

A Mean-Variance-Skewness Portfolio Optimization Model

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Abstract : Portfolio optimization is one of the most important topics in finance. This paper proposes a mean–variance–skewness (MVS) portfolio optimization model. Traditionally, the portfolio optimization problem is solved by using the mean–variance (MV) framework. In this study, we formulate the proposed model as a three-objective optimization problem, where the portfolio's expected return and skewness are maximized whereas the portfolio risk is minimized. For solving the proposed three-objective portfolio optimization model we apply an adapted version of the non-dominated sorting genetic algorithm (NSGAI). Finally, we use a real dataset from FTSE-100 for validating the proposed model.

Keywords : evolutionary algorithms, portfolio optimization, skewness, stock selection

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