CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

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5.1 Conclusion and Recommendations

This paper tries to test whether investing in alternative assets in Malaysia Employees Provident Fund portfolio will influence the portfolio's return, risk and the Sharpe Ratio, in addition to offering diversification benefits to pension fund contributors. Reviewing the asset allocations for many pension funds in European countries, the alternative assets include an average of at least 3 to 10 percent in their pension funds for alternative assets, which are defined as hedge funds, private equity, real assets and a few other investments.

Evidence of low correlation was seen across all the alternative assets and traditional assets. Private equity provides less positive correlation with equities and fixed income. According to Schneeweis (1996), hedge funds have a low correlation with traditional stocks and bonds. This study also shows that there is a low correlation between hedge funds and traditional assets (consisting of domestic equity, foreign equity, and fixed income). Groot and Swinkels found that commodities have a low and negative correlation with equities, whereas this study proves that commodities have a low correlation with domestic equity and a negative correlation with foreign equity.

Comparing the investment returns of pension funds under the constraints of rules and regulations, the results suggest that pension funds with alternative asset target allocations of 5 percent to 30 percent do not have a significantly higher return than zero alternative allocation pension funds during the investment period examined. When looking at the measure of risk, namely, the standard deviation of returns, this study shows that the standard deviation of returns were consistently and significantly lower for pension funds investing in alternative assets. The higher alternative target allocation will reduce the risk for the portfolio. During the periods under review, in bear markets and fluctuating markets the pension fund with the alternative target allocation fulfilled the objective of outperforming risk-adjusted returns although restricted by pension fund rules and regulations. However, greater involvement in alternative assets will only statistically significantly generate higher risk-adjusted returns during a fluctuating market.

When there is no restriction of pension fund rules and regulations, pension funds with alternative target allocations from 1997 to 2000 brought significantly higher returns, but not for the investment period 2001 to 2008. Also, the higher the alternative target allocation during a bear market, the higher the pension fund’s return. During the bull market, although the results suggest that alternative assets allocating less than 20 percent would significantly reduce the investment risk, an allocation of more than 65 percent will significantly increase the risk of the portfolio. Starting from 35 percent onwards, the results displayed significantly higher standard deviation in a fluctuating market. Thus, according to these common measures of portfolio risk, portfolios investing in alternative assets with higher target allocation are riskier than portfolios that allocate less alternative assets when the stock market is fluctuating.

For the Sharpe Ratio, most of the benefits of alternative investments happened during bear markets and fluctuating markets, this is because alternative assets provide diversification benefits from their strong performance during that investment period. Results show that large allocations of alternative assets may also provide significantly higher returns during bear markets. This is similar to the studies of Gregoriou and Rouah's, who outlined that the inclusion of hedge funds in US portfolios represented a unique and proven opportunity for pension funds to protect their investment during bear markets. The results indicate that including alternative assets in the pension fund will bring higher risk-adjusted returns during bear markets. The greater the alternative target allocation, the higher the risk-adjusted return. During fluctuating markets, the optimal range for alternative allocation is 35 to 75 percent. The risk-adjusted return is consistently increased by increasing the alternative target allocation. Nevertheless, results show that risk-adjusted returns during bull markets are nominally reduced compared to zero alternative target allocations, but this is not sufficient to prove in a statistically significant way. The analysis implies that without the constraints of the EPF rules and regulations, we can further improve the EPF's performance.

With these findings, the paper proceeded to optimize the EPF portfolio to investigate whether it can further improve the portfolio's performance. A subsequent modified Yale Model result shows that an optimal portfolio of 25 percent alternative target allocation outperforms the risk-adjusted return. This is in agreement with previous studies, such as Groot and Swinkels, who found the optimal allocation to alternative ranges between 15 to 30 percent.

The results clearly indicate that over the period considered, diversification in pension fund investment of traditional assets and alternative assets offers higher risk-adjusted returns to the portfolio, especially during bear markets, it provides downside protection, and indeed, is beneficial for pension fund contributors.

On the other hand, the riskiness of alternative assets might raise concerns regarding the appropriateness of investing alternative assets in the EPF portfolio. It is the responsibility of fund fiduciaries to determine whether the lure of attractive returns outweigh the increase in risk. Therefore, there is scope for the study of more advanced risk analysis, especially for the specific risk of alternative assets. The establishment of international guidelines for performance and risk measurement of alternative investment is also recommended.

In addition, through diligent effort to establish more evidence that alternative investments in the long-term outperform returns on the EPF portfolio. Also, an upgrade of the national statistical data collection is recommended to better capture alternative asset classes.

However, if the government could remove some of the regulatory barriers affecting the pension fund investment portfolio, it will increase the portfolio's performance. The government can enhance the investment environment by removing unnecessary or overly restrictive quantitative investment limits such as asset allocation in alternative assets and restrictions on access to international markets. Furthermore, the government can promote the prudent personal standard of investment and encourage improvements in knowledge and understanding of pension funds on alternative assets.