

## ABSTRACT

Stock selection is the main thing that needs to be considered in forming an optimal portfolio. Background companies that have stable business performance and large market capitalization by considering the expected return value and correlation between stocks to ensure low risk. This study uses the value of dividend yield, expected return, and correlation value to select stocks in the IDX High Dividend 20, then the selected stocks will be formed an optimal portfolio using the Mean-Semivariance method, this method was chosen because it does not require normality assumptions so it is more flexible. The resulting stock weight value can be negative, indicating the use of trading limit in the transaction. The optimization calculation is continued with an additional Karush-Kuhn-Tucker (KKT) method to ensure the resulting stock weight value must be positive. The results of this study show that the portfolio consists of 3 stocks with a percentage weight of BBNI (35.72%), INDF (31.35%), and UNTR (32.93%). The portfolio formed is estimated with an expected return that will provide a profit of 0.036% and plus the potential profit from dividends of 7,29% each year. Risk measurement with Value at Risk (VaR) Historical Simulation shows a maximum potential loss of 8.63% of the invested funds at a 95% confidence level.

**Keywords:** Optimal Portfolio, Mean-Semivariance, trading limit, Karush-Kuhn-Tucker, dividen, Value at Risk