

Exchange Rate Forecasting by Econometric Models

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Abstract : The objective of the study is to forecast the US Dollar and Pak Rupee exchange rate by using time series models. For this purpose, daily exchange rates of US and Pakistan for the period of January 01, 2007 - June 2, 2017, are employed. The data set is divided into in sample and out of sample data set where in-sample data are used to estimate as well as forecast the models, whereas out-of-sample data set is exercised to forecast the exchange rate. The ADF test and PP test are used to make the time series stationary. To forecast the exchange rate ARIMA model and GARCH model are applied. Among the different Autoregressive Integrated Moving Average (ARIMA) models best model is selected on the basis of selection criteria. Due to the volatility clustering and ARCH effect the GARCH (1, 1) is also applied. Results of analysis showed that ARIMA (0, 1, 1) and GARCH (1, 1) are the most suitable models to forecast the future exchange rate. Further the GARCH (1,1) model provided the volatility with non-constant conditional variance in the exchange rate with good forecasting performance. This study is very useful for researchers, policymakers, and businesses for making decisions through accurate and timely forecasting of the exchange rate and helps them in devising their policies.

Keywords : exchange rate, ARIMA, GARCH, PAK/USD

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