Bangladesh and other selected competitors. For this purpose, the study has applied Balassa's (1965) Index for the analysis.*

*It argues that the degree of competition among other selected competitors will intensify with implementing the US-GSP requirements to get the GSP facilities to the US market. After the suspension of US-GSP, Bangladesh's export share to the US market has decreased from 5.97 to 5.67 percent, amounting to US\$ 134.64 million. On the other destination, EU-market share is at a steady-state situation for Bangladesh's RMG sector. This indicates that the US-GSP status is very important to enhance a positive image and increase the world market's trade volume.*

*This paper contributes to the literature by investigating whether the US-GSP has any significant influence on the trade flow of Bangladesh. As this study has been based on a quantitative analysis using the Pre and Post US-GSP suspension RMG export flows from Bangladesh to the USA market, it is expected to help in policy implication regarding product and market diversification of Bangladesh's RMG industry.*

---

<sup>\*</sup> Senior Assistant Secretary, Research & Development Cell, Bangladesh Knitwear Manufacturers & Exporters Association, Dhaka, Bangladesh. E-mail: ayubecoju@yahoo.com

<sup>\*\*</sup> Senior Assistant Secretary, Research & Development Cell, Bangladesh Knitwear Manufacturers & Exporters Association, Dhaka, Bangladesh. E-mail: rkshimul81@gmail.com

<sup>\*\*\*</sup> Senior Assistant Secretary, Research & Development Cell, Bangladesh Knitwear Manufacturers & Exporters Association, Dhaka, Bangladesh. E-mail: iart5@bkmea.com

**Keywords:** Revealed Comparative Advantage, Balassa Index, GSP, RMG, US Market, Trade Openness, Knitwear, Woven Wear, Bangladesh

## **Introduction**

Comparative advantage is necessary for a country or a group of countries or regional bloc to scrutinize all sorts of international trade benefits. Liesner (1958) is the first person who introduced the measurement of RCA, and later, Balassa (1965) developed it. Balassa (1965; 1971; 1977) published and finally analyzed comparative advantage measures in manufacturing and across industries. Comparative advantage measure, which leads to international trade specialization, is a determinant to analyze trade patterns and determined by several supply and demand factors. Comparative advantage will increase the efficiency of scarce resources and welfare.

The revealed comparative advantage measurement tool is the most valid and comparable to determining comparative advantages such as trade specialization patterns, trade patterns, and international trade advantage. Heckscher–Ohlin theory states that a country's comparative advantage depends on relative factor endowment across nation, and trade affects relative factor prices within and across nations (Salvatore, 2007 cited Shohibul, 2013). United States of America and the European Union are the two single and jointly largest RMG exports earning market for Bangladesh's RMG products. Bangladesh is the second-largest exporter to the US and EU markets.

On 11 August 2015, the US declared GSP facilities provided with 5000 products for 122 countries, excluding Bangladesh and Russia. There is little doubt that the US–GSP status bears a positive image for the RMG sector. However, the negative impact of the US – GSP suspension is speculated to be a warning for future trade flow between Bangladesh and the United States, including the prospect of retaining the Most Favored Nation (MFN) status, which benefits Bangladesh's economic growth. According to the Bangladesh Economic Review (2014), during the last three years, there was no Foreign Direct Investment (FDI) inflow from the United States to Bangladesh. In such circumstances, the repeated attempt of the Bangladeshi Government to regain the US–GSP is crucial for the nation's continued economic growth.

At present, Bangladesh is facing significant threats from the major competitors of the RMG sector in the world, particularly China, India, Pakistan, Sri-Lanka, Vietnam, and Cambodia.

Therefore, this study analyses the competitive advantage of the Ready-Made Garments (RMGs) sector through the RCA Balassa index (1965), at the Harmonized System (HS) 6 Digit level. This study aims to find out a picture relative position of the RMGs sector of Bangladesh in the world markets and to compare the comparative advantage against the pre & post-suspension US-GSP with the major competitors in the US and EU markets.

## Overview of Bangladesh's Export Trends

Bangladesh is renowned for its garments products all around the world. This largest exporting industry of Bangladesh has been boosting the economy to have phenomenal growth for the last two decades. According to the Annual Report of Bangladesh Bank in the FY–2013-14, the macroeconomic situation in Bangladesh has been relatively stable for the recent few years. RMG and

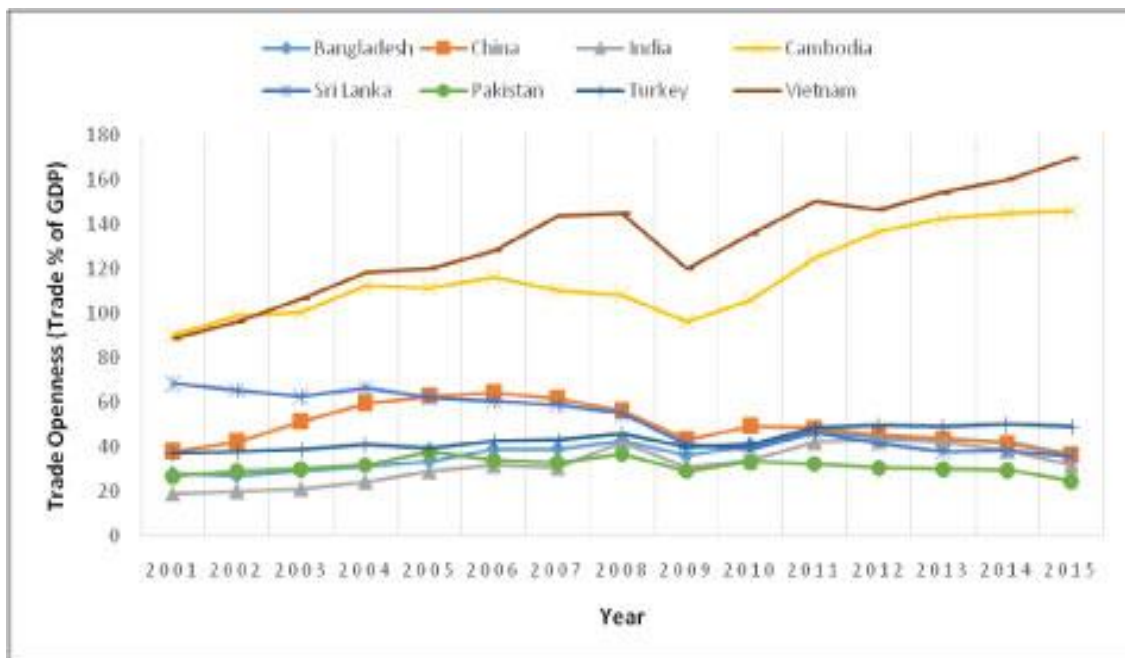
Remittance inflows, on the other hand, also help to achieve the stable economic growth rate, where the RMG sector contributes 14.09% of the total national GDP (compiled by R&D, BKMEA from EPB, BBS, and Bangladesh Bank). The RMG sector plays a crucial role in employment generation and income provision to the poor. Nearly 4.5 million workers (directly) and more than 15 million inhabitants are indirectly associated with the RMG industry. RMG is a manufacturing-based industry, and Bangladesh is the largest RMGs producer. As Bangladesh is the cheapest garment producing country, foremost stress has given to the development of this sector for reaping the benefits of abundant resources of the reasonable labor force. At present, about five thousand RMG factories are running for their production activities. In the RMG sector, total export earnings were \$24.49 billion in 2014, which was 13.83 percent higher than the previous year. The contribution of the RMG sector in the national export was 81.16% last year. Table 1 shows the present picture of Bangladesh's RMG export share globally, USA and European (EU) trade bloc.

**Table 1.** RMG Market Share of Bangladesh

Destination	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
World (%)	2.54	2.72	2.73	3.31	3.89	4.27	4.70	5.66	5.99	6.17	6.83
USA (%)	3.27	3.91	4.02	4.66	5.25	5.37	5.60	5.60	6.01	5.68	6.12
EU (%)	4.20	5.09	4.73	5.15	5.94	6.54	7.81	8.76	9.49	9.89	11.06

*Source: ITC, Geneva*

Table 1 shows the present scenario of Bangladesh's RMG export share in the world trade and US and EU trade bloc. The growth of RMG export is 2.50 percent point between 2010 and 2015 for Bangladesh in the world market. On the other hand, the US RMG market is one of the largest export destinations for Bangladesh. Bangladesh's RMG products gradually increased till the suspension of US – GSP from the year 2010. After US – GSP suspension, the share of the US market decreased from 6.01 to 5.68 percent, which accounted for S\$ 134.64 million. On the other hand, Bangladesh RMG has been gradually conquer a positive trend of market share in the EU market. Therefore, US–GSP status is very important to enhance the positive image and increase the trade volume of the world market.



**Figure 1:** Trade Openness amongst Close Competitor Countries

*Source:* World Bank Group data bank

The above figure 1 depicts annual trade openness for our discussed competitor countries (China, India, Sri-Lanka, Vietnam, Pakistan, Cambodia, and Turkey). This figure points out that Bangladesh’s trade openness is correlated with the world economy. From 2001 to 2008, Bangladesh's trade openness has got a positive trend, and conversely, after the economic recession period (2008-2010), trade openness has been gradually decreasing. However, in the present, US–GSP suspension status has made tardy Bangladesh’s RMG trade comparing the competitor's countries. Therefore, Bangladesh trade openness obtained the third position from the below in 2015 amongst the competitors.

**The objective of the Study**

This study aims to analyze the comparative advantages and competitiveness for the RMG sector of Bangladesh concerning the other close competitor countries, at the same time, to check the RCA status for pre and post of USA – GSP suspension.

**Specific Objectives**

To achieve this goal, the following specific objectives are identified for this study:

- a. To analysis Bangladesh’s export trends, specially woven and knitwear.
- b. To make comparative trade analysis of Bangladesh's RMG industrieswith deeply concerning the competitor countries during pre and post the USA, GSP suspension.
- c. To show the trend of trade of RMG industry of Bangladesh and other competitors’ countries.

## Literature Review

RCA index is a fundamental investigative instrument for a comparative advantage over time information against the top competitor countries about movement in comparative advantage over the period. Many studies used the concept of RCA by using export data. Balassa (1977) examined the comparative advantage pattern for various countries over the period from 1953 to 1971. The evidence supports that research-intensive products keep the product cycle continue when those are traded. This study also measures RCA indices' standard deviation to see the association between size and export diversification for various countries. Yeats (1997) examined trade patterns and conclude that distortion in trade patterns due to inequitable trade barriers were features of RTAs.

Ahmad (2013) estimated the RCA of the textile and clothing sector of Pakistan. It reveals that Pakistan has a comparative advantage in the textile sector but a low comparative advantage in the clothing sector. The study also analyzes RCA of the textile and clothing sectors during pre and post-quota imposition by importer countries. Shohibul (2013) investigated the comparative advantage for ASEAN countries and China by using Revealed Symmetric Comparative Advantage (RSCA) and Trade Balance Index (TBI) approach. Export products are analyzed based on the Standard International Trade Classification (SITC) revision-3. The study has disclosed that the China has more established trade patterns, while ASEAN trade patterns are very dynamic.

Bastos and Cabral (2007) have tested the dynamics of international trade patterns in 20 OECD countries over the 1980 – 2000 periods. Bastos and Cabral observed the changes in trade patterns explained by an initial endowment of human capital and industry-specific changes in labor productivity and labor cost. Trade liberalization induced an increase in larger OECD economies' previous specialization in industries with increasing return to scale. Hadzhiev (2014) measured overall RCA for all goods or Euclidean distance by specialization in export. The approach provides empirical evidence for the theoretically proven scale and scope effect in trade and specialization of exports. The study also explains that the overall revealed comparative advantages approach is a useful tool for analyzing export specialization in modern international trade.

Lolit (2013) calculated the RCA of export performance of the clothing sector for India and Bangladesh. The study used the Harmonized System (HS up to 4 digit level) to analyze the competitive advantage of various clothing products for the period of 1995 to 2003 for both countries. Furthermore, it revealed that comparative advantage in clothing products of India increased from 23 products to 25 products and comparative advantage of the same products of Bangladesh risen from 21 to products to 29 products in this period.

### Data Sources and Methodology

This study considered Revealed Comparative Advantage (RCA) by incorporating the Balassa index for RMG industries of Bangladesh and other selected close competitor countries separately. For this purpose, the data has been collected from ITC<sup>1</sup> trade map for RCA index variables such as RMG export of Bangladesh and other selected competitor countries. The RCA index is more useful to examine where Bangladesh's comparative advantage actually lies.

This study is planned to follow Revealed Comparative Advantage index to address the comparative advantage of the selected competitor countries in the USA and EU market instead of the world market, using the Balassa index in the US-GSP suspension phenomenon. The following formula is designed:

$$\text{RCA (Balassa Index)} = \frac{\frac{X_{ij}}{X_i}}{\frac{X_{sj}}{X_s}}$$

Where,

$X_{ij}$  : ith the country's export of commodity j to the USA and European Union/World.

$X_i$  : ith the country's total export to the USA and European Union/World.

$X_{sj}$  : The selected competitors country's' exports of commodity j to the USA and European Union/World.

$X_s$  : The selected competitors country's total export to the USA and European Union/World.

According to the results of this index if  $\text{RCA} > 1$  then a country has a comparative advantage, if  $\text{RCA} < 1$  then a country has a comparative disadvantage in that commodity or industry.

By using Balassa index, the study has attempted to calculate the RCA for the timeframe before and after USA, GSP suspension.

In line with context, Normalized RCA or NRCA has been calculated to explore the country's export performance of those commodities. The NRCA index range is between  $-1$  and  $+1$ , which allows comparative advantages across time, countries and sectors. Hence, NRCA positive values indicate comparative advantages and NRCA negative values shows trade disadvantages of the respective products of those countries.

In order to analyze the impact of suspension of US – GSP within two countries or regions, the NRCA index has calculated using the following formula:

---

<sup>1</sup>International Trade Centre (ITC) Map, Geneva

$$\text{Normalized RCA or NRCA} = \frac{\text{RCA} - 1}{\text{RCA} + 1}$$

### **Bangladesh and USA & EU Trade Relationship**

The relationship between Bangladesh and the USA had not been flourished while Britain was in power in the Indian Subcontinent. At the time of the liberation war, the Nixon administration sided with Pakistan. However, throughout the time-post liberation of Bangladesh, the USA has changed its position towards Bangladesh. The first opinion change came when the USA, on 4 April 1972, recognized Bangladesh as an independent country on the world map and issued US\$300 million for food aid under PL-480. After this, they established the US embassy in Bangladesh. At present, the relationship between the two countries has evolved into a “Three Dimensional (3D)” one- Democracy, Development, and Denial of space for terrorism. In 2012, a strategic partnership agreement between two countries was signed when the secretary of state Hillary Clinton visited Dhaka. Bangladesh has garnered so much praise from high-level diplomats from the USA, including Barak Obama, Hillary Clinton, and Colin Powel, for our MDGs goals.

From an economic perspective, the USA is our single largest RMG export-earning source of income. The landmark of economic co-operation between the USA and Bangladesh was the consideration for incorporation in its GSP program. The US-GSP was launched in January 1976 under the Trade Act of 1774. Due to overpopulated countries, Bangladesh has had to utilize this facility by expanding its labor-intensive sectors such as RMG and Agriculture. Export trends have seen growth positively under the duration of the GSP. Due to this, Bangladesh has been able to export to other countries outside the USA. Presently, the popularity of Bangladesh Knitwear and Woven clothing demonstrates that the government holds the second and third positions concerning world export. It was a shock for Bangladesh factory workers when the decision was made to suspend GSP on June 27, 2013. The president stated, “It has not taken or is not taking steps to afford internationally recognized worker rights to workers in the country.” This was exemplified when in 2013, the Savar building collapsed, claiming more than a thousand lives. Bangladesh has had to pay 15.3% of taxes on exports to the USA market between 2014 and 2015. Due to this limited export basket, RMG covers more than 82%.

We expect to regain the GSP consideration by the USA in the future even though the economic cost of the GSP being suspended is not significant. There is a great fear due to the influence the EU may decide to withdraw GSP privileges for Bangladesh. The message of hope, which the EU speaks about, has its advantages under GSP since 1971. Most of the

## Revealed Comparative Advantage and Competitiveness for RMG Industry

RMG products have been included in this program. Bangladesh gained recognition of independence from Poland as a first European country on 12 January 1972. As an economic community, however, the EU and Bangladesh forged a financial relationship in 1973. The diplomatic relationship between the European Commission and Bangladesh was first introduced in 1982. The European Commission began its full-fledged delegation in Bangladesh in 1989. We have gotten the maximum level of cooperation from the EU, and we successfully compiled the Commercial Co-Operation Agreement of 1976, National Indicative Program (2003-2005). We still enjoy maximum benefits as a part of us for being LDCs. The European Union has imported 60% of the total RMG export from Bangladesh.

- Being the largest trading partner of Bangladesh, including having duty free market access under the EBA initiative
- Development partner issuing project aid for social development like MDGs
- Democratic Supporter
- Climate change-related co-operation

It indicates a high level of co-operation with Bangladesh. Bangladesh and the EU jointly incepted a commission that began in 2001. The EU has offered GSP for 179 LDC countries and development countries for about 7200 products covering their 66% of tariff live. Even after the formation EU in 1993, they have continued with this scheme. In 2003, they revised the GSP, where Bangladesh will get the final stage rules of origin for RMG and EBA incentive facility as LDCs.

### **Analysis of Results and Discussion**

Bangladesh is the second RMG products exporters in the global market. According to this strength, this sector plays a crucial role in employment generation and income provision to the poor community. About 4.2 million workers are directly, and more than 15 million inhabitants are indirectly associated with Bangladesh's RMG sector. Bangladesh's RMG market is a volatile market that everyday fluctuates against that of the competitor's countries and achieves the extra facilities. Hence, we will try to discuss measuring and assessing the competitive advantage of the top ten RMG products of Bangladesh in which it will explore the trade potential in this sector. Finally, we concentrate on the present study for an empirical analysis for pre and post US – GSP suspension by measuring the Revealed Comparative Advantage and competitiveness for RMG industries.

#### ***Top 10 Bangladeshi RMG Exporting Products Analysis:***

The Analysis has focused on the top ten RMG products of Bangladesh by explaining RCA analysis, and selected countries' RCA explains aligning with Bangladesh's top ten RMG products. This RCA index is provided for



eight countries over the 2012–2016 at HS– 6 digit level. In table 2 is reporting a brief description of the number of observations.

**Table 2.** Top 10 Bangladeshi RMG Exporting Products Analyses

<b>HS-Code</b>	<b>Product-label</b>
610910	T-shirts, cotton
620342	Men's or boys' trousers
620462	Women's or girls' trousers
611020	Jerseys, pullovers, cardigans, waistcoats, cotton
611030	Jerseys, pullovers, cardigans, waistcoats, human-made fibers
620520	Men's or boys' shirts of cotton
610462	Women's or girls' trousers, knitted
610510	Men's or boys' shirts of cotton, knitted
611120	Babies' garments
610990	T-shirts, textile materials

### *Comparative Advantage of the Selected Competitors in the USA–EU Market*

Ready-Made Garments (RMG) market in the USA and EU is the world's largest market for Bangladesh RMG products. After the US–GSP suspension, RMG trade performance is influenced by those export structure of concerned competitor countries and similarly trade policies of the destination countries. Balassa's Reveal Comparative Advantage (RCA) or Normalized Reveal Comparative Advantage (NRCA) indexes may vary with factor endowment ranks of the selected competitors. Table 3 depicts NRCA ranking information of selected countries from 2012 to 2015. According to the result, Bangladesh has the highest NRCA in the three products out of the top ten products, such as 610910), (620342), and (620462) from 2012 to 2015, respectively, compared to the other countries in the RMG in the USA market.

On the other hand, Cambodia has the highest NRCA for the five products out of the top ten RMG products in Bangladesh's perspective, such as (611020), (620520), 610462, (611120), and (610990) from 2012 to 2015 respectively. Sri-Lanka and Vietnam are the close competitors for Bangladesh's top ten RMG products in the USA and EU markets. Simultaneously, Pakistan has the highest NRCA for the two RMG products, such as (611030) and (610510). After trade liberalization, there are no extra trade facilitation activities for those products of Bangladesh in the US market.

Revealed Comparative Advantage and Competitiveness for RMG Industry

**Table 3.** NRCA Top 10 RMG Products of the Selected Competitors in the USA Market

Country	Year:20	610910	620342	620462	611020	611030	620520	610462	610510	611120	610990
<b>Bangladesh</b>	12	0.97	0.95	0.89	0.60	0.89	0.54	0.69	0.81	0.65	0.45
	13	0.97	0.96	0.89	0.63	0.89	0.61	0.69	0.82	0.67	0.43
	14	0.97	0.96	0.91	0.67	0.91	0.63	0.68	0.84	0.72	0.50
	15	0.97	0.96	0.91	0.71	0.91	0.66	0.73	0.80	0.77	0.51
<b>India</b>	12	-0.31	0.20	-0.42	-0.03	0.41	-0.69	-0.04	0.53	-0.67	-0.38
	13	-0.39	0.21	-0.40	0.02	0.36	-0.65	0.01	0.56	-0.58	-0.38
	14	-0.38	0.16	-0.43	0.03	0.42	-0.67	0.10	0.57	-0.47	-0.29
	15	-0.37	0.23	-0.41	0.10	0.50	-0.72	0.13	0.61	-0.45	-0.35
<b>Sri Lanka</b>	12	0.82	0.85	0.80	0.60	0.31	0.76	0.47	0.79	0.93	0.73
	13	0.81	0.83	0.79	0.63	0.42	0.74	0.60	0.79	0.92	0.79
	14	0.82	0.84	0.81	0.67	0.52	0.74	0.67	0.81	0.90	0.85
	15	0.81	0.85	0.79	0.66	0.53	0.78	0.70	0.83	0.91	0.88
<b>Vietnam</b>	12	0.82	0.85	0.80	0.60	0.31	0.76	0.47	0.79	0.93	0.73
	13	0.81	0.83	0.79	0.63	0.42	0.74	0.60	0.79	0.92	0.79
	14	0.82	0.84	0.81	0.67	0.52	0.74	0.67	0.81	0.90	0.85
	15	0.81	0.85	0.79	0.66	0.53	0.78	0.70	0.83	0.91	0.88
<b>Pakistan</b>	12	0.76	-0.06	0.75	0.77	0.91	-0.49	-0.02	0.95	0.76	0.17
	13	0.76	-0.18	0.76	0.76	0.92	-0.35	0.16	0.93	0.73	0.23
	14	0.76	-0.01	0.79	0.78	0.91	-0.25	0.23	0.94	0.76	0.23
	15	0.79	-0.01	0.79	0.77	0.91	-0.31	0.09	0.94	0.69	0.09
<b>China</b>	12	-0.86	-0.80	-0.61	-0.49	-0.81	-0.25	-0.38	-0.88	-0.79	-0.44
	13	-0.86	-0.81	-0.62	-0.49	-0.82	-0.31	-0.49	-0.87	-0.76	-0.43
	14	-0.86	-0.83	-0.65	-0.51	-0.83	-0.28	-0.57	-0.89	-0.72	-0.46
	15	-0.87	-0.84	-0.66	-0.54	-0.85	-0.36	-0.61	-0.89	-0.73	-0.54

<b>Cambodia</b>	12	0.85	-0.10	0.83	0.89	0.90	0.86	0.88	0.87	0.96	0.92
	13	0.84	0.09	0.80	0.87	0.89	0.88	0.92	0.85	0.95	0.90
	14	0.83	0.01	0.82	0.87	0.90	0.86	0.94	0.87	0.94	0.86
	15	0.79	0.01	0.80	0.86	0.88	0.87	0.94	0.87	0.93	0.89
<b>Turkey</b>	12	-0.23	0.25	-0.12	-0.45	0.00	-0.18	-0.79	-0.05	-0.61	0.33
	13	-0.17	0.21	-0.17	-0.46	0.06	-0.16	-0.74	-0.10	-0.49	0.25
	14	-0.13	0.21	-0.14	-0.39	0.02	-0.11	-0.70	-0.03	-0.49	0.19
	15	-0.13	0.20	-0.07	-0.29	0.04	0.00	-0.78	-0.03	-0.50	0.16

*Data source: ITC, Geneva and Authors' calculation*

NRCA for the top 10 RMG products of these major competitors has been calculated in the context of US–GSP suspension. NRCA values in the EU market are very important to know about increasing the trade volume in the destination countries for the selected competitor countries. This table (4) shows the NRCA which has been calculated for the US–GSP suspension period from 2012 to 2015 for Bangladesh, India, Sri Lanka, Vietnam, Pakistan, China, Cambodia, and Turkey. . This result in table 4 indicates that Bangladesh has a greater comparative advantage and stable NRCA while phasing out of the US–GSP suspension for Bangladesh. After the US–GSP suspension of Bangladesh, the NRCA of two products (i.e. 611020 and 611030) of Bangladesh has declined from 2012 to 2015. At the same time, NRCA for RMG products of India has been rising more than that of the other countries since China has the intention to give up the RMG production. Therefore, Cambodia, Pakistan, and China have achieved the first, second, and third position respectively in NRCA in the EU market.

**Table 4.** NRCA Top 10 RMG Products of the Selected Competitors in the EU Market

Country	Year:20	610910	620342	620462	611020	611030	620520	610462	610510	611120	610990
<b>Bangladesh</b>	12	0.93	0.89	0.82	0.86	0.79	0.85	0.86	0.91	0.74	0.43
	13	0.93	0.90	0.84	0.85	0.78	0.85	0.85	0.90	0.76	0.47
	14	0.93	0.90	0.85	0.84	0.78	0.85	0.85	0.90	0.77	0.47
	15	0.93	0.90	0.85	0.84	0.78	0.86	0.87	0.91	0.79	0.57
<b>India</b>	12	0.13	-0.36	-0.48	-0.39	-0.85	0.32	-0.02	0.19	0.26	-0.47

Revealed Comparative Advantage and Competitiveness for RMG Industry

Country	Year:20	610910	620342	620462	611020	611030	620520	610462	610510	611120	610990
	13	0.18	-0.39	-0.49	-0.32	-0.86	0.34	0.09	0.20	0.31	-0.37
	14	0.28	-0.34	-0.46	-0.24	-0.81	0.36	0.22	0.27	0.40	-0.34
	15	0.32	-0.33	-0.50	-0.20	-0.80	0.37	0.28	0.27	0.46	-0.26
<b>Sri Lanka</b>	12	0.56	0.61	0.50	-0.01	0.24	0.32	0.67	0.53	0.76	0.68
	13	0.50	0.59	0.37	0.04	0.17	0.43	0.73	0.56	0.79	0.71
	14	0.48	0.54	0.35	0.05	0.15	0.50	0.76	0.54	0.82	0.75
	15	0.44	0.53	0.37	0.10	0.20	0.50	0.73	0.47	0.85	0.76
<b>Vietnam</b>	12	-0.64	-0.39	-0.45	-0.53	-0.43	0.24	-0.36	-0.04	-0.88	-0.14
	13	-0.71	-0.41	-0.50	-0.62	-0.54	0.21	-0.60	-0.09	-0.87	-0.22
	14	-0.73	-0.36	-0.52	-0.68	-0.47	0.22	-0.66	-0.02	-0.86	-0.25
	15	-0.71	-0.48	-0.53	-0.69	-0.49	0.15	-0.63	-0.02	-0.88	-0.22
<b>Pakistan</b>	12	-0.09	0.84	0.72	0.43	-0.42	-0.59	0.49	0.60	-0.12	0.18
	13	-0.21	0.81	0.76	0.42	-0.37	-0.68	0.46	0.61	-0.08	-0.16
	14	-0.08	0.84	0.76	0.53	-0.30	-0.73	0.46	0.62	-0.05	-0.13
	15	0.02	0.86	0.79	0.59	-0.14	-0.62	0.52	0.64	0.03	-0.12
<b>China</b>	12	-0.85	-0.71	-0.55	-0.46	-0.24	-0.65	-0.66	-0.74	-0.27	-0.63
	13	-0.86	-0.74	-0.62	-0.47	-0.22	-0.68	-0.68	-0.75	-0.34	-0.61
	14	-0.88	-0.78	-0.67	-0.51	-0.26	-0.71	-0.72	-0.80	-0.43	-0.64
	15	-0.89	-0.81	-0.70	-0.53	-0.31	-0.73	-0.74	-0.80	-0.48	-0.65
<b>Cambodia</b>	12	0.65	0.62	0.68	0.82	0.84	0.47	0.85	0.68	0.56	0.78
	13	0.57	0.69	0.70	0.81	0.81	0.52	0.85	0.63	0.55	0.77
	14	0.59	0.69	0.68	0.79	0.81	0.60	0.85	0.55	0.59	0.81

Country	Year:20	610910	620342	620462	611020	611030	620520	610462	610510	611120	610990
	15	0.56	0.66	0.75	0.78	0.81	0.60	0.86	0.40	0.54	0.81
<b>Turkey</b>	12	0.42	0.26	0.39	0.09	0.04	0.18	0.28	0.08	- 0.39	0.71
	13	0.37	0.24	0.39	0.10	0.03	0.15	0.22	0.05	- 0.40	0.67
	14	0.33	0.21	0.40	0.11	0.01	0.18	0.17	0.10	- 0.37	0.67
	15	0.27	0.18	0.38	0.09	0.04	0.18	- 0.03	0.02	- 0.44	0.62

*Data source: ITC, Geneva and Authors' calculation*

### **Overall Comparative Advantages analysis for RMG of the Competitors Countries**

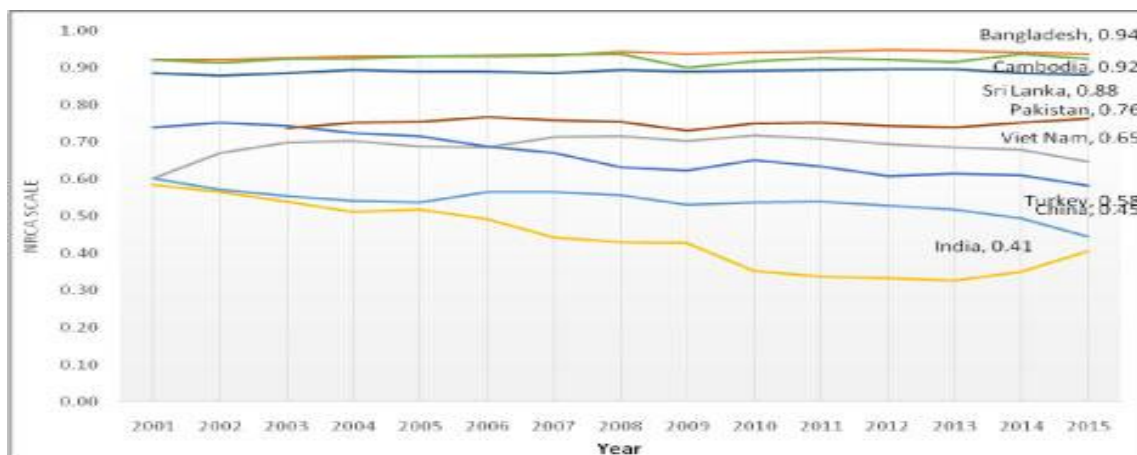
Being an export-oriented country, Bangladesh largely depends on the Ready-Made Garments (RMGs) exports for its export earnings. The share of Bangladesh of RMG export in the global market has been growing for the last decade (Asian Development Bank cited Rahman & Siddiqui). As a result, the Comparative advantage is very significant to enhance RMG export to the global markets. The Revealed Comparative Advantage (RCA) index ranking, first introducing by Balassa, is the most popular method for explaining the comparative advantages.

Figure 2 shows the Revealed Comparative Advantage (RCA) of the top ten RMG products of Bangladesh. This figure indicates RCA of the top ten RMG products that have achieved stability from 2001 to 2012, but more fluctuation-NRCA is from 0.95 to 0.94, respectively, in the last three years from 2012 to 2015. After the US–GSP suspension, the RCA of the RMG index ranking has fallen gradually. Bangladesh and Cambodia accomplish the first and second position in the world market in RCA order for the RMG products. On the other hand, China, Vietnam, and Turkey have gradually fallen into the world market's NRCA status. China has left from RMG production. It has the intention to develop in the capital intensive production process rather labor-intensive. Here, there is an excellent opportunity to increase its market share in the global apparel market for Bangladesh and all other competitors and grasp China's renounced market share. Challenges like high-end productivity, properly utilizing lead time, quality production, govt. Intensive like trade-friendly policies and environment, easing trade process are highly concerned matters. India has launched a specific target wise trade policy where they make an input out mechanism to be in leading position crossing the Bangladesh and grasp China's share from the world apparel market. Bangladesh has a great opportunity to be a strong

## Revealed Comparative Advantage and Competitiveness for RMG Industry

competitor by its cheap labor. It is high time that proper steps are taken and measures to implement modern technology in production, getting into Green industry, and more trade-friendly policy.

We can evaluate that skipping Bangladesh from the Generalized System of Preferences (GSP) in the recent review by the US government has affected the readymade garments export trend of Bangladesh. On the other hand, other competitors countries such as Cambodia, Sri – Lanka, Pakistan and India have increased their trade volume of RMG products in USA day by day.



**Figure 2.** RMG's revealed Comparative Advantages (RCA) of the Competitors Countries

*Data source: ITC, Geneva and Authors' calculation*

### **RMG Industry Competitiveness between EU and USA Market**

The RMG industry of Bangladesh has expanded dramatically over the last three decades. Bangladesh RMG products are mainly exported to the United States of America as a single country and the European Union as a trade bloc. These two destinations account for more than 81 percent of the country's total earnings from garment export. The apparel sector accounts for almost 82 percent of Bangladesh's full export. A review of the garment industry shows the availability of lower cost and standard quality products in Bangladesh. The increase in production cost everywhere in the world is the main reason for its headway. Therefore, forgoing Bangladesh from the US-GSP facility in the recent review negatively affects the competitiveness of the RMG sector of Bangladesh. This has become a concern from the perspective of business strategy and export policy. This study focuses on the comparative competitiveness analysis with the RMG sector of China, Vietnam, India, Pakistan, Cambodia, Turkey, and Sri Lanka, etc.; figure 2 represents Bangladesh has the highest number of RCA rank of the RMG exports in which indicates high competitiveness during 2001 to 2015.

However, a close look at this study shows that Bangladesh's comparative advantage has been highly concentrated around the basic ready-made garments products. After the Rana Plaza collapse, the NRCA value of the

top ten RMG products at HS code 6–digit (61 and 62) of Bangladesh has a rising trend from 2001 to 2013. Again, the trend of NRCA of Bangladesh's RMG products has declined in the post period of US-GSP suspension from 2013 to 2015. Before the suspension of GSP, Bangladesh used to export nearly \$36 million worth of products in 2012 under the scheme (the daily star, 11/07/2016). US-GSP will be very significant to keep the excellent image for RMG business and help expand the new market exploration.

### **Conclusion and Policy Recommendations**

In this paper, an attempt has been made to provide evidence on the pattern of comparative advantage of Bangladesh and the other selected competing countries for the top ten RMG products as indicated by the product composition of their exports to the USA and EU markets. After the GSP suspension, Bangladesh's export share to the US market is found to be decreased from 5.97 to 5.67 percent, amounting to be US\$ 134.64 million as of 2014. The empirical findings suggest that Bangladesh has a comparative advantage over the other selected competing countries in the USA and EU markets for the top ten RMG products Bangladesh exports to the global market. This result also shows that the average comparative advantage of the Bangladesh RMG sector is better in the EU market than in the USA.

It further appears that the extent of specialization and diversification of RMG exports depends on a variety of factors, including the level of technological development, natural resource endowment (e.g., cotton), international political diplomacy, destination countries' trade facilitation policies (GSP), and the effects of economic integration.

In line with the main focus on the US-GSP facilities, the comparative advantage of Bangladesh and the other selected competing countries appears to lie on the influence of the trade policy of destination countries like US-GSP suspension for Bangladesh's products to the USA market. Among these countries, raw materials and energy dominate trade facilitation activities. Indian textile policy comforts to increase its RMG export volume more than its competitor countries, especially Bangladesh, to the destinations like the USA and EU markets. As a result, the US–GSP status and a temporal textile policy of Bangladesh may have helped to increase Bangladesh's exports to the global market. It is expected that the recommendations provided based on the study findings would help for the revision of Bangladesh's political diplomacy as well as the empirical policy metrics for its RMG sector for increasing RMG export volume, GDP growth, employment opportunities, and women empowerment, among others.

## References

- Ahmad, N. (2013). *Changing Revealed Comparative Advantage of Textile and Clothing Sector of Pakistan: Pre and Post Quota Analysis*. *Pakistan Journal of Commerce and Social Sciences*, 7(3).
- Aini, Z. N., Roda, J. M., & Fauzi, P. A. (2010, July). *Comparative Advantage of Malaysian Wood Products in the European Market*. In Paper presented at National Postgraduate Seminar (NAPAS 2010) (Vol. 6, p. 7).
- Balassa, B. (1965). *Trade liberalisation and "revealed" comparative advantage*. *The Manchester School*, 33(2), 99-123.
- Balassa, B. (1977). 'Revealed' comparative advantage revisited: An analysis of relative export shares of the industrial countries, 1953–1971. *The Manchester School*, 45(4), 327-344.
- Balassa, B. (1979). *The changing pattern of comparative advantage in manufactured goods*. *The Review of Economics and statistics*, 259-266.
- Balassa, B. (1986). *Comparative advantage in manufactured goods: a reappraisal*. *The Review of Economics and Statistics*, 315-319.
- Balassa, B., & Noland, M. (1989). "Revealed" Comparative Advantage in Japan and the United States. *Journal of International Economic Integration*, 8-22.
- Barry, F., & Hannan, A. (2001). *FDI and the Predictive Powers of Revealed Comparative Advantage Indicators*. Unpublished ms, available at: <http://www.ucd.ie/~economic/staff/barry/fdi.html>.
- Bastos, P., & Cabral, M. (2007). *The dynamics of international trade patterns*. *Review of World Economics*, 143(3), 391-415.
- Beyene, H. G. (2014). *Trade integration and revealed comparative advantages of Sub-Saharan Africa and South Asian merchandize export*. *Foreign Trade Review*, 49(2), 163-176.
- Bhattacharyya, R. (2011). *Revealed comparative advantage and competitiveness: a case study for India in horticultural products*. In *International Conference On Applied Economics–ICOAE* (p. 21).
- Burange, L. G., & Chaddha, S. J. (2008). *India's revealed comparative advantage in merchandise trade*. *ArthaVijnana*, 50(4), 332-363.
- Doanh, N. K. (2011). *The Dynamic Patterns of Korea's Export Specialization*. Vietnam: Thai Nguyen University of Economics and Business Administration, 177-198.
- Fertö, I., & Hubbard, L. J. (2003). *Revealed comparative advantage and competitiveness in Hungarian agri-food sectors*. *The World Economy*, 26(2), 247-259.
- Hadzhiev, V. *More on Measuring the Overall Revealed Comparative Advantage*.
- Ignjatijević, S., Matijašević, J., & Milojević, I. (2014). *Revealed comparative advantages and competitiveness of the processed food sector for the Danube countries*.



- JunNing, C., PingSun, L., & Hishamunda, N. (2009). *Assessment of comparative advantage in aquaculture: framework and application on selected species in developing countries*. *FAO Fisheries and Aquaculture Technical Paper*, (528).
- Kaitila, V. (1999). *Trade and revealed comparative advantage: Hungary, the Czech Republic, and the European Union*.
- Leishman, D., Menkhaus, D. J., & Whipple, G. D. (1999, July). *Revealed comparative advantage and the measurement of international competitiveness for agricultural commodities: an empirical analysis of wool exporters*. In *Western Agricultural Economics Association Annual Meeting, Fargo, ND* (Vol. 7, pp. 11-13).
- Leromain, E., & Orefice, G. (2014). *New revealed comparative advantage index: Dataset and empirical distribution*. *International Economics*, 139, 48-70.
- Lim, K. T. (1997). *Analysis of North Korea's Foreign Trade by Revealed Comparative Advantage*. *Journal of Economic Development*, 22(2), 97-117.
- Mahmood, A. (2000). *Export specialization and competitiveness of the Malaysian manufacturing: trends, challenges, and prospects*.
- Mirzaei, F., Mostafavi, S. M., & Yazdani, S. (2012). *Export Comparative Advantage Analysis of Iranian Hen Egg by RCA & RSCA and RC Criteria*. *Modern Economy*, 3(5), 553.
- Moenius, J. (2006). *Measuring comparative advantage: A Ricardian approach*. *School of Business, University of Redlands*.
- Muhammad, N. M. N., & Yaacob, H. C. (2009). *Export Competitiveness of Malaysian Electrical and Electronic (E&E) Product: Comparative Study of China, Indonesia and Thailand*. *International Journal of Business and management*, 3(7), 65.
- Muriel, B., & Terra, C. (2009). *Sources of comparative advantages in Brazil*. *Review of Development Economics*, 13(1), 15-27.
- Mzumara, M., Chingarande, A., & Karambakuwa, R. T. (2012). *An analysis of the revealed comparative advantage in Southern African Development Community member states*.
- Peterson, J. (1988). *Export shares and revealed comparative advantage. A study of international travel*. *Applied Economics*, 20(3), 351-365.
- Pham, T. T. T., & Riedel, J. (2013). *An Empirical Analysis of Comparative Advantage Dynamics*.
- Savsin, S. (2011). *China's Integration in Foreign Trade: Revealed Comparative Advantage Analysis for Sweden in Relation with China*.
- Serin, V., & Civan, A. (2008). *Revealed comparative advantage and competitiveness: A case study for Turkey towards the EU*. *Journal of Economic and Social Research*, 10(2), 25-41.
- Shahab, S., & Mahmood, M. T. (2013). *Comparative advantage of leather industry in Pakistan with selected Asian economies*. *International Journal of Economics and Financial Issues*, 3(1), 133.
- Shohibul, A. (2013). *Revealed comparative advantage measure: ASEAN-China trade flows*. *Journal of Economics and Sustainable Development*, 4(7), 136-145.

## Revealed Comparative Advantage and Competitiveness for RMG Industry

- Startienė, G., & Remeikienė, R. (2014). Evaluation of revealed comparative advantage of Lithuanian industry in global markets. Procedia-Social and Behavioral Sciences, 110, 428-438.*
- Utkulu, U., & Seymen, D. (2004, September). Revealed Comparative Advantage and Competitiveness: Evidence for Turkey vis-à-vis the EU/15. In European trade study group 6th annual conference, ETSG.*
- Yu, R., Cai, J., & Leung, P. (2009). The normalized revealed comparative advantage index. The Annals of Regional Science, 43(1), 267-282.*