

# Portfolio Diversification with Hedge Funds: An Application of Black-Litterman Model

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## Abstract

Hedge funds have remained a recurrent subject since last two decades and have frequently been misunderstood. Hedge funds are pooled investments that use various strategies with the purpose of generating positive and high returns for their investors. This paper demonstrates how the Black-Litterman model generated returns with M-CVaR optimizer provides improved optimal portfolio allocations over traditional mean-variance optimization model when hedge funds are part of the portfolio mix. This paper makes an attempt to contribute to the Black-Litterman model literature by incorporating the use of TGARCH derived views instead of using investor's subjective views. The finding reveals that the application of the Black-Litterman model using with the TGARCH derived views is a better tool for portfolio diversification. Further the addition of hedge funds into the portfolio mix resulted in an intuitive and well-diversified portfolio.

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## I. Introduction

INTODAYS' UNCERTAIN financial environment, portfolio managers have accepted that the risk can be managed through portfolio diversification and numerous models have been suggested for optimizing the well-diversified portfolio in order to fulfill the investors' desire. Though the hedge funds in the past 15-20 years has growing tremendously, if we look at the statistics the number of hedge funds has grown from under 3,000 in 1995 to more than 11,000 today, and the hedge fund industry manages over USD 3 trillion in assets (source, Forefront Capital Management). Even then the hedge fund industry is highly un-regulated because these funds are normally either the limited partnerships funds or the off-shore companies or corporations. The advantage that hedge funds offer is persisting in their correlation with the other investment vehicles and side-by-side offers protection to the investor in the time of financial turmoil (Amen, Bied and Maretlini, 2003).

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