

**The Effect of using Alternative Assets
on the Malaysian Employees Provident Fund
Investment Portfolio**

Wan May Foong

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Universiti Kebangsaan Malaysia

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ABSTRACT

The aim of this paper is to check whether a pension fund (Malaysian Employees Provident Fund, (EPF)) that invests in alternative assets such as private equity, commodities and hedge funds will increase the fund's performance and risk-adjusted return. This study covers the period from January 1997 to December 2008, which is a period that includes both bear and bull stock markets. This study uses several techniques: marked-to-market method to calculate the Employees Provident Fund's actual return and two-sided t-test (Paired Sample t-test) to compare the performance between a portfolio with traditional assets and a portfolio that includes traditional and alternative assets.

The correlation matrix reflects a relatively low correlation between traditional pension fund assets and alternative assets. This study compares the result when the portfolio is under the constraints of EPF rules and regulations. Results show that pension funds with an alternative allocation of as little as 5 percent have a significantly reduced portfolio risk for the entire period under review. The results of the Sharpe Ratio indicate that pension plans involving 5 percent in alternative assets are significant and are sufficient to create higher risk adjusted returns during a bear market, and that at least 10 percent in alternative assets will generate higher risk-adjusted returns during a fluctuating market. In contrast, there is no significant result showing that alternative investment will improve the Sharpe Ratio in a bull market.

By comparing the results when there are no constraints on the EPF portfolio, the examination for risk measurement reveal that there is a significantly lower risk when the target allocation increases in alternative assets from 5 to 15 percent during a bear market. At least 40 percent invested in alternative assets will significantly reduce the portfolio risk when the market is fluctuating. Nevertheless, the results of the Sharpe Ratio indicate that pension plans involved in alternative asset investments during bear markets bring a significantly higher risk of adjusted returns. In contrast, investments in bull markets do not significantly outperform the current EPF performance. Finally, the results show that the optimal range to gain better risk-adjusted returns during a fluctuating market is 35 to 75 percent. Results show that well diversification in alternative assets has significantly outperformed the existing EPF Portfolio and alternative assets have provided downside protection to the EPF portfolio.

In addition, it implies that an optimal portfolio to outperform the existing EPF in a bear market requires investing 25 percent in alternative assets, and 44 percent in alternative assets during a fluctuating market.

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TABLE OF CONTENTS

Abstract	II
Acknowledgements	IV
Table of Contents	V
List of Figures	VII
List of Tables	IX
CHAPTER 1: INTRODUCTION	1
1.1 Introduction	2
1.2 Malaysian Employees Provident Fund.....	3
1.3 Investments and Assets.....	5
1.4 Return and Dividend Declared.....	9
1.5 Contributions and Withdrawals	12
1.6 Purpose of the Study	14
1.7 Scope of the Study	15
1.8 Research Questions	15
1.9 Assumptions	16
1.10 Limitations.....	16
1.11 Organization of the Study	17
CHAPTER 2: LITERATURE REVIEW	19
2.1 Introduction	20
2.2 Concepts and Variables.....	20

2.3	Asset Allocation and Investment Strategy of Public Pension Funds ...	22
2.4	Models	28
2.5	Asset Correlation	31
2.6	Markowitz Portfolio Theory	32
2.7	T-Test Statistic Model	33
2.8	Yale Model.....	34
2.9	Summary	34
CHAPTER 3: RESEARCH METHODOLOGY		36
3.1	Introduction	37
3.2	Research Methods.....	37
3.3	Summary	49
CHAPTER 4: RESEARCH RESULTS		50
4.1	Introduction	51
4.2	Mark to Market Malaysian Employees Provident Fund Return	51
4.3	Alternative Asset Allocation and Correlation for Employees Provident Fund	52
4.4	Performance Comparison with Alternative Asset Allocation Under Constraints of EPF Rules and Regulations	56
4.5	Performance Comparison with Alternative Asset Allocation without Constraints of EPF Rules and Regulations	63
4.6	Performance of Optimal Portfolio	79
4.7	Summary	81

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS	82
5.1 Conclusion and Recommendations	83
BIBLIOGRAPHY.....	88
APPENDIX A.....	91
APPENDIX B.....	92
APPENDIX C.....	99
APPENDIX D.....	100

LIST OF FIGURES

NO.	FIGURE TITLE	PAGE
1.1	Asset Allocation for Employees Provident Fund for 1997 to 2008	9
1.2	Contributions and Withdrawals from 1997 to 2008	14
3.1	Research Framework	38

LIST OF TABLES

NO.	TITLE OF TABLES	PAGE
1.1	Statistics for Investment and Assets	7
1.2	Statistic for EPF's Dividend Rate, Fixed Deposit Interest Rate and Inflation Rate	10
4.1	Comparison of EPF Dividend rate and Marked-to-market Return	51
4.2	Asset Return for Assets, 1997 to 2008	52
4.3	Asset Return, Total Risk and Systematic Risk for Assets, 1997 to 2008	54
4.4	Correlation Matrix Jan 1997 to Dec 2008	55
4.5a	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 5%	57
4.5b	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 10%	58
4.5c	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 15%	58
4.5d	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 20%	58
4.5e	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 25%	58
4.5f	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 30%	58
4.6a	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 5%	59
4.6b	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 10%	60
4.6c	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 15%	60
4.6d	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 20%	60

4.6e	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 25%	60
4.6f	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 30%	60
4.7a	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 5%	61
4.7b	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 10%	62
4.7c	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 15%	62
4.7d	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 20%	62
4.7e	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 25%	62
4.7f	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 30%	63
4.8a	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 5%	64
4.8b	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 10%	64
4.8c	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 15%	65
4.8d	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 20%	65
4.8e	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 25%	66
4.8f	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 30%	66
4.8g	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 35%	66
4.8h	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 40%	66
4.8i	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 45%	66
4.8j	Mean Investment Return Comparison,	67

	1997 to 2008 Alternative Target = 50%	
4.8k	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 55%	67
4.8l	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 60%	67
4.8m	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 65%	67
4.8n	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 70%	67
4.8o	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 75%	68
4.8p	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 80%	68
4.8q	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 85%	68
4.8r	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 90%	68
4.8s	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 95%	68
4.8t	Mean Investment Return Comparison, 1997 to 2008 Alternative Target = 100%	69
4.9a	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 5%	70
4.9b	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 10%	70
4.9c	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 15%	70
4.9d	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 20%	70
4.9e	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 25%	70
4.9f	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 30%	71
4.9g	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 35%	71

4.9h	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 40%	71
4.9i	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 45%	71
4.9j	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 50%	71
4.9k	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 55%	72
4.9l	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 60%	72
4.9m	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 65%	72
4.9n	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 70%	72
4.9o	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 75%	72
4.9p	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 80%	73
4.9q	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 85%	73
4.9r	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 90%	73
4.9s	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 95%	73
4.9t	Comparison of Standard Deviation, 1997 to 2008 Alternative Target = 100%	73
4.10a	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 5%	75
4.10b	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 10%	75
4.10c	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 15%	75
4.10d	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 20%	75
4.10e	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 25%	75

4.10f	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 30%	76
4.10g	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 35%	76
4.10h	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 40%	76
4.10i	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 45%	76
4.10j	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 50%	76
4.10k	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 55%	77
4.10l	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 60%	77
4.10m	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 65%	77
4.10n	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 70%	77
4.10o	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 75%	77
4.10p	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 80%	78
4.10q	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 85%	78
4.10r	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 90%	78
4.10s	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 95%	78
4.10t	Comparison of Sharpe Ratio, 1997 to 2008 Alternative Target = 100%	78
4.11	Mean Investment Return Comparison, EPF Portfolio and Optimal Portfolio	80
4.12	Comparison of Standard Deviation, EPF Portfolio and Optimal Portfolio	80
4.13	Comparison of Sharpe Ratio, EPF Portfolio and Optimal Portfolio	80