Revealed comparative advantage of Sri Lanka's leading exports in global market

H.A.B.W. Hettiarachchi
Department of Social Sciences, Faculty of Social Sciences and Humanities, Rajarata University of Sri Lanka, Sri Lanka
buddhikarjt@gmail.com

Introduction

Sri Lanka has experienced four different economic policies as, prior to colonization (before 1505), colonial period (1505-1948), after independence to economic liberalization (1948–1977), and economic liberalization and its aftermath (after 1977). During the period of colonization, 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 liberalization 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 liberalization.

Comparative Advantage is necessary for a country to produce its products efficiently as it participates in the global market. It entails a country to specialize in those products in which comparative advantage exist. Export development works hand in hand with comparative advantage and it relates to the production of new products and access of new markets. Further manufacturers could offer such products in order to make exports successfully. Therefore, it is important to analyze whether the export product portfolio in Sri Lanka is based on principals of comparative advantage.

Many studies have attempted to find out Revealed Comparative Advantage (RCA) using Balassa index (1965). Balassa (1977) empirically analysed the pattern of comparative advantage of industrial countries for the period of 1953-1971. After that Leishman et al. (1999), Mahmood and Nishat (2004), Welch and Lyford (2007) have used RCA index for finding the competitiveness in international market. The research which measures the international competitiveness with Revealed Comparative Advantage in Sri Lanka are quite limited. Hence the main objective of this study is to evaluate the international competitiveness of Sri Lanka's exports in international market using the Revealed Comparative Advantage Index.

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:

$$RCA_i^{SL} = (X_i^{SL}/X^{SL}) / (X_i^{W}/X^{W}) \quad (1)$$

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.

Results and discussion

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).

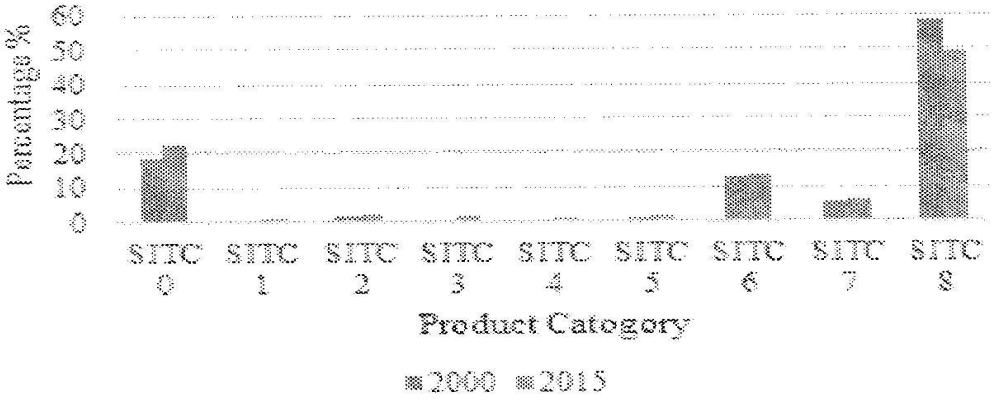

Figure 1 Structural changes in Sri Lankan exports
Source: Calculations based on UN COMTRADE data 2015

During 2015 and ago 2000 (15 years), SITC 8 (Miscellaneous manufactured Articles) dominated Sri Lanka leading exports. Its relative share in Sri Lankan industry is around 50 percent 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 percent of total SITC 8 in the years 2000 and 2015 respectively. Other important sectors are SITC 0(Food and live animals), SITC

6(Manufactured goods classified chiefly materials), and SITC 7 (Machinery and transport equipment's).

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 percent in 2000 to 45.70 percent in 2015. Manufacture of rubber increased by 3 percent, whereas the market share taken by vegetable and foods; coffee, tea, and cocoa products, made 3.12 percent in 2015 and 16.15 percent 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

Source: Calculations based on UN COMTRADE data 2015

As it can be seen from the results, the highest RCA values are recorded in class D. The RCA value varying in the interval from 4 to 234.9 revealed that in 2015, Sri Lanka has strong competitive position in the sectors of agriculture, textile and clothing. In the agricultural sector, the biggest comparative advantage was received by the tea and mate (RCA = 23.95), spices (RCA=52.46), fruits and fruit preparations (RCA=4.86). In the industry of textile and clothing the strongest positions were taken by the women's or girl's garments knitted or crocheted (RCA=26.59), Articles of apparel of textile fabrics whether not knitted or crocheted (RCA=15.75), men's and boys' garments (15.33), clothing accessories of textile fabrics, whether or not knitted or crocheted (RCA=13.57), articles of apparel and clothing accessories of other than textile fabrics, headger of all materials.

Table 2 The results of the evaluation of competitiveness in global market by RCA index during the period of 2008 – 2015

Class	SITC Code	2008	2009	2010	2011	2012	2013	2014	2015
B	035	1.62	1.63	1.29	1.13	1.74	1.41	1.30	1.09
	047	1.45	1.18	1.07	1.09	1.19	1.30	1.31	1.15
	081	2.51	2.53	2.74	2.03	2.51	1.60	1.40	1.51
	634	1.59	0.78	1.44	1.68	2.04	1.79	1.23	0.85
	635	1.16	1.12	1.28	1.38	1.25	1.02	1.0	0.73
	651	1.26	1.39	1.25	1.161	1.43	1.32	1.15	0.9
	652	0.85	1.12	0.85	1.16	2.44	2.06	1.94	1.72
	658	2.54	1.84	2.11	1.88	1.76	2.15	1.65	1.68
	785	1.77	2.62	2.80	1.85	1.82	1.08	1.20	1.04
	793	0.32	0.77	1.15	1.58	1.36	1.18	1.20	2.05
	894	0.89	0.88	1.02	1.08	1.30	1.41	1.31	1.00
	899	1.37	1.11	1.11	1.19	1.13	1.05	1.50	0.84
C	036	2.41	2.62	2.66	3.11	3.05	3.89	3.15	1.80
	621	1.09	1.52	1.79	3.03	5.12	4.56	3.60	2.36
	655	2.22	1.57	1.58	1.57	2.27	1.71	2.44	2.45
	685	3.21	2.44	3.25	1.48	2.89	4.96	3.46	3.19
	892	2.24	2.24	3.80	8.96	2.32	1.98	2.36	2.04
D	034	7.03	6.56	5.36	4.87	5.73	5.88	5.45	3.34
	046	22.72	17.85	50.39	46.99	33.29	12.60	13.19	7.94
	058	3.84	3.64	3.58	4.54	4.39	4.08	5.25	4.85
	074	419.5	365.0	387.3	373.7	366.41	350.0	325.6	234.9
	075	63.75	44.90	61.46	53.25	65.39	85.15	45.89	52.46
	625	10.88	7.27	9.97	12.34	12.63	12.67	11.87	9.21
	629	6.14	4.07	5.02	6.03	5.59	5.19	5.34	4.55
	656	3.19	3.86	5.63	4.78	6.31	8.89	6.02	5.17
	666	11.79	8.76	8.25	7.14	6.46	7.02	5.28	3.08
	667	9.22	7.82	6.89	5.65	5.92	5.37	3.68	2.38
	841	15.78	16.08	17.59	16.89	17.45	17.47	16.05	12.29
	842	21.75	19.97	20.24	19.8	20.41	17.90	14.62	11.16
	843	18.58	16.28	16.55	17.96	19.19	19.38	18.95	15.33
	844	33.49	31.89	30.44	32.10	29.90	31.88	30.23	26.59
	845	16.33	17.20	16.60	16.97	17.83	16.18	18.63	15.75
	846	16.49	13.21	16.43	17.94	18.53	18.55	16.42	13.57
	848	14.01	13.64	14.68	15.35	15.86	15.91	13.04	10.81

Source: Calculations based on UN COMTRADE data 2015

According to the analysis, Sri Lanka accounted for high value of RCA for some sectors and it has changed over period of time from 2008 to 2015 (see Figure 2). Figure 2 exhibit the trends of comparative advantage of the broad product group in class D. We can see the reduction of RCA for all high RCA product categories in 2015.This is due to reduction of the world total exports in 2015. There is an increasing trend in six product groups i.e fruits and fruit preparations (SITC 058), spices (SITC 075), rubber tyres, interchangeable tyre treads (SITC 625), tulles,

lace, embroidery, ribbons, trimmings and other mall wares (SITC 656), clothing accessories of textile fabrics (SITC 846) and articles of apparel and clothing accessories other than textile fabrics (SITC 848) from 2008 to 2013. However the seven product groups exhibited downward trends in their comparative advantage like fish (SITC 034), meal and flour of wheat (SITC 046), articles of rubber (SITC 629), pottery (SITC 666), pearls and precious or semi-precious stones (SITC 667), Women's and girl's coats, capes, jackets, suits, trousers, shorts, shirts, dresses, skirts, underwear (SITC 842) and Men's or boys' coats, capes, jackets, suits, blazers, trousers, shorts, shirts, underwear, nightwear and similar articles of textile fabrics, not knitted or crocheted (SITC 841).

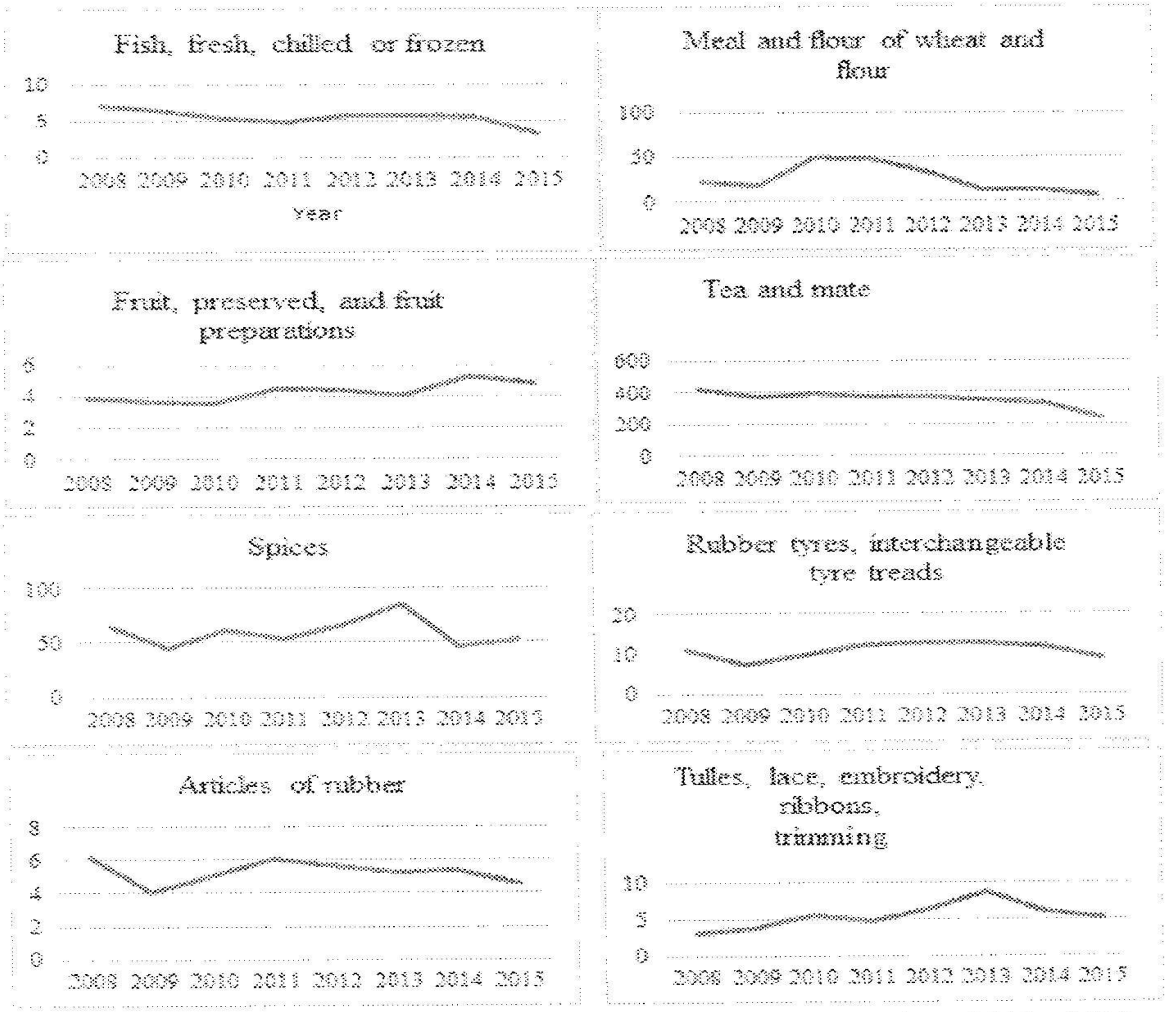

Figure 2 Trend in Sectorial Comparative Advantage from 2008 - 2015
Source: Author calculations based on UN COMTRADE data 2015

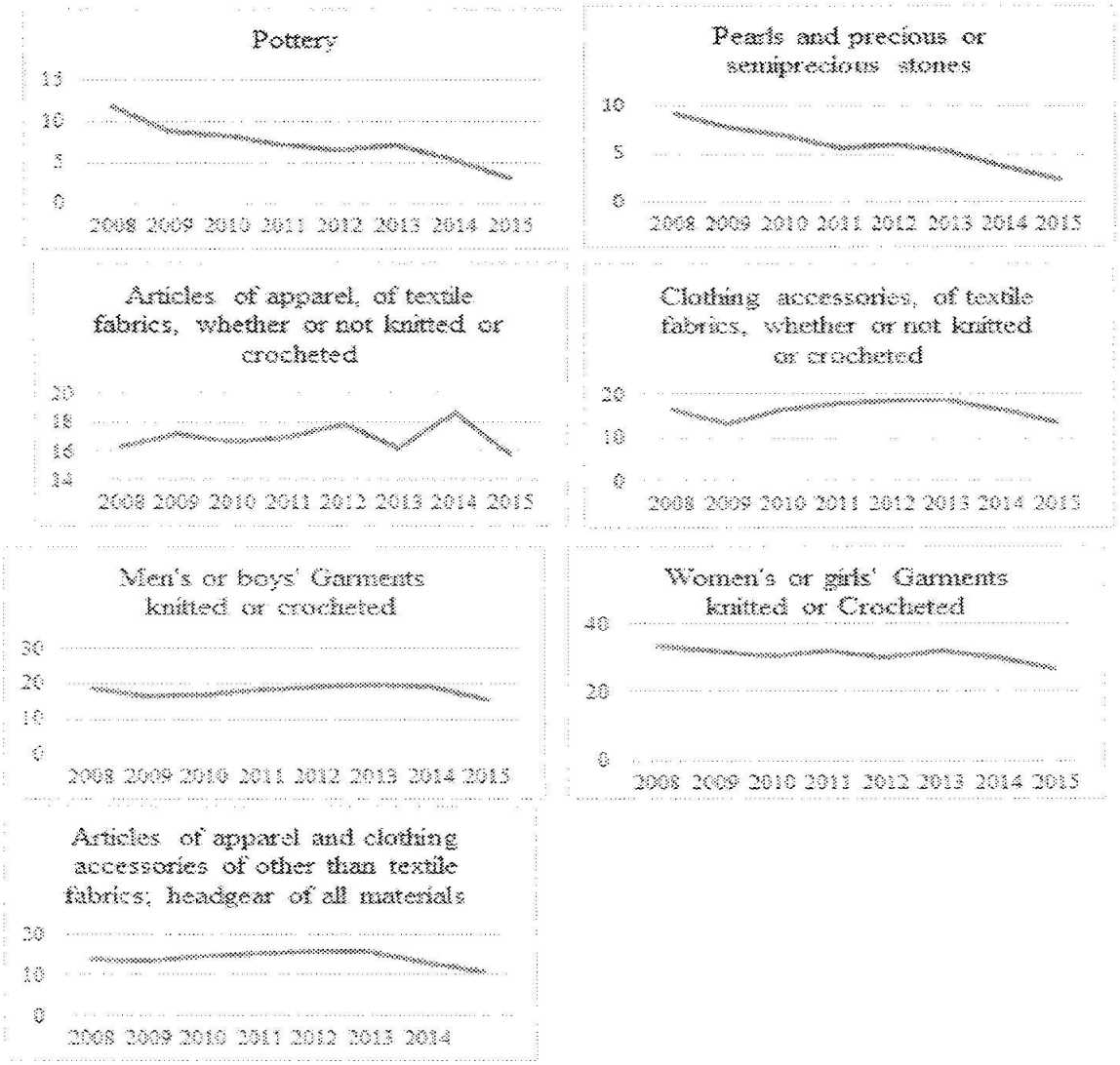

Figure 2 Continued.

Conclusion

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, such 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.

Further the results suggest that Sri Lanka enjoys comparative advantage in exports of goods which use natural resources for their production, such as wood, food, fish, vegetable, rubber. This type of production is based on what is naturally

available in the economy. As well as Sri Lanka enjoys a comparative advantage in exports of goods which are produced using standard technology and are characterized by lower cost in research and development. Pearls and precious or semi-precious stones, textile and clothing are some of the items that fall in this category. Since the technology in producing these goods is already developed by technologically advanced countries, and later standardized, there is not much expenditure on research and development. Moreover, these tends to be labour and capital intensive, but not skill and knowledge intensive. Production of such goods is thus passed on to developing countries that in turn enjoy economies of scale. Another type of goods essentially are technology intensive and more characterized by high research and development. Chemicals, medicines, instruments, machinery and Air craft are some examples of these good. However, since such technology and ability to cope with rapid change, is present only with the developed countries. They enjoy a comparative advantage in export of such items.

Keywords: *H-O goods, PC goods, Revealed Comparative Advantage, Ricardian goods.*

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