Export competitiveness of Sri Lankan Black Tea in Japanese market

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Introduction

Japan is the most sophisticated tea market in the world that shows highest technological advances, sustainable development, food and environmental safety and socio-economic well-being (Sri Lanka Tea Board, 2011). As Japan is not a black tea producing country, its black tea market completely depends on imports from other countries. Sri Lanka is third largest black tea producer in world (FAO, 2012). Black tea accounts for 98.6 percent of total tea export value in 2011 (Sri Lanka Tea Board, 2011). Japan is one of top five export destinations of Sri Lanka for two black tea products, tea bags less than 4g and bulk tea of more than 10kg in weight (Sri Lanka Tea Board, 2011).

Sri Lankan tea industry recently has shown a decline in black tea production due to irregular weather pattern in tea cultivating districts and long-term existence of lower yielding older plantations (Verite Research, 2013). Along with lower productivity, Sri Lanka has shown a higher cost of production due to labor deficit and poor growth in value addition when compared to other black tea importers of Japan (Verite Research, 2013). This has become more challengeable for Sri Lanka to maintain competitive tea prices in export market and it creates instability for Sri Lankan black tea exports in Japanese market.

Competitiveness has become the key indicator of market stability. It describes the dimensions as profitability, resource usage efficiency and productivity of a certain producer when compared with other producers in a particular market. The aim of this study is to identify the level of competitiveness of Sri Lanka while analyzing price competitiveness on competitors' import quantities for the period of 2004-2013. Determination of competitors, price effects and level of competitiveness are important for understanding market dynamics and planning within a highly unstable market environment.

Methodology

Top five rival countries of Sri Lanka for black tea products in Japanese market are identified by using Export Similarity Index (ESI). ESI indicates the countries of similar export patterns to Sri Lanka. Top five rival countries are identified by the highest positive growth in ESI.

$$ESI = [\textstyle\sum S_{i,j}.S_{r,j}]*100 \qquad (1)$$

$S_{i,j}$ = *market share of Sri Lanka in Japanese market*
$S_{r,j}$ = *market share of particular rival country in Japanese market*

Market concentration is determined by using Hirschman Herfindahl Index (HHI) which is an indicator of concentration of market shares and competitiveness of a particular market. In a perfectly competitive market HHI is equal to zero. HHI is 10000 in a monopoly market. HHI is more than 2000 in a highly concentrated market.

$$HHI = \textstyle\sum_{i=1}^{n} S_i^2 \qquad (2)$$

S_i = *market share of ith black tea importer of Japan*
n = *number of importers*

Black tea competitiveness of Sri Lanka over main rival countries is determined by Revealed Comparative Advantage index (RCA). RCA is calculated for both total black tea and identified black tea products under nine-digit level HS codes.

$$RCA = \ln [S_i/S_r] \qquad (3)$$

S_i = *market share of Sri Lanka*
S_r = *market share of the particular rival country*

Econometric import demand model is used to analyze price effects on competitiveness.

Import demand = f(Own price, Substitute price, Income, Population)
$$Q^* = \beta_0 + \beta_1 P_1 + \beta_2 P_2 + \beta_3 GNP + \beta_4 POP + \varepsilon \qquad (4)$$

Where; Q^* is the import quantity of particular rival country. P_1 is the own-price or the import price of the particular rival country. P_2 is the price of Sri Lanka. GNP is the income of Japan and POP is the Japan's average population over time.

It is assumed that Sri Lankan products are substitutes for rival country's products. β values are the coefficients of the variables. Seemingly unrelated regression model was used to analyze the estimates of the variables.

Results and discussion

Estimated average HHI value for the period of 2009-2013 is 3951.26. Japanese black tea market is consisted with 51 importers. United Kingdom, France, Malaysia, Kenya and Indonesia have become top five competitors of Sri Lanka while showing similar export patterns to Sri Lanka. Sri Lanka's average unit price of bulk tea for the period of 2004-2013 is 350 Yen/kg which is higher than Kenyan and Indonesian unit prices of 267 Yen/kg and 224 Yen/kg respectively. 1299 Yen/kg average unit price of tea bags is only higher than Kenyan unit price of 1123 Yen/kg.

Japanese market is less competitive and highly unstable for black tea as it is highly concentrated to Sri Lanka as the country occupies the highest average market share of 58.68 percent while been the number one black tea importer of

Japan. Sri Lanka has an overall comparative advantage on its top five competitors. But product wise Sri Lanka's competitive power is higher only than Kenya and Indonesia for tea bags. It is higher than United Kingdom, France and Malaysia for bulk tea. It means Sri Lanka is less competitive than United Kingdom, France and Malaysia for tea bags. It implies that non-tea producers as United Kingdom and France have gained much more competitiveness through re-exporting black tea along with higher value addition. Sri Lanka is less competitive than Kenya and Indonesia for bulk tea due to less price competitiveness.

Import prices of UK, France and Kenya significantly influence on Japan's imports of tea bags. Sri Lankan import prices have a significant effect on import quantities of UK, France and Malaysia. But Sri Lanka doesn't have a comparative advantage on UK, France and Malaysia for tea bags. It reveals that those rival countries have obtained their comparative advantages not through price advantages as they show very higher average prices twice or thrice than Sri Lanka. It may be due to quality factors incorporated in to their products using high technology, high quality packing materials and brands towards consumer preferences.

Sri Lankan price has a significant effect on import quantities of France and Malaysia for bulk tea as they export very lower quantities of bulk tea when compared to other top competitors. Japan is more preferred to buy Kenyan and Indonesian bulk tea under very lower prices than of Sri Lanka. Still Sri Lanka beats both countries by exporting the highest bulk tea quantity with higher prices. Gross National Product of Japan has a significant role on its importers. Black tea importers of Japan consider that Japan is one of most profitable markets for black tea products. Japan's population size has no significant influence on its demand for black tea.

Conclusion

United Kingdom, France, Malaysia, Kenya and Indonesia are main rival countries for black tea in Japanese market. Japanese market is highly concentrated for black tea as Sri Lanka occupies the highest market share around 60 percent. Sri Lanka's competitive power is higher than Kenya and Indonesia for tea bags. It is higher than United Kingdom, France and Malaysia for bulk tea. Export price of tea from Sri Lanka has a significant effect on import demands of United Kingdom, France and Malaysia for tea bags. For bulk tea Sri Lankan export price has a significant effect on France and Malaysian import demands.

Keywords: *Export Similarity Index, Hirschman Herfindahl Index, Import Demand Model, revealed comparative advantage, Seemingly Unrelated Regression.*

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