UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

COMPARISON OF MALAYSIAN AND SINGAPOREAN ASSETS BY USING MARKOWITZ MEAN-RISK MODEL

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IN THE NAME OF ALLAH, THE MOST GRACIOUS, THE MOST MERCIFUL

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ABSTRACT

The global Covid-19 pandemic has affected the Malaysian and Singaporean stock markets significantly in many industries. This study aims to reduce the risk associated with investment portfolios from the top 30 firms in Singapore and Malaysia by using the Markowitz Mean-Risk Model. This technique is employed because it is simple to apply, understand, and work with tiny sample sizes and investors that have low-risk tolerance. We also compare the risk behaviours of these portfolios over two different time periods which are before and during Covid-19 using variance as a risk indicator during the Covid-19 pandemic. The unpredictability of return distributions for each asset is determined by simulating the weekly scenario returns of 27 assets in the Kuala Lumpur Composite Index (KLCI) and 25 assets in the Straits Time Index (STI) from January 2012 to December 2022. The Markowitz Mean-Risk Model is utilized to reduce risk and generate ten optimal (in-sample) portfolios. Three level target returns (d) are set which is low (0.280%), medium (0.390%) and high (0.560%) for Malaysia and Singapore, the target return is low (0.300%), medium (0.600%) and high (1.000%). The in-sample portfolio is validated using out-of-sample analysis obtained in terms of realized return and realized standard deviation. This analysis concludes that the in-sample portfolios follow the low return-low risk, medium return-medium risk, and high return-high risk tendencies.