

Abstract

Investors who invest funds in stock expect a high return value and the lowest risk possible, but every investments can not predict the value risk with easily. To obtain the risk value of a stock can use Value-at-Risk (VaR) method. The determination of the VaR can use time series model, therefore in this final project used Autoregressive (AR) and Generalized Autoregressive Conditional Heteroskedasticity (GARCH) to determine VaR on two stock indexes which have normal distribution. Each stock data has different volatility or movement of stock price, then before discuss about time series model and VaR calculation, stock index data is tested by ARCH effect test. In order to obtain a relevant results, both time series model are calculated the accuracy using VaR violation and compared to get a good time series model. Based on the result of the analysis, time series model which is GARCH(1,1) of normal distributuon have better result with the total error rate of 26 to predict VaR for stock index NASDAQ, and for stock index NYSE a good time series model to predict VaR is AR(1) with the total error rate of 30.

Keywords: VaR, AR, GARCH, ARCH effect test, VaR *violation*