ABSTRACT

In stock investment within the capital market, a thorough understanding of investment risk is a fundamental requirement. Uncertainty in future conditions causes stock prices to fluctuate, so higher expected returns are generally accompanied by higher levels of risk. This study aims to determine the optimal portfolio using the Mean Variance Efficient Portfolio (MVEP) method and to measure investment risk using Value at Risk (VaR) with the variance–covariance approach for three stocks: PT Aneka Tambang (Persero) Tbk (IDX:ANTM), PT Bank Mandiri (Persero) Tbk (IDX:BMRI), and PT Mayora Indah Tbk (IDX:MYOR). The data used in this study are historical data covering a five-year period from 2020 to 2025. Based on the portfolio Value at Risk (VaR) analysis with an initial capital of Rp10,000,000 for the next one-month investment period, the portfolio with the lowest potential loss, referred to as the optimal portfolio, consists of a weight of 9.409257% in PT Aneka Tambang (Persero) Tbk (IDX:ANTM), 38.76489% PT Bank Mandiri (Persero) Tbk (IDX:BMRI), and 51.82585% in PT Mayora Indah Tbk (IDX:MYOR). The resulting Value at Risk (VaR), representing the maximum potential loss, is $Rp915{,}021.1$.

Keywords: *Mean Variance Efficient Portfolio, Optimal Portofolio, Return, Value at Risk, Variance-Covariance.*