ABSTRACT

Airline traffic forecasting in the medium term is important to airlines and regulatory authorities that attempt to plan and schedule capacity. This research examines a number of alternative approaches to forecasting short to medium term (1 to 3 years) air traffic flows. The data examined are flows between the UK and six other countries over the period of 1961-2002, which has seen substantial changes in both transport technology and economic development. The economic drivers, under consideration, are price, GDP and bilateral trade. The forecasting models employed include autoregressive models, autoregressive distributed lag models specified using various statistical and economic criteria and a newly developed automatic method for model specification (PcGets), as well as time varying parameter models. Various approaches to including interactions between the contemporaneous air traffic flows are examined including pooled autoregressive distributed lag models and the inclusion of a 'world' variable that measures overall trade growth in the world economy. Based on the analysis of forecasting error measures, it is concluded that time varying parameter models that include the 'world' variable with an average error of around 2.5% outperform alternative forecasting models. This is perhaps explained by the dramatic structural changes seen in the air traffic market.