UNIVERSITI TEKNOLOGI MARA

PORTFOLIO OPTIMISATION FOR MALAYSIAN TOP 30 AND MID 70 ASSETS USING MEAN-MAD MODEL, P10S23

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ABSTRACT

Introduction: Portfolio optimisation is a widely studied topic in finance and has been the subject of extensive research. One of the seminal works in this field is the portfolio selection model proposed by (Markowitz, 1952).The purpose of this study is to look at the usefulness of the MAD model in portfolio optimisation for Malaysian top 30 and mid 70 assets.
Objective: The objective of this study are 1) to construct portfolios in which MAD is minimised for top 30 and mid 70 Malaysian assets by using the Mean-MAD model 2) to analyse the in-sample portfolios obtained in (i) in terms of risk measure for top 30 and mid 70 Malaysian assets and 3) to validate the in-sample results obtained in (ii) by using out-of-sample analysis.
Methodology: The Mean-MAD model is used for portfolio optimisation, specifically focusing on the top 30 and mid 70 assets in the Malaysian market. The research encompasses a thorough methodology by constructing 10 in-sample portfolios and categorising the constructed portfolios into three levels of in-sample return which are low(0.009), medium(0.013), and high(0.018).
Result and Discussion: The Mean-MAD model is highly useful for achieving the target returns and effectively managing risk in the investment portfolio for both top 30 and mid 70 Malaysian assets. Furthermore, as compared to the top 30 assets, the mid 70 assets have the potential for smaller absolute deviation, indicating a lower degree of risk that qualifies them as ideal targets for portfolio optimisation. In-sample results show that the higher the in-sample return, the higher the mean absolute deviation. Back testing results show the same trend as the in-sample results, hence it is validated. Moreover, the realised returns for the top 30 and mid 70 assets are often greater than portfolio returns, highlighting good outcomes.
Conclusion: In conclusion, this research contributes significantly to the understanding of portfolio optimisation in the Malaysian market by demonstrating the Mean-MAD model's flexibility across varied asset types. Moreover, all three objectives are achieved in this research. The study provides significant information for investors and financial specialists while also laying the basis for future research in this expanding matter.

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TABLE OF CONTENTS