ABSTRACT

The development of digital technology has made it easier for people to access various types of information, including financial information related to investment and stocks. The uncertainty of investment returns makes stock investment a high-risk endeavor. This situation necessitates the use of tools and models that can help investors make well-informed, data-driven decisions. One of the models that can be used is the Capital Asset Pricing Model (CAPM) and the Mean Variance Efficient Portfolio (MVEP). CAPM is used to calculate the expected stock return based on measured risk, while MVEP helps optimize the asset weight distribution within a portfolio to minimize risk relative to the expected return. Portfolio risk or the maximum possible loss of a stock portfolio can be measured using Value at Risk (VaR), one of the methods being Monte Carlo simulation. This study uses monthly stock data from the *Jakarta Islamic Index* (JII) covering the period from January 2020 to October 2024. Based on calculations and analysis, the selected portfolio stocks and their respective weights are PT Bumi Resources Minerals Tbk. (BRMS) with a weight of 18.05%, PT Bukit Asam Tbk. (PTBA) with a weight of 44.34%, and PT United Tractors Tbk. (UNTR) with a weight of 37.61%. The calculation of the maximum potential portfolio loss using the Monte Carlo simulation method, with a 95% confidence level and an investment period of one month, resulted in a VaR value of 13.1%. This means that, with 95% confidence, the investor's loss will not exceed 13.1% of the invested funds within one month after October 2024.

Keywords: *Jakarta Islamic Index*, *Capital Asset Pricing Model* (CAPM), *Mean Variance Efficient Portfolio* (MVEP), *Value at Risk*, Monte Carlo simulation.