

# REVEALED COMPARATIVE ADVANTAGE: AN ANALYSIS FOR SRI LANKA BASED ON LEADING EXPORTS

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## 1. Introduction

Sri Lanka experience four different economic policies as, prior to colonisation (before 1505), colonial period (1505-1948), after independence to economic liberalisation (1948–1977), and economic liberalisation and its aftermath (after 1977). During the period of colonisation, Sri Lankan economy shifted to an export and import economy, discarding the self-sufficient economic system. Further, the structure of the exports and imports changed after following the export diversification, which promoted products that are more industrial after trade liberalisation introduced in 1977. Sri Lankan exports in 1948 substantially depended on agricultural sector during the colonial period while there are significant changes in the export composition as industrial products after trade liberalisation. Therefore, it is important to analyse whether the export product portfolio in Sri Lanka is based on principals of comparative advantage.

Foreign trade is a country's trade with other countries to exchange goods and services across international boundaries. According to international trade theories, countries are able to specialise in producing goods, which they can produce most efficiently at a least cost compared to other countries. Exporting such commodities to other countries earn foreign exchange that enable them to increase import capacity and achieve international competitiveness. Comparative advantage is a concept, more than 200 years old and immovable until today, and considered as the determinant of specialisation in the concept of international trade.

While Ricardo laid down basic view of Comparative advantage in international trade, Balassa (1965) developed the concept of revealed comparative advantage (RCA). The term RCA is one measure of international competitiveness; grounded in conventional trade theory, it measures a country's export of a commodity, relative to that of a set of countries. The RCA analysis is largely based on contributions of Balassa (1977) and Vollrah (1991).

Liesner (1958) is the first person who introduced the measurement of RCA, later developed by Balassa (1965). Balassa (1977) empirically analysed the pattern of comparative advantage of industrial countries for the period of 1953–1971. The empirical results suggest renewal of the product cycle for US that possess an ever-increasing technical lead. The standard deviation of the RCA indices for different countries, an association also seen to hold between

size and diversification of exports. Various economists have employed the concept of RCA. Leishman *et al.* (1999) empirically investigated the international competitiveness for agricultural commodities. Mehmeed (2005) also analysed export specialisation and comparative advantage of non-agricultural products in Pakistan. Jayawickrama and Thangavelu (2010) examined trade linkages and degree of export competitiveness in Singapore, China, and India, in a broad range of manufactured goods using Balassa's export performance index and dynamic RCA index. The study concluded that given the abundant resources, China and India have comparative advantage in broad range of manufactured goods than Singapore. Pilinkiewe (2014) evaluated international competitiveness using the RCA in Baltic States: Lithuania, Latvia, and Estonia. There were different RCA indices such as Revealed comparative advantage index of exports, Revealed comparative advantage index for imports, and Relative trade advantage index. Results indicated that Baltic States might lose their competition due to the globalisation effect and increasing competition from the emerging economies. Further enhancement of these countries depend on their ability to implement reforms in the public sector. Analysing the RCA at a particular point of time, and studying the comparative advantage over a period of time are important.

## 2. Objectives

The objective of this study is to calculate revealed comparative advantage index for Sri Lankan leading exports to identify the comparative advantage and comparative disadvantage production in Sri Lankan export product portfolio.

## 3. Methodology

The research process was performed in two stages: identifying the structural changes of Sri Lankan exports from 2000 to 2015 using export data, followed by calculating the RCA index, measured by the product's share in the country's export in relation to its share in the world trade, using following formula:

$$RCA_i^{SL} = (X_i^{SL}/X^{SL}) / (X_i^W/X^W)$$

Where;  $RCA_i^{SL}$  - Revealed comparative advantage of product  $i$ ,  $X_i^{SL}$  - Sri Lankan exports of product  $i$ ,  $X^{SL}$  - Total exports of Sri Lanka,  $X_i^W$  - World export of product  $i$ ,  $X^W$  - Total world exports. The index of revealed comparative advantage has a relatively simple interpretation. If it takes a value greater than unitary, the country has a revealed comparative advantage in that production. In this study, interpretation of the RCA index value was based on the classification of RCA index value presented by Hinloopen and Marrewijk (2001): class a- RCA value vary

from 0 to 1; class b- RCA index varies in the interval from 1 to 2; class c- RCA values vary in the interval from 2 to 4; class d- RCA values are higher than 4.

#### 4. Results

##### Structural changes of Sri Lankan exports

To identify the structure of Sri Lankan exports, the data from UN Comtrade data on SITC Rev 4 helped to recognise the leading export categories in the country (see Figure 1)

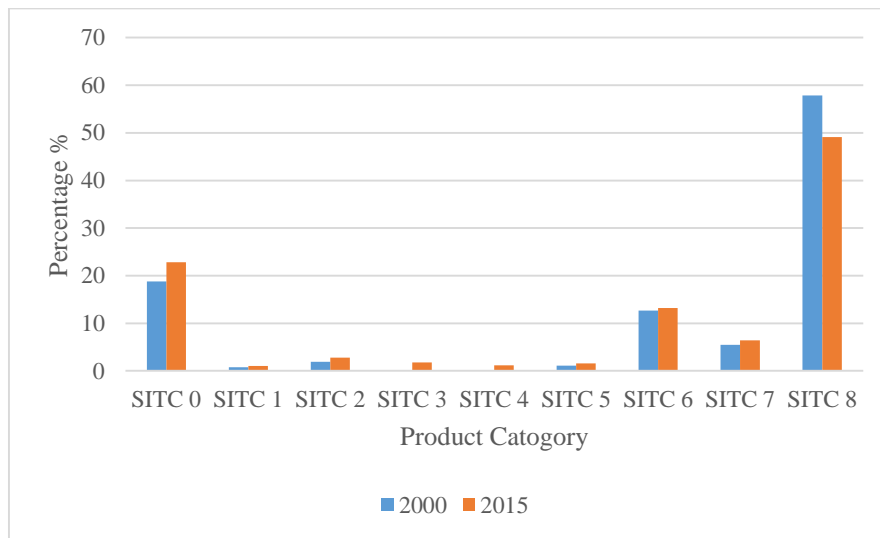


Figure 1: Structural Changes in Sri Lankan exports

During 2015 and ago2000 (15 years), SITC 8 dominated Sri Lanka leading exports. Its relative share in Sri Lankan industry is around 50 per cent of total exports during the analysed period.

Growth of manufacturing sector is linked with its increased share. Manufacture of apparel made 90.38 percent and 91.91 per cent of total SITC 8 in the years 2000 and 2015 respectively. Other important sectors are SITC 0, SITC 6, and SITC 7.

Table 1 presents a detailed analysis of the structure of exports. It demonstrates that manufacturing of apparel products held the major part in the entire manufacturing sector. The market share of apparel significantly decreased from 50.37 per cent in 2000 to 45.70 per cent in 2015. Manufacture of rubber increased by 3 per cent, whereas the market share taken by vegetable and foods, coffee, tea, and cocoa products, made 3.12 and 16.15 per cent in 2015, respectively.

Table 1: Structural composition of Sri Lankan exports in 2000 and 2015

SITC Code	Product Category	Product		As a % of total exports	
				2000	2015
0	Food and Live Animals	03	Fish	2.41	1.74
		05	Vegetable and fruits	1.74	3.12
		07	Coffee, tea, and cocoa	13	16.15
6	Manufactured goods classified chiefly by material	62	Rubber manufactures	2.30	5.70
		65	Textile yarn, fabrics, made up Articles	5.19	2.73
		66	Non-metallic mineral	3.91	2.97
7	Machinery and transport equipment	77	Electrical machinery	1.24	1.96
		78	Road vehicles	0.16	0.55
		79	Other transport equipment	0.79	2.61
8	Miscellaneous	84	Articles of apparel and clothing	50.37	45.70

### Results of Revealed comparative advantage index for Sri Lankan exports in global market

RCA index was the measurement of industry competitiveness (see Table 2). As demonstrated by the results, class d include the manufactures, receiving the strongest competitiveness positions in international market. Textile and clothing, and Vegetables considered to be the most competitive products of country exports in international market during the period of 2011–2015. Class c represent the medium competitive advantage and it consists of plastic and rubber products and export of agricultural raw materials. According to Table 2, stone, glass, and manufacturing goods, have weak competitive advantage in class b. Class a include all products that have not revealed comparative advantage in international market.

Table 2: Revealed comparative advantage for Sri Lankan exports

Class	RCA Range	Product	2011	2012	2013	2014	2015
Class a	0 - 1	Raw materials	0.5	0.47	0.46	0.48	0.5
		Chemicals	0.18	0.19	0.17	0.18	0.16
		Food product	0.84	0.95	0.93	0.78	0.72
		Fuels	0.08	0.01	0.06	0.02	0.05
		Minerals	0.57	0.23	0.16	0.14	0.22
		Wood	0.46	0.61	0.57	0.56	0.48
Class b	1 - 2	Stone and Glass	1.69	1.6	1.36	1.45	1.16
		Manufactures	1.14	1.19	1.17	1.19	1.18
Class c	2 - 4	Plastic and Rubber	2.66	2.75	2.46	2.29	2.06

		Agricultural Raw materials	2.42	2.37	2.0	1.95	1.92
Class d	above 4	Textile and Clothing	12.25	13.32	13.54	13.43	13.58
		Vegetable	4.77	4.73	4.94	4.68	4.35

## 5. Conclusions

It is possible to conclude that Sri Lankan export sector has slightly changed during last 15 years and is dominated by traditional industries such as coffee, tea, and cocoa, and manufacture of apparel and clothing.

However, it is transferring to be more diversified. The share of subsectors as vegetable, coffee, tea and cocoa, rubber products, and transport equipment, has increased in the total structure of exports while the share of sub sectors such as fish, textile yarn, and fabrics, has decreased. The value of RCA index reveals that Sri Lankan products such as textile and clothing, vegetable, plastic and rubber, and agricultural raw materials, obtained a competitive position in global market during 2011–2015. Comparative advantage for stone and glass and manufactured goods is weak while none of the other goods in the study has a competitive position in the global market.

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