



Forecasting Consumer Price Index in Thailand under the COVID -19 Pandemic

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ABSTRACT

The Consumer Price Index (CPI) presented the effectiveness of the economic policies of a country. The prices of the basket are often changed due to the varied dynamic situations within the country. It happens due to the economic policies and various other factors including natural disasters. The rise of CPI is extremely low in Thailand comparative with other Southeast Asian countries. It is important to understand the future performance of the CPI in Thailand under the COVID-19 pandemic situation. Hence, the objective of the study was to forecast CPI in Thailand. The monthly CPI data obtain from the International Monetary Fund (IMF) database for the period of July 2011 to July 2020. Auto-Correlation Functions (ACF) and time series plots were used for pattern recognition. The model validation was done by using the Anderson Darling test, ACF, and Ljung-Box Q (LBQ)-test. The forecasting ability of the model was assessed by both relative and absolute measurements of errors. Base on the pattern of the data set, the study selected to test several models namely; linear and nonlinear models and Autoregressive Distributed Lag Model (ADLM). The results of the study revealed that linear, nonlinear, and do not satisfy the model validation criterion. ADLM was run with seven lags, but only two lags were significant. The model ADLM satisfied the model validation criterion under the model fitting. The relative and absolute measurements of errors were very low under the fitting and verification. It has concluded that lag one and two of ADLM were significant. It means, that the future value of CPI or the price of the basket of Thailand could be decided by the price of the basket of last month and the one before that. It is recommended to model the CPI in other Southeast Asian countries furthermore.

Keywords: Consumer Price Index, Policies, COVID-19, ADLM