

ABSTRACT

Analysis of expected returns and correlations between stocks is essential for investors to determine which stocks to include in their portfolio. Stocks with high expected returns have the potential to provide greater profits, while low correlation values can significantly reduce portfolio risk. This study assists investors in selecting stocks with high expected returns while maintaining low correlation thresholds for stocks listed in the SRI-KEHATI index, thereby minimizing portfolio risk. The selected stock portfolio is constructed using the Mean-Semivariance method, which is more flexible as it does not require normality assumptions. However, this method may result in negative weights, indicating the possibility of short-selling. To prevent negative weights, optimization is performed using the Quadratic Programming method by adding a constraint that all stock weights must be positive. The results of this study indicate that the portfolio comprises seven stocks with the following weight proportions: JSMR.JK (8.42%), AUTO.JK (0.31%), BBKA.JK (73.26%), DSNG.JK (0.34%), ICBP.JK (13.56%), JPFA.JK (3.90%), and SMSM.JK (0.21%). Risk evaluation using the Value at Risk (VaR) Historical Simulation method shows a potential loss of 14.741% at a 95% confidence level. The portfolio's performance calculation using the *Sharpe* Index shows a result of 0,0429, indicating that the portfolio has good performance. The development of Web-based Python GUI with Streamlit supports users in selecting and determining the proportion of shares in portfolio formation.

Keywords: Mean-Semivariance, Short-Selling, Quadratic Programming, Value at Risk, Sharpe Ratio, Streamlit