RISK ANALYSIS OF MIXTURE NORMAL OPTIMUM PORTFOLIO

by Rosita Kusumawati, Syarifah Inayati

ABSTRACT

Stock investment in addition to providing high profit opportunities (return) is also accompanied by a large risk of loss. Stock return distribution analysis can assist investors in measuring the risk of a stock. Often, stock returns are not normally distributed, are not symmetrical, have multiple peaks or have fat tails. Estimation of the appropriate form of return distribution is needed to support investment decision making. Mixture distribution can be used to model stock return data with the above characteristics. The estimation of the Mixture Distribution parameters was carried out using the Expectation – Maximixation (EM) and Bayesian Markov Chain Monte Carlo (MCMC) algorithms. The optimal stock portfolio is prepared using information on the return variance value of each stock. This study discusses the integration process of using the results of stock return predictions using the Mixture Distribution in the preparation of the Mean-Variance (MV) Portfolio. An example of the application of the method and measurement of portfolio risk will be carried out using stock data incorporated in the Jakarta Islamic Index (JII).

Kata Kunci: *mixture distribution, portfolio, VaR*