

Abstract

Doing stock investing by establishing a portfolio by maximizing returns and minimizing risk is the first purpose of investors. Risk measurement is important thing in taking decision to know the size of risk that may happen of investors. Model of Generalised Autoregressive Conditional Heteroscedastic (GARCH) is used to modeling of variance data that dependent time (volatilitas). Value-at-Risk (VaR) is one of risk measures that used to predict loss at portofolio. Calculation of VaR in portofolio of two stocks is different with calculation in one stock because it is difficult to determine the suitable price to modeling that problem. Besides that, the financial data is often heavy tail distribution. Copula theory is involved because it is fundamental and fleksibel tools in distribution modeling. In this final project is used method of Copula Archimedian family that is Copula Clayton and Copula Gumbel to estimate Value-at-Risk on portofolio. Based on VaR portofolio results that using GARCH t-Copula Clayton with mean error of 186.56 datas and GARCH t-Copula Gumbel of 215.56 datas. Therefore, GARCH t-Copula is better to predict VaR portofolio value.

Keywords: portofolio, Value-at-Risk, GARCH, Copula, Heavy Tail.