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

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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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