

Abstract

Risk Measurement becomes an important study because it is often associated with considerable investment and is often associated with public funds. Risk is closely related with time series data. Generalized Autoregressive Conditional Heteroscedastic (GARCH) used to model the variance of data which moves based on time(volatility). Value-at-Risk (VaR) is determined by involving Copula as a function of the joint distribution for two random variables. Copula approach is useful for capture the behavior of the two asset dependency structure. In this Final Project, VaR of portfolio of the two stock prices assets, Honda and Toyota, is determined of VaR based on GARCH and Copula. Then the resulting parameters involve Gaussian Copula GARCH as a condition for the marginal distribution of the data dependencies Copula. Based on the results of the portfolio VaR using GARCH-Copula there is a mean error of 10 data. Beside using the GARCH-Copula, also the results of the portfolio VaR using the historical simulation to get a mean error of 59 Data. Therefore, GARCH-Copula is more representative to predict the value of a portfolio VaR.

Keywords: Value-at-Risk, GARCH, Copula, Volatility