



International Journal of Financial Management and Economics

P-ISSN: 2617-9210
E-ISSN: 2617-9229
IJFME 2022; 5(2): 170-177
www.theeconomicsjournal.com
Received: 13-07-2022
Accepted: 20-08-2022

Ritesh Kumar Mishra
Lecturer, Department of
Economics, Kashishwar Inter
College, Mohanlalganj,
Lucknow, Uttar Pradesh,
India

Measuring comparative advantage through RCA: An empirical application with implications for South Asian Nations

Ritesh Kumar Mishra

DOI: <https://doi.org/10.33545/26179210.2022.v5.i2.245>

Abstract

This paper deals with Merchandise Commodities traded among South Asian Nations namely Afghanistan, India, Bhutan, Bangladesh, Nepal, Pakistan, Maldives, Sri Lanka. RCA Index has been used to study the comparative advantage of South Asian Countries in different Merchandise commodities. Balassa's (1965) measure of relative export performance by country and industry/commodity, defined as a country's share of world exports of a commodity divided by its share of total world exports is used for analysis. RCA for all merchandise commodities has been calculated and tabulated.

Keywords: RCA, commodity, World Customs Organization (WCO)

Introduction

The composition of foreign trade is a crucial indicator of the pattern of trade developed by the country. By stating the term "composition of trade" we mean the structural analysis involving the different categories and the volume of the various items of export and import of the country. The composition of commodities of a country's export displays its efficiency in that commodity and the composition of its import displays its need for that commodity. So, it becomes crucial part to analyse any country's commodity composition for knowing its trade structure.

Before the advent of planning in India, India was an exporter of primary goods like jute, cotton, teas, hides and skins, manganese ore, mica, etc., while manufactured products constituted bulks of imports. The process of industrialization and economic development has induced Indian foreign trade to register several structural changes during the planning period. The composition of India's foreign trade has undergone substantial changes, particularly after the liberalization and globalization its major exports now include manufacturing goods such as engineering goods, petroleum products, chemical, and allied products, gems and jewellery, textiles, electronic goods, etc., which constitutes over 80 percent of India's export basket.

For commodity composition analysis we use commodities possessing Harmonised System Code-two digits. The Harmonised System Code is a standardized numerical method to classify export trade products by Customs authorities around the world. Administered by the World Customs Organization (WCO) this code is important for exports.

1. RCA for India
2. RCA for Afghanistan
3. RCA for Bangladesh
4. RCA for Bhutan
5. RCA for Maldives
6. RCA for Nepal
7. RCA for Pakistan
8. RCA for Sri Lanka

Measuring Revealed Comparative Advantage

There are two main theories of trade based on comparative advantage: Ricardo's theory and Heckscher-Ohlin's (H-O) theory.

Corresponding Author:
Ritesh Kumar Mishra
Lecturer, Department of
Economics, Kashishwar Inter
College, Mohanlalganj,
Lucknow, Uttar Pradesh,
India

The Ricardian theory assumes that comparative advantage arises from differences in technology between nations, while the H-O theory assumes that technology is equal across nations. Instead, the H-O theory attributes comparative advantage to cost differences due to factor price differences between countries. In short, orthodox (classical) trade theory forecasts are based on the principle of comparative advantage which derives from relative price determination, i.e., differences in the pre-trade relative prices across nations, underlined by demand and supply factors.

According to the H-O theory, a country's comparative advantage is determined by its relative factor scarcity (that is, its factor endowment ratios, relative to the rest of the World).

The concept of revealed comparative advantage (RCA) (Balassa 1965, 1977, 1979, 1986) ^[16, 17, 18, 19] refers to the relative trade of countries in particular products. On the assumption that the commodity pattern of trade reflects the inter-country differences in relative costs as well as in non-price factors, this is assumed to reveal the comparative advantage of the trading countries. Structural change, improved world demand, and trade specialization is the factors that contribute to movements in RCA.

In this study, we use Balassa's (1965) ^[16] measure of relative export performance by country and industry/commodity, defined as a country's share of world exports of a commodity divided by its share of total world exports. The index for country commodity j is calculated as follows:

$$RCA_{ij} = \frac{\frac{X_{ij}}{X_{wj}}}{\frac{X_i}{X_w}}$$

X_{ij} = ith country's export of commodity j

X_{wj} = world exports of commodity j

X_i = total exports of country i

X_w = total world exports

If the index of revealed comparative advantage (RCA_{ij}) takes a value greater than unity, the country has a revealed comparative advantage in that commodity.

The advantage of using the comparative advantage index is that it considers the intrinsic advantage of a particular export commodity and is consistent with changes in an economy's relative factor endowment and productivity. The disadvantage, however, is that it cannot distinguish improvements in factor endowments and the pursuit of appropriate trade policies by a country. By using the above RCA model, the researcher has calculated the RCA indices of all commodities possessing HSC-2digits for India and all SACs.

The Survey of Literature

- Hafiz Wasim Akram (2020) ^[20] analysed the reason behind low intra-regional trade within the South Asia region. It has been expected that trade within the region would flourish, after the establishment of the South

Asian Free Trade Area on January 2004. The study analysed data from World Bank and other appropriate sources for the period (1995-2018) which showed that trade among south Asian countries under the SAFTA has not increased remarkably as it has been expected.

- Yaha Khan (2020) attempted Ghulam empirically examine the effect of business cycle synchronisation among south Asian countries in pre and post-SAARC establishment. Results concluded that the business cycle is not synchronous among SAARC countries. The study also emphasised strengthening Intra-regional and inter-regional trade among member countries.
- Mahendra P. Lama (2018) ^[21] stated that in South Asia, the regional cooperation mechanism was accelerated by the failure of South-North negotiations in the 1960s and 1970s and the rise of South-South negotiations in the 1980s. South dialogues took place between developing countries, they had the desire to manipulate the immense potential of regions and to build regional potential for small countries to divert and minimize their perception towards India's hegemonic practices. SAARC was established in 1985 and since its establishment, several summits have been taken place in an official documents.
- Sharmin Sultana and Jumana Asrat (2014) ^[22] discussed the importance of regional integration among South Asian countries i.e., India, Pakistan, Maldives, Nepal, Sri Lanka, Bhutan, Bangladesh, and Afghanistan. The study examined the potential of SAFTA in South Asian countries thoroughly. Regional integration can also help developed countries to reap economies of scale and ensure better utilization of resources.
- Bhattacharyya (2011) ^[23] used RCA to research the vegetable, fruit, and flower trade in Asia, the EU, and North America (US and Canada). India has a significantly higher competitive advantage in the vegetable and fruit market, but not in the flower market.

Batra and Khan (2005) ^[24] in their study of RCAs in India and China found differences in patterns of comparative advantage depending on the degree of commodity segmentation. For India, no sector is in the top 10, except for cotton. Moreover, their study found that while countries are disadvantaged at the aggregate level, they have comparative advantages at the individual commodity level. China and India are well-positioned for science-based manufacturing. India dominates in medical and pharmaceuticals, while China dominates in the camera, equipment, and optics categories.

Balassa, B. (1965) ^[16] analysed the competitiveness of KIBS between Hong Kong and Singapore from 2005 to 2015. The methodology includes three indicators i.e., export market share (MS), open comparative advantage (RCA), and relative trade advantage (RTA) and used them to measure the competitiveness of selected sectors. The result displays that Hong Kong and Singapore have gained a larger global market share but haven't a strong comparative advantage in overall KIBS.

1. RCA for India

Table 1: RCA Compilation for India

S. No	Operators	Characteristics of rca	Commodity code (HSC-2digit)
1	RCA Index ≥ 1	Consistent during the entire period of study	03, 09, 10, 13, 14, 24, 25, 29, 32, 41, 42, 50, 52, 53, 54, 55, 57, 61, 62, 63, 68, 71
2.	RCA Index < 1	Consistent during the entire period of study	01, 04, 06, 16, 18, 19, 20, 22, 31, 33, 34, 37, 39, 43, 44, 45, 47, 48, 49, 59, 60, 65, 66, 70, 81, 83, 84, 85, 86, 87, 90, 91, 92, 93, 94, 95
3.	RCA Index < 1 and RCA Index ≥ 1	Inconsistent during the entire period of study	02, 05, 07, 08, 11, 12, 15, 17, 21, 23, 26, 27, 28, 30, 35, 36, 38, 40, 46, 51, 56, 58, 64, 67, 69, 72, 73, 74, 75, 76, 78, 79, 80, 82, 88, 89, 96, 97, 99

Source: Researcher’s calculation

Remarks

When RCA index ≥ 1 and consistent during entire period of study

This characteristic displays RCA is positive and greater than 1 and this shows the same trend during the entire period of study. India has a revealed comparative advantage in products namely 03, 09, 10, 13, 14, 24, 25, 29, 32, 41, 42, 50, 52, 53, 54, 55, 57, 61, 62, 63, 68, 71 because in case of these products RCA index was greater than or equals to one. So, according to UNCTAD, it is inferred that India is a competitive producer and exporter of all these products relative to a country producing and exporting these products at or below the world average. Hence, India has an export strength in all these products.

When RCA index < 1 and consistent during entire period of study

This characteristic displays RCA is positive but less than 1 and this shows the same trend during the entire period of study. India has not revealed comparative advantage in products namely 01, 04, 06, 16, 18, 19, 20, 22, 31, 33, 34,

37, 39, 43, 44, 45, 47, 48, 49, 59, 60, 65, 66, 70, 81, 83, 84, 85, 86, 87, 90, 91, 92, 93, 94, 95 because in case of these products RCA index was less than or equals to one. So, according to UNCTAD, it is inferred that India is a producer and exporter of all these products but has a less comparative advantage. Hence, India has less export strength in all these products.

When RCA ≥ 1 and RCA < 1 , inconsistent during the entire period of the study

This characteristic displays RCA is positive, but during the entire period of study, it is not consistent and displays the trend of both i.e., its RCA value is less than 1 and more than 1. In the case of the following products 02, 05, 07, 08, 11, 12, 15, 17, 21, 23, 26, 27, 28, 30, 35, 36, 38, 40, 46, 51, 56, 58, 64, 67, 69, 72, 73, 74, 75, 76, 78, 79, 80, 82, 88, 89, 96, 97, 99 it revealed above trend. But in some of the above-listed products, RCA Index tends to 1 which indicates a hope that in the future India can attain a revealed comparative advantage in those products.

2. RCA for Afghanistan

Table 2: RCA Compilation for Afghanistan

S. No	Operators	Characteristics of RCA	Commodity Code (HSC-2digit)
1	RCA Index ≥ 1	Consistent during the entire period of study	8, 9, 12, 41, 57,
2.	RCA Index < 1	Consistent during the entire period of study	1, 2, 4, 6, 11, 14, 15, 17, 19, 20, 22, 23, 24, 26, 27, 28, 30, 31, 32, 33, 34, 35, 38, 39, 40, 43, 44, 48, 49, 56, 61, 62, 63, 64, 65, 67, 70, 71, 72, 73, 74, 75, 76, 83, 84, 85, 86, 87, 88, 90, 92, 93, 94, 95, 96,
3.	RCA Index < 1 and RCA Index ≥ 1	Inconsistent during the entire period of study	5, 7, 97, 99, 78, 25, 13, 10, 18, 42, 50, 52, 53, 58, 68,
4.	RCA Index = 0	Commodity was not exported by country during the entire period of study	91, 89, 87, 80, 81, 82, 66, 59, 60, 54, 55, 45, 46, 36, 37, 47, 29, 21, 16, 3, 93, 69,

Source: Researcher’s calculation

Remarks

RCA found in the case of HSC 57 in 2008 is 311.311, which shows a very high value of the RCA index. Based on this finding, we can’t say that Afghanistan has a very high potential to export this commodity or major exporter of this commodity. In, 2008 very few commodities were exported by Afghanistan in HSC 57 had a larger proportion of total export. As it has a high value in the total trade value of Afghanistan in 2008, when the export value of HSC 57 is divided by the total value we get a high RCA. RCA of commodities 08, 13 is very high during the availability of data i.e., 2008- 2009, except from 2012 to 2014 when no exports in commodity 13 from Afghanistan were observed. This is also due to the stated reason.

When RCA index $\Rightarrow 1$ and consistent during the entire period of study

This characteristic displays RCA is positive and greater than 1 and this shows the same trend during the entire period of

study. Afghanistan has a revealed comparative advantage in products namely 8, 9, 12, 41, 57 because in the case of these products RCA index was greater than or equal to one. So, according to UNCTAD, it is inferred that Afghanistan is a competitive producer and exporter of all these products relative to a country producing and exporting these products at or below the world average. Hence, Afghanistan has an export strength in all these products.

When RCA index < 1 and consistent during entire period of study

This characteristic displays RCA is positive but less than 1 and this shows the same trend during the entire period of study. Afghanistan has not revealed comparative advantage in products namely 1, 2, 4, 6, 11, 14, 15, 17, 19, 20, 22, 23, 24, 26, 27, 28, 30, 31, 32, 33, 34, 35, 38, 39, 40, 43, 44, 48, 49, 56, 61, 62, 63, 64, 65, 67, 70, 71, 72, 73, 74, 75, 76, 83, 84, 85, 86, 87, 88, 90, 92, 93, 94, 95, 96, because in case of

these products RCA index was less than or equals to one. So, according to UNCTAD, it is inferred that Afghanistan is a producer and exporter of all these products but has a less comparative advantage. Hence, Afghanistan has less export strength in all these products.

When $RCA \geq 1$ and $RCA < 1$ and Inconsistent during the entire period of the study

This characteristic displays RCA is positive, but during the entire period of study, it is not consistent and displays the trend of both i.e., its RCA value is less than 1 and more than 1. In the case of the following products 5, 7, 97, 99, 78, 25,

13, 10, 18, 42, 50, 52, 53, 58, 68, it revealed the above trend. But in some of the above-listed products, RCA Index tends to 1 which indicates a hope that in the future Afghanistan can attain a revealed comparative advantage in those products.

When RCA index =0

The zero value of RCA shows that a commodity has not been exported during the entire period of study. These are the following commodities 91, 89, 87, 80, 81, 82, 66, 59, 60, 54, 55, 45, 46, 36, 37, 47, 29, 21, 16, 3, 93, 69, which have zero RCA.

3. RCA for Bangladesh

Table 3: RCA compilation for Bangladesh

S.No	Operators	Characteristics of RCA	Commodity Code (HSC-2digit)
1	$RCA Index \geq 1$	Consistent during the entire period of study	03, 41, 46, 53, 58, 61, 62, 63
2.	$RCA Index < 1$	Consistent during the entire period of study	01, 02, 04, 08, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36, 37, 38, 39, 40, 43, 44, 45, 4, 7, 48, 51, 54, 57, 59, 66, 67, 68, 70, 71, 72, 73, 74, 75, 76, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 96, 97, 99,
3.	$RCA Index < 1$ and $RCA Index \geq 1$	Inconsistent during the entire period of study	05, 06, 07, 09, 14, 24, 31, 42, 49, 50, 52, 55, 56, 95, 69, 64, 60, 65,

Source: Researcher’s calculation

When RCA Index ≥ 1 and consistent during entire period of study

This characteristic displays RCA is positive and greater than 1 and this shows the same trend during the entire period of study. India has a revealed comparative advantage in products namely 03, 41, 46, 53, 58, 61, 62, 63 because in the case of these products RCA index was greater than or equal to one. So, according to UNCTAD, it is inferred that Bangladesh is a competitive producer and exporter of all these products relative to a country producing and exporting these products at or below the world average. Hence, Bangladesh has an export strength in all these products.

35, 36, 37, 38, 39, 40, 43, 44, 45, 47, 48, 51, 54, 57, 59, 66, 67, 68, 70, 71, 72, 73, 74, 75, 76, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 96, 97, 99 because in case of these products RCA index was less than or equals to one. So, according to UNCTAD, it is inferred that Bangladesh is a producer and exporter of all these products but has a less comparative advantage. Hence, Bangladesh has less export strength in all these products.

When RCA Index < 1 and consistent during entire period of study

This characteristic displays RCA is positive but less than 1 and this shows the same trend during the entire period of study. Bangladesh has not revealed comparative advantage in products namely, 01, 02, 04, 08, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 32, 33, 34,

When $RCA \geq 1$ and $RCA < 1$ and Inconsistent During the entire period of the study

This characteristic displays RCA is positive, but during the entire period of study, it is not consistent and displays the trend of both i.e., its RCA value is less than 1 and more than 1. In the case of the following products 05, 06, 07, 09, 14, 24, 31, 42, 49, 50, 52, 55, 56, 95, 69, 64, 60, 65, it revealed the above trend. But in some of the above-listed products, RCA Index tends to 1 which indicates a hope that in the future Bangladesh can attain a revealed comparative advantage in those products.

4. RCA for Bhutan

Table 4: RCA Compilation for Bhutan

S.No	Operators	Characteristics of RCA	Commodity Code (HSC-2digit)
1	$RCA Index \geq 1$	Consistent during the entire period of study	7, 8, 9, 25
2.	$RCA Index < 1$	Consistent during the entire period of study	1, 2, 3, 4, 5, 6, 10, 12, 15, 16, 17, 18, 19, 21, 26, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 46, 47, 48, 50, 51, 52, 53, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 69, 70, 71, 73, 75, 76, 77, 79, 82, 83, 84, 87, 88, 90, 91, 92, 95, 96, 97, 99
3.	$RCA Index < 1$ and $RCA INDEX \geq 1$	Inconsistent during the entire period of study	11, 13, 14, 20, 22, 23, 27, 28, 44, 49, 54, 68, 72, 74, 80, 81, 85, 94

Source: Researcher’s calculation

When RCA Index ≥ 1 and consistent during entire period of study

This characteristic displays RCA is positive and greater than 1 and this shows the same trend during the entire period of study. Bhutan has a revealed comparative advantage in products namely 1, 2, 3, 4, 5, 6, 10, 12, 15, 16, 17, 18, 19, 21, 26, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 46, 47, 48, 50, 51, 52, 53, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 69, 70, 71, 73, 75, 76, 77, 79, 82, 83, 84, 87, 88, 90, 91, 92, 95, 96, 97, 99 because in the case of these products RCA index was greater than or equal to one. So, according to UNCTAD, it is inferred that Bhutan is a competitive producer and exporter of all these products relative to a country producing and exporting these products at or below the world average. Hence, Bhutan has an export strength in all these products.

When RCA Index < 1 and consistent during entire period of study

This characteristic displays RCA is positive but less than 1

5. RCA for Maldives

Table 5: RCA Compilation for Maldives

S. No	Operators	Characteristics of RCA	Commodity code (HSC-2 Digit)
1	RCA Index ≥ 1	Consistent During The Entire Period Of Study	03, 16
2.	RCA Index < 1	Consistent During The Entire Period of Study	01, 02, 04, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 73, 75, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 99
3.	RCA Index < 1 and RCA Index ≥ 1	Inconsistent during the entire period of study	05, 23, 49, 61, 62, 76, 74, 72,

Source: Researcher’s calculation

When RCA Index ≥ 1 and consistent during entire period of study

This characteristic displays RCA is positive and greater than 1 and this shows the same trend during the entire period of study. Maldives has a revealed comparative advantage in products namely 03, 16 because in the case of these products RCA index was greater than or equal to one. So, according to UNCTAD, it is inferred that Maldives is a competitive producer and exporter of all these products relative to a country producing and exporting these products at or below the world average. Hence, Maldives has an export strength in all these products.

When RCA Index < 1 and consistent during entire period of study

This characteristic displays RCA is positive but less than 1 and this shows the same trend during the entire period of study. Maldives has not revealed comparative advantage in products namely, 01, 02, 04, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 73, 75, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 99 because in

and this shows the same trend during the entire period of study. Bhutan has not revealed comparative advantage in products namely, 7, 8, 9, 25 because in the case of these products RCA index was less than or equal to one. So, according to UNCTAD, it is inferred that Bhutan is a producer and exporter of all these products but has a less comparative advantage. Hence, Bhutan has less export strength in all these products.

When RCA ≥ 1 and RCA < 1 and inconsistent during entire period of study

This characteristic displays RCA is positive, but during the entire period of study, it is not consistent and displays the trend of both i.e., its RCA value is less than 1 and more than 1. In the case of the following products 11, 13, 14, 20, 22, 23, 27, 28, 44, 49, 54, 68, 72, 74, 80, 81, 85, 94, it revealed the above trend. But in some of the above-listed products, RCA Index tends to 1 which indicates a hope that in the future Bhutan can attain a revealed comparative advantage in those product

the case of these products RCA index was less than or equal to one. So, according to UNCTAD, it is inferred that Maldives is a producer and exporter of all these products but has a less comparative advantage. Hence, Maldives has less export strength in all these products.

When RCA ≥ 1 and RCA < 1 and inconsistent during entire period of study

This characteristic displays RCA is positive, but during the entire period of study, it is not consistent and displays the trend of both i.e., its RCA value is less than 1 and more than 1. In the case of the following products 05, 23, 49, 61, 62, 76, 74, 72, it revealed the above trend. But in some of the above-listed products, RCA Index tends to 1 which indicates a hope that in the future Maldives can attain a revealed comparative advantage in those products.

Remarks

3 and 16 have very high RCAI which displays Maldives' export intensity is high in the above-stated products but when we look at the total no. of commodities exported by Maldives, we found it very low that’s why the hike in value has been noticed.

6. RCA for Nepal

Table 6: RCA Compilation for Nepal

S. No.	Operators	Characteristics of RCA	Commodity Code (HSC-2digit)
1	RCA Index ≥ 1	Consistent during the entire period of study	7, 9, 19, 23, 33, 41, 56, 57, 62, 63
2.	RCA Index < 1	Consistent during the entire period of study	3, 4, 16, 18, 26, 27, 28, 29, 30, 31, 32, 35, 36, 37, 39, 40, 42, 43, 44, 50, 52, 59, 66, 68, 69, 71, 75, 81, 84, 85, 86, 87, 88, 89, 90, 91, 94, 95
3.	RCA Index < 1 and RCA Index ≥ 1	Inconsistent during the entire period of study	1, 2, 5, 6, 8, 10, 11, 12, 13, 14, 15, 17, 20, 21, 22, 24, 25, 34, 38, 45, 46, 47, 48, 49, 51, 53, 54, 55, 58, 60, 61, 64, 65, 67, 70, 72, 73, 74, 76, 78, 79, 80, 82, 83, 92, 93, 96, 97, 99

Source: Researcher's calculation

When RCA Index ≥ 1 and consistent during entire period of study

This characteristic displays RCA is positive and greater than 1 and this shows the same trend during the entire period of study. Nepal has a revealed comparative advantage in products namely 7, 9, 19, 23, 33, 41, 56, 57, 62, 63 because in the case of these products RCA index was greater than or equals to one. So, according to UNCTAD, it is inferred that Nepal is a competitive producer and exporter of all these products relative to a country producing and exporting these products at or below the world average. Hence, Nepal has an export strength in all these products.

When RCA Index < 1 and consistent during entire period of study

This characteristic displays RCA is positive but less than 1 and this shows the same trend during the entire period of study. Bhutan has not revealed comparative advantage in products namely, 3, 4, 16, 18, 26, 27, 28, 29, 30, 31, 32, 35, 36, 37, 39, 40, 42, 43, 44, 50, 52, 59, 66, 68, 69, 71, 75, 81,

84, 85, 86, 87, 88, 89, 90, 91, 94, 95 because in the case of these products RCA index was less than or equal to one. So, according to UNCTAD, it is inferred that Nepal is a producer and exporter of all these products but has a less comparative advantage. Hence, Nepal has less export strength in all these products.

When RCA ≥ 1 and RCA < 1 and inconsistent during the entire period of study

This characteristic displays RCA is positive, but during the entire period of study, it is not consistent and displays the trend of both i.e., its RCA value is less than 1 and more than 1. In the case of the following products 1, 2, 5, 6, 8, 10, 11, 12, 13, 14, 15, 17, 20, 21, 22, 24, 25, 34, 38, 45, 46, 47, 48, 49, 51, 53, 54, 55, 58, 60, 61, 64, 65, 67, 70, 72, 73, 74, 76, 78, 79, 80, 82, 83, 92, 93, 96, 97, 99, it revealed the above trend. But in some of the above-listed products, RCA Index tends to 1 which indicates a hope that in the future Nepal can attain a revealed comparative advantage in those products.

7. RCA for Pakistan

Table 7: RCA Compilation for Pakistan

S. No	Operators	Characteristics OF RCA	Commodity Code (HSC-2digit)
1	RCA Index ≥ 1	Consistent during the entire period of study	10, 42, 52, 55, 57, 59, 61, 62, 63
2.	RCA Index < 1	Consistent during the entire period of study	4, 5, 16, 18, 19, 20, 21, 23, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 39, 40, 43, 44, 45, 46, 47, 48, 49, 50, 51, 65, 66, 67, 68, 69, 70, 72, 73, 75, 76, 79, 80, 81, 83, 84, 85, 86, 87, 88, 90, 91, 92, 94, 99
3.	RCA Index < 1 and RCA Index ≥ 1	Inconsistent during the entire period of study	1, 2, 3, 5, 7, 8, 9, 11, 12, 13, 14, 15, 17, 22, 24, 25, 36, 41, 53, 54, 56, 58, 60, 64, 71, 74, 78, 82, 89, 93, 95, 96, 97

Source: Researcher's calculation

When RCA Index ≥ 1 and consistent during entire period of study

This characteristic displays RCA is positive and greater than 1 and this shows the same trend during the entire period of study. India has a revealed comparative advantage in products namely, 10, 42, 52, 55, 57, 59, 61, 62, 63 because in case of these products RCA index was greater than or equals to one. So, according to UNCTAD, it is inferred that Pakistan is a competitive producer and exporter of all these products relative to a country producing and exporting these products at or below the world average. Hence, Pakistan has an export strength in all these products.

When RCA Index < 1 and consistent during entire period of study

This characteristic displays RCA is positive but less than 1 and this shows the same trend during the entire period of

study. Pakistan has not revealed comparative advantage in products namely, 4, 5, 16, 18, 19, 20, 21, 23, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 39, 40, 43, 44, 45, 46, 47, 48, 49, 50, 51, 65, 66, 67, 68, 69, 70, 72, 73, 75, 76, 79, 80, 81, 83, 84, 85, 86, 87, 88, 90, 91, 92, 94, 99 because in the case of these products RCA index was less than or equal to one. So, according to UNCTAD, it is inferred that Pakistan is a producer and exporter of all these products but has a less comparative advantage. Hence, Pakistan has less export strength in all these products.

When RCA ≥ 1 and RCA < 1 and inconsistent during the entire period of study

This characteristic displays RCA is positive, but during the entire period of study, it is not consistent and displays the trend of both i.e., its RCA value is less than 1 and more than 1. In the case of the following 1, 2, 3, 5, 7, 8, 9, 11, 12, 13,

14, 15, 17, 22, 24, 25, 36, 41, 53, 54, 56, 58, 60, 64, 71, 74, 78, 82, 89, 93, 95, 96, 97, it revealed the above trend. But in some of the above-listed products, RCA Index tends to 1

which indicates a hope that in the future Pakistan can attain a revealed comparative advantage in those products.

8. RCA for Sri Lanka

Table 8: RCA Compilation for Sri Lanka

S. No	Operators	Characteristics of RCA	Commodity Code (HSC-2digit)
1	$RCA Index \geq 1$	Consistent during the entire period of study	9, 14, 53, 61, 62,
2.	$RCA Index < 1$	Consistent during the entire period of study	1, 2, 4, 10, 12, 13, 16, 17, 19, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 44, 45, 48, 50, 51, 54, 59, 66, 70, 72, 73, 75, 76, 79, 80, 81, 82, 83, 84, 85, 87, 90, 91, 92, 94, 97,
3.	$RCA Index < 1$ and $RCA Index \geq 1$	Inconsistent during the entire period of study	3, 6, 5, 8, 7, 10, 15, 18, 20, 21, 23, 24, 38, 40, 42, 43, 46, 47, 49, 52, 55, 56, 57, 58, 60, 63, 64, 65, 67, 68, 69, 86, 88, 89, 78, 74, 71, 95, 96, 99, 93

Source: Researcher's calculation

When RCA Index ≥ 1 and consistent during entire period of study

This characteristic displays RCA is positive and greater than 1 and this shows the same trend during the entire period of study. Sri Lanka has a revealed comparative advantage in products namely 9, 14, 53, 61, 62 because in the case of these products RCA index was greater than or equal to one. So, according to UNCTAD, it is inferred that Sri Lanka is a competitive producer and exporter of all these products relative to a country producing and exporting these products at or below the world average. Hence, Sri Lanka has an export strength in all these products.

When RCA Index < 1 and consistent during entire period of study

This characteristic displays RCA is positive but less than 1 and this shows the same trend during the entire period of study. Sri Lanka has not revealed comparative advantage in products namely, 1, 2, 4, 10, 12, 13, 16, 17, 19, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 44, 45, 48, 50, 51, 54, 59, 66, 70, 72, 73, 75, 76, 79, 80, 81, 82, 83, 84, 85, 87, 90, 91, 92, 94, 97, because in the case of these products RCA index was less than or equal to one. So, according to UNCTAD, it is inferred that Sri Lanka is a producer and exporter of all these products but has a less comparative advantage. Hence, Sri Lanka has less export strength in all these products.

When RCA ≥ 1 and RCA < 1 are inconsistent during the entire period of the study

This characteristic displays RCA is positive, but during the entire period of study, it is not consistent and displays the trend of both i.e., its RCA value is less than 1 and more than 1. In the case of the following products 3, 6, 5, 8, 7, 10, 15, 18, 20, 21, 23, 24, 38, 40, 42, 43, 46, 47, 49, 52, 55, 56, 57, 58, 60, 63, 64, 65, 67, 68, 69, 86, 88, 89, 78, 74, 71, 95, 96, 99, 93, it revealed the above trend. But in some of the above-listed products, RCA Index tends to 1 which indicates a hope that in the future Sri Lanka can attain a revealed comparative advantage in those products.

Conclusion

From the above analysis the following empirical result has been obtained:

RCA for India

India has a revealed comparative advantage in products namely 03, 09, 10, 13, 14, 24, 25, 29, 32, 41, 42, 50, 52, 53,

54, 55, 57, 61, 62, 63, 68, 71 because in case of these products RCA index was greater than or equals to one. Hence, India has an export strength in all these products during the entire period of study.

RCA for Afghanistan

Afghanistan has a revealed comparative advantage in products namely 8, 9, 12, 41, 57 because in the case of these products RCA index was greater than or equal to one. Hence, Afghanistan has an export strength in all these products.

RCA for Bangladesh

Bangladesh has a revealed comparative advantage in products namely 03, 41, 46, 53, 58, 61, 62, 63 because in the case of these products RCA index was greater than or equal to one. Hence, Bangladesh has an export strength in all these products during the entire period of study.

RCA for Bhutan

Bhutan has a revealed comparative advantage in products namely 7, 8, 9, 25 because in the case of these products RCA index was greater than or equal to one. Hence, Bhutan has an export strength in all these products during the entire period of study. \

RCA for Maldives

Maldives has a revealed comparative advantage in products namely 03, 16 because in the case of these products RCA index was greater than or equal to one. Hence, Maldives has an export strength in all these products.

RCA for Nepal

Nepal has a revealed comparative advantage in products namely 7, 9, 19, 23, 33, 41, 56, 57, 62, 63 because in the case of these products RCA index was greater than or equal to one. Hence, India has an export strength in all these products during the entire period of study.

RCA for Pakistan

Pakistan has a revealed comparative advantage in products namely 10, 42, 52, 55, 57, 59, 61, 62, 63 because in the case of these products RCA index was greater than or equal to one. Hence, Pakistan has an export strength in all these products during the entire period of study.

RCA for Sri Lanka

Sri Lanka has a revealed comparative advantage in products

namely 9, 14, 53, 61, 62 because in the case of these products RCA index was greater than or equal to one. Hence, Sri Lanka has an export strength in all these products during the entire period of study.

References

- Saxena R, Paul RK, Rana S, Chaurasia S, Pal K, Zeeshan, *et al.* Agricultural Trade Structure and Linkages in SAARC: An Empirical Investigation. *Agricultural Economics Research Review*. 2015;28(2):311. <https://doi.org/10.5958/0974-0279.2016.00010.0>
- Bandara JS, Yu W. How Desirable is the South Asian Free Trade Area? A Quantitative Economic Assessment. In: Greenaway D, Ed. *The World Economy: Global Trade Policy*. Oxford, UK: Blackwell Publishers; c2003.
- Kumar N, Das RU, Chaturvedi S, Sinha-Roy S, Chadha A. *South Asia Development and Cooperation Report 2001/02*. New Delhi, India: Research and Information System for the Non-Aligned and Other Developing Countries; c2002. Available at <http://www.ris.org.in/southasiareport2001-02.pdf>
- Kumar R. Promoting SAARC: India's Role. Presentation made at ADB-ICRIER SEMINAR, 10 March, Delhi. 2008.
- Mukherji IN. *Regional Trade Agreement in South Asia*. Discussion paper No. 86. New Delhi: Research and Information System for the Non-Aligned Developing Countries; c2005 November.
- Pitigala N. What Does Regional Trade in South Asia Reveal about Future Trade Liberalization? Policy Research Working Paper No. 3497. Washington DC: The World Bank; c2005 February.
- Sengupta N, Banik A. Regional trade and investment: case of SAARC. *Economic and Political Weekly*. 1997;32(November 15-21):2930-2931.
- Qi W, Xiao X. Two Major Relative Comparative Advantages of China in International Trade. *China Population, Resources and Environment*. 2007;17(5):33-37. [https://doi.org/10.1016/s1872-583x\(08\)60007-8](https://doi.org/10.1016/s1872-583x(08)60007-8)
- Mkenda BK. Examining the Patterns and Dynamics of Intra-Regional Trade and Revealed Comparative Advantage in the East African Community. *The African Review*; c2022. p. 1-37. <https://doi.org/10.1163/1821889x-bja10038>
- Chingarande A, Mzumara M, Karambakuwa R. Comparative Advantage and Economic Performance of East African Community (EAC) Member States. *Journal of Economics*. 2013;4(1):39-46. <https://doi.org/10.1080/09765239.2013.11884963>
- Banerjee P, Rajmal. Revealed Comparative Advantage in Services Exports: How Is India Different from China? *The Indian Economic Journal*. 2022;70(3):417-436. <https://doi.org/10.1177/00194662221104762>
- Bakhshinejad M, Hassanzadeh A. Comparative advantage of selected agriculture products in Iran: a revealed comparative advantage assessment. *Agricultura Tropica Et Subtropica*. 2012;45(1). <https://doi.org/10.2478/v10295-012-0004-9>
- Mahajan V, Nauriyal D, Singh SP. Trade performance and revealed comparative advantage of Indian pharmaceutical industry in new IPR regime. *International Journal of Pharmaceutical and Healthcare Marketing*. 2015;9(1):56-73. <https://doi.org/10.1108/ijphm-05-2013-0030>
- French S. Revealed Comparative Advantage: What Is It Good For? *SSRN Electronic Journal*; c2014. <https://doi.org/10.2139/ssrn.2525827>
- Factors Influencing the Trade Deficit of Dairy in China: An empirical analysis based on revealed comparative advantage. *Academic Journal of Business & Management*. 2021;3(4). <https://doi.org/10.25236/ajbm.2021.030406>
- Balassa B. Tariff protection in industrial countries: an evaluation. *Journal of Political Economy*. 1965 Dec 1;73(6):573-594.
- Balassa B. 'Revealed' comparative advantage revisited: An analysis of relative export shares of the industrial countries, 1953-1971. *The Manchester School*. 1977 Dec;45(4):327-344.
- Balassa Bela A. Intra-industry trade and the integration of developing countries in the world economy; 1979.
- Balassa B. Intra-industry specialization: A cross-country analysis. *European Economic Review*. 1986 Feb 1;30(1):27-42.
- Hafiz WA. Assessment of global halal market: challenges and opportunities. *African Journal of Business and Economic Research*. 2020;15(4):5.
- Mahendra Lama P. Human vs. national security. *Global-E. 21st Century Global Dynamics*. 2018 Apr 17;11(22).
- Sultana S, Asrat J. South Asian Countries in Regional Integration Perspective: A Critical Review. *Journal of Business and Technology*. 2014 Jul;9.
- Bhattacharyya S, Jha S, Tharakunnel K, Westland JC. Data mining for credit card fraud: A comparative study. *Decision support systems*. 2011 Feb 1;50(3):602-13.
- Batra A, Khan Z. Revealed comparative advantage: An analysis for India and China. Working paper; c2005.