MODELLING AND FORECASTING STOCK MARKET VOLATILITY OF NASDAQ COMPOSITE INDEX

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Abstract

On the NASDAQ Composite Index from March 1971 to April 2019 it appears that the data is not stationary. For this reason, differentiation is needed by finding the value of stock returns from the NASDAQ Composite Index data from March 1971 to April 2019. After differentiating by looking for return values, the next analysis can be done, namely looking for the ARIMA model. Finding an ARIMA model using conventional analysis will require a long analysis time. So to shorten the analysis process using the EViews 10 statistical program. The results obtained after using the EViews program are getting the ARIMA model (8.0,6). The ARIMA model (8,0,6) was chosen because it has the smallest AIC value of 12,664073. This can be used as a reference later that the ARIMA model (8.0,6) is the best model in conducting forecasting. After that, the GARCH model is continued which aims to determine the ARIMA-GARCH model combination model. From the results of the analysis, it is known that the best model for forecasting the return value of the NASDAQ Composite Index is a combination of ARIMA (8.0,6)-EGARCH (1,1) models, which from the results of this analysis are known for fluctuating return values and index values for NASDAQ for one year in the future it is stagnant and does not show a trend.

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