

ABSTRACT

AN ECONOMIC ANALYSIS OF COCONUT AND COCONUT PRODUCTS (KERNEL) EXPORTS OF SRI LANKA: A MULTI-MARKET APPROACH

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Earlier studies on the exports of coconut products focused on the estimation of export demand and supply elasticities. Overall objective of the study was to analyze the performance of exports of major coconut products, and to analyze the implications of policy interventions. The specific objectives were: i) to analyze the growth and instability of coconut product exports; ii) to decompose the variability in export quantity and export value; iii) to analyze the extent of integration between domestic and international markets; and iv) to develop a Multi-market Model for the analysis of alternative policy options.

Secondary data on the production and exports of coconut products pertaining to the period 1961-2006 was used. Data was analyzed for the Pre-Liberalization period (1961-1977) and Post-Liberalization period (1978-2006). A Multi-Market model was developed to capture the inter-actions among the coconut products markets, and to perform policy simulations with regard to export "CESS" and exchange rate changes.

The exports of copra and fresh coconuts showed an increasing trend, with significant increases in quantity; while the exports of coconut oil and DC showed a declining trend, with a significant decline in quantity of coconut oil exports and a moderate fall in DC exports. The study found that in the destination of coconut product exports, there was a geographic concentration, with only a minimal entry into new markets. Export quantity of coconut products had a negative growth rate during the Pre-Liberalization period, while export earnings of copra and coconut oil had a negative growth rate, while DC and fresh nuts export value growth being positive. Growth rates of export quantity and earnings of coconut products, during the Post-Liberalization period were positive, except for coconut oil. The highest growth rates were observed in the export quantity of fresh nuts, copra and coconut milk powder.

Results of the instability analysis indicated that instability was observed in the three parameters of export quantity, export prices, and export earnings in both periods studied. Instability values were larger for coconut products exported during the Post-Liberalization period, with copra and coconut oil exports having the largest figures. Instability in export quantity was more significant for copra and coconut oil exports during the Pre- and Post-Liberalization periods, compared to the other products. The export earnings instability was significantly larger for copra and coconut oil exports during the Post-Liberalization period. But, the export price instability values for all coconut products were not significantly different during both periods studied.

Export value decomposition analysis indicated that the contribution of interactions between changes in mean export quantity and mean export unit value was largest among other components of change of the increase in average export value of copra, but for DC exports the contribution of change in mean export unit value was the largest. Decomposition analysis of coconuts and coconut oil export earnings indicated that change in mean export quantity was largest contributor for change in value. Results of variance decomposition analysis of copra export value indicated that change in mean export unit value and export quantity had a significant effect on the variance of export value. The changes in the variance of export quantity and export unit value were factors increasing the export value variance of DC exports. The change in variability of mean export unit value of coconut oil was a significant cause for the increase in the variance of export value of coconut oil exports. The change in variance of export quantity decreased the export value variance by nearly 61 per cent.

The cointegrating regression results indicated that the copra, coconut oil, and fresh coconut price series were non-stationary, thus suggesting that the International prices, and Colombo prices for these products are not cointegrated. Hence, it could be concluded that International and Colombo prices, for these products did not have a long-run relationship, i.e. these markets were not integrated. When the residuals of the cointegrating regression for DC prices were analyzed, the results indicated that both price series were stationary. This implied that both International desiccated coconut prices and Colombo DC prices were cointegrated.

Results of the GC test, and VAR model indicated that there is a unidirectional causality of price transmission, from the International DC market to the Colombo DC export market. Hence, price fluctuations in the International market had an influence on the price variations in the Colombo DC export market in the long-run. Model simulations indicated that the effect of increasing or decreasing the export "CESS" had no

significant impact on the producer prices. But, complete removal of the export "CESS", showed marginal increases in producer prices for fresh nuts (3.21 percent), copra (1.37 per cent), and desiccated coconut (1.05 per cent). The effect on export prices of coconut products showed that the impact of complete removal of export "CESS" created significant changes, increased for fresh nuts by 3.11 per cent, 1.35 per cent for copra, and 1.04 per cent for desiccated coconut. The export demand for coconut products for the different simulations indicated that export "CESS" changes, even for complete removal, had no significant effect on the export demand. The impact of different simulations on the consumption demand for the coconut products showed no significant changes. Export "CESS" simulations on stakeholders' income levels caused positive growth rates in the industry income, coconut products suppliers' income, exporting firms' income, and government tax revenue.

Depreciation of the Rupee exchange rate had a significant impact on the export prices, volume of exports and income of coconut industry stakeholders, especially exporters; but there was no significant impact on the producer prices or producer incomes, and supply of coconut products. Simulations showed that export prices of coconut products declined up to 13.04 per cent, for the Rupee exchange rate depreciations. But in nominal terms, the export prices had increased up to 15 per cent, to cause an increase in the exporting firms' income and tax revenues, and a modest increase in the coconut industry income. Government tax revenues showed significant growth of 6.15 to 18.68 per cent. The government can continue to impose the current export "CESS" rates on coconut products exported, and use the tax revenue for reinvestment in the coconut industry for new processing technology development and yield improvement. The depreciation of the Rupee exchange rate could raise the income of exporters and the government tax revenue; but this has larger ramifications on the economy as a whole, thus not a viable option.