AN EMPIRICAL APPROACH TO THE EVALUATION OF INTERNATIONAL TOURISTS' EXPENDITURES IN THAILAND USING THE ARFIMA-FIGARCH MODEL

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ABSTRACT

Studies of international tourists' expenditures have used a variety of forecasting procedures to evaluate tourism economic phenomena. Forecasting methods have developed utilizing ARFIMA(p,d,q)-FIGARCH(p,d,q) approach, primarily because the forecasting concept alone is sufficient explanatory power to cover many important tourism economic phenomena, particularly those which possess an evolutionary statistical structure. The secondary data were used to produce forecasts of international tourists' expenditures based on the ARFIMA(1,-0.672,1)-FIGARCH(1,-0.180,1) method. The international tourists' expenditures in Thailand for the period of 2009–2010 may experience some decline. The public-private partnership should plan to provide a remarkable chance to convey simultaneously a mixture of parts of the industry and to establish major tourism course of action initiatives to set in motion to lay the foundation at the educational level to assist all stakeholders even if possible to initiate some of those measures necessary.

Keywords: Thailand, international tourists' expenditures, tourism market, forecasting procedures

1. INTRODUCTION

The study has suggested a new approach for investigating the structure of the international tourists' receipts as a benchmark to assess the overall importance of tourism in Thailand. Sizeable international tourists' receipts can be a good indicator of the role tourism plays in an economy in terms of both Gross Domestic Product and foreign exchange generation.

2. RESEARCH OBJECTIVE

The secondary data were used to produce forecasts of international tourists' expenditures in Thailand based on the ARFIMA(p,d,q)-FIGARCH(p,d,a) method for the study period of 2009–2010.

3. THE SCOPE OF STUDY.

The selected countries were the countries that have impact on the international tourism industry of Thailand (Source of Data: Immigration Bureau, Police Department). This paper focuses on forecasting a single variable approach based on 2000–2008 international tourists' expenditures in Thailand. Also, the ARFIMA-FIGARCH model was tested to forecast the expenditures in Thailand during the study period of 2009–2010. *However, this model has never previously been used for forecasting the international tourists' expenditures in Thailand.*

3.1 General Model of ARFIMA

ARIMA models as discussed by Box and Jenkins (1976) are frequently used for seasonal time series. A general multiplicative seasonal ARIMA model for a time series Z_t can be written

$$\emptyset(B)\Phi(B^s)(1-B)^d\,(1-B^s)^D\,Z_t = \theta(B)\rho(B^s)a_t \qquad \text{—— (1J)}$$

where

- B = the backshift operator ($B_{zt} - Z_{t-1}$)
- S = the seasonal period
- $\emptyset(B)$ = $(1- \emptyset_1 B - \ldots\ldots - \emptyset_p B^p)$ is the non-seasonal AR operator
- $\Phi(B^s)$ = $(1- \Phi_1 B^s - \ldots\ldots - \Phi_p B^s)$ is the seasonal AR operator