PREDICTING MALAYSIAN STOCK MARKET RETURN VOLATILITY USING EWMA MODEL AND GARCH MODEL

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ABSTRACT

Quite a number of literatures exist on forecasting stock market returns and forecasting models. However, a number of authors question the level of superiority of these models in predicting the volatility of stock market returns. Hence, the current study aims to compare two forecasting models from the historical volatility category and autoregressive and heteroskedastic category respectively. In particular, the two models focused in the current work are Exponentially Weighted Moving Average (EWMA) model and Generalized Autoregressive Conditional Heteroscedascity (GARCH). The comparison between these two models takes into account the Malaysian stock market returns and its volatility. The main objectives of the current study are (1) to evaluate and make comparison between EWMA and GARCH model in testing the volatility of stock market returns and (2) to forecast the stock market return volatility. In order to assess the objectives drawn, single linear regression is carried out by fitting the suitable linear equation as the means to model the relationship between the variables. In addition, to define the superiority between the two models, the least square method (RMSE and MAE) was carried out. Data was collected from 8 different industries from Bursa Malaysia. Findings from the current work suggest that the EWMA model performs better as a forecasting model for stock market returns particularly in measuring risk management.