

Abstract

Every investment among stocks will provides benefits and different risks even in the same industry sector. Forming portfolio is an attempt to maximize the rate of expected return on the investments with certain risks. Value-at-Risk (VaR) is one of the risk measurement tools used to predict the maximum loss of a portfolio. Calculating VaR of the portfolio of two stocks that have dependency to each other is not an easy thing, because the joint distribution to model it can not be found we use. In this final project, we use Archimedean Copula, which are Clayton Copula and Gumbel Copula, to determine Value-at-Risk of the portfolio data. VaR with a confidence level of 90 % at Clayton Copula and Gumbel Copula are 0.0158 and 0.0168 respectively, VaR with a confidence level of 95% at Clayton Copula and Gumbel Copula are 0.0210 and 0.0228 respectively, and VaR with a confidence level of 99% Clayton Copula and Gumbel Copula are 0,0320 and 0.0376 respectively. The value of Mean Error of Clayton Copula VaR is 31 and of Gumbel Copula is 7. As a result, Gumbel Copula VaR can predict loss prediction better than Clayton Copula VaR.

Kata kunci: Value-at-Risk, Copula, Archimedean, Clayton, Gumbel