

**STABILITY ANALYSIS OF SRI LANKAN TEA EXPORT MARKETS USING
MARKOV CHAIN APPROACH**

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Among plantation crops, tea has been playing a significant role in the agrarian economy as it adds substantially to the GDP of the country. Stability analysis of tea export market by the economic community in any country serves several purposes viz business forecast for wise decisions; the assessment of the growth of the economy; and, the future design of tea plantations. Contribution of the tea production within the agriculture sector leads a dominant role in providing employment opportunities in Sri Lankan economy. The aggregate data of tea export from Sri Lanka to various countries is collected from the Sri Lanka Tea Board and the Central bank reports for the period covers from 2009 to 2017. The objective of the study is to analyze the dynamic changes of tea export volume from Sri Lanka to tea markets in different countries employing the Markov chain model. The aggregate data from Markov chain models explain that the present observed proportion of one country is stochastically related to recent past observed proportion of the countries including itself. The transition probabilities are estimated using the non-linear programming technique under the minimization of mean absolute deviation method. In addition, the steady state probabilities and mean recurrence times have been obtained. The results have shown Syria and Iraq as the stable destinations for Sri Lankan tea exports. The other traditional importing countries such as Russia, Turkey and Iran have recorded low retention probabilities, indicating unstable export share to these markets. The long run stable probabilities revealed that Sri Lanka retains the trade partnership with traditional importing countries except Syria.

Keywords: Aggregate data, Markov chain, Mean recurrence time, Tea export, Transition probability