A Revisited Model Estimation for International Passenger Demand at Bandaranaike International Airport, Sri Lanka

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Regression models are quite commonly used in air travel demand estimation. This paper presents a passenger forecast model for the Bandaranaike International Airport, which is the single international gateway for passengers travelling in and out of Sri Lanka at the time of conducting the study. The study hypothesize that the parameter estimates for the demand determinants of air travel in Sri Lanka has changed overtime and the model estimation revisit the analysis carried out by Bandara and Wirasinghe (2001) to estimate passenger demand for medium sized airports. Post fact analysis of the model proposed by Bandara and Wirasinghe (2001), revealed statistically significant differences between prediction and actual values with outliers to the 95% confidence interval bands established for the regression model. The deviations were results of the effects of 9/11 incident and heightened civil unrest experienced time to time in Sri Lanka during the past ten years. An empirical validation to the existing model was identified as necessary, since Sri Lanka is at the juncture of post war development proposals to promote the country as an aviation hub. A further objective of estimation was to justify the best time scale of past data to be used in model calibration for passenger demand forecasting using econometric models. The new estimates are established using a multiple regression model with two variables; Real Gross Domestic Product (RGDP) and a Dummy (T_i) variable for severe terrorism/civil unrest conditions. Findings of the previous study is re-validated empirically by concluding that using 12-15 year past data for model calibration meets multiple regression assumptions at its best with time series data, avoiding spurious regression. The results suggest that the model forecasts ideally fits with the actual in the medium term. Hence, updating the model on a roll-out basis increases the validity of the model estimates.

Key words: Demand for Air Travel, Multiple Regression

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