UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

PORTFOLIO OPTIMIZATION OF SHARIAH AND CONVENTIONAL ASSETS IN FBMKLCI BY USING MEAN-VARIANCE AND MEAN-LOWER PARTIAL MOMENTS

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

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Abstract

Nowadays, financial portfolio optimization has a pivotal role for the problem that occurs in mathematics, statistics, financial and computational literature. In context of Malaysia, the assets are categorized into two which are shariah and conventional assets. Both assets are related to different kinds of business and investment activities, hence there would be a difference in risks and returns as well. The objective of this study is to identify the risk for portfolio of shariah, conventional and combination of assets (shariah and conventional assets). The closing prices for year 2009 to 2019 are collected from FBMKLCI and FTBSM Hijrah Shariah. The risk in the In-sample portfolio is minimized by using Mean-Variance and Mean-LPM with three target returns of 1,1.75 and 2.5 percent. Then, the sample is backtested by using the out of sample to get the realized return. In-sample result shows that the risk of portfolio of combination assets has the lowest risk as compared to shariah and conventional while out of sample analyse the realized return for the assets have a slight difference between each other. Then, the optimal Mean-Variance model can also minimize the lower partial moments. For future research, the researcher might improve this study in other risk measure models such as the Mean-CVaR model. From this model, the researcher could get an accurate result because it is the risk assessment measure quantifying the amount of tail risk the portfolio of investments.

Contents

1	Inti	coduction	1	
	1.1	The Portfolio Selection Problem	1	
	1.2	Risk, Uncertainty and Decision Making	3	
	1.3	Review For The Portfolio of Shariah and Conventional Assets	4	
	1.4	Thesis Motivation And Problem Statement	5	
	1.5	Objectives	6	
	1.6	Scope of The Project	6	
	1.7	Definition of Terms and Abbreviations	7	
	1.8	Significance and Benefits	7	
2	Lite	erature Review	9	
	2.1	Review of Mean Risk Optimization Models and a constraint of the second s	9	
	2.2	Application of Mean-Variance model	11	
	2.3	Application of Mean-Lower Partial Moments	13	
3	Methodology			
	3.1	Data Description	15	
	3.2	Computation of In-sample and Out of sample dataset	17	
	3.3	Implemention of datasets in optimization model	17	
		3.3.1 Implemention of datasets in Mean-Variance model	17	
		3.3.2 Implemention of datasets in Mean-Lower Partial Moments	18	
	3.4	Backtesting	19	
		3.4.1 Compute the out of sample	19	
	3.5	Conclusion	20	
4	Finding and Discussion			
	4.1	In-sample Analysis	21	
	4.2	Out of sample Analysis	26	

5	Conclusion	33
A	Appendix	35
Re	ferences	53