



FORECASTING INTERNATIONAL TOURISM INCOME IN SRI LANKA: POST-WAR PERIOD

K.M.U.B. Konarasinghe

Institute of Mathematics and Management, Nugegoda, Sri Lanka

udaya35@yahoo.co.uk

Sri Lankan tourism industry plays an important role as one of the core contributor of foreign exchange earner in an overall economy of the country. After war period number of arrivals showed an increasing trend. This development facilitated to increasing of income from international tourism in Sri Lanka. Forecasting income in the tourism industry is essential in assessing budget, planning, strategy development, policy development and other decision- making process within the economy in macro and micro level. Therefore forecasting international tourism income in Sri Lanka in the post-war period was considered as the objective of the study. Monthly income data utilized from January 2009 to December 2013. Data obtained from annual reports of Sri Lanka Tourism Development Authority. Descriptive Statistics was obtained as summary measures. Autoregressive Distributed Lag Model (ADLM) was tested on forecasting tourism income at different lags. One way Analysis of Variance (ANOVA) technique was used for overall model testing and t-test was used for individual parameter testing. Residual plots and Anderson-Darling test for residuals were used as the model validation criterion. Forecasting ability of the models was assessed by considering adjusted R² and three measurements of errors. Box and whisker plot showed no outliers in the data set. The model was tested at different lags. Lags 1, 2, 4, 5 and 6 were significant and a linear model with those lags had the least MAPE in both model fitting and verification (10.3% and 15.2%) respectively. Adjusted R² of the model was 84%. Residual plots and Anderson-Darling test confirmed the normality of residuals. Also, residuals Vs fits confirmed the independence of residuals. It was concluded that the ADLM model is suitable for forecasting international tourism income in Sri Lanka. It is recommended to test Auto Regressive Integrated Moving Average (ARIMA) models on forecasting international tourism income in Sri Lanka.

Keywords: Autoregressive Distributed Lag Model, Residuals, Income