Abstract

In this thesis, I contribute to the application of the cost-efficient strategy theory. The theory was initiated by Dybvig (1988) for analyzing the performance of the investment portfolios. Specifically, Dybvig introduced the payoff distribution pricing model (PDPM) as a way to compute the cost of a cost-efficient strategy. Bernard et al. (2014) derived a formula for the unique investment portfolio that minimizes the cost of achieving this distribution in more general market models, which Bernard et al. (2014) call the "cost-efficient" portfolio.

Bernard et al. (2014) gave a detailed theoretical explanation and extended the theory to state-dependent conditions. My research question is whether there is any application of the theory beyond what has been suggested by previous scholars. The first question is to find out the strategy maximizing the Omega ratio by the cost-efficient strategy theory. We make use of convex order to find out the strategy maximizing the Omega ratio. The second question is to set up the relationship between the state-dependent expected utility theory and the benchmarked cost-efficient strategy theory. We construct several benchmarked cost-efficient strategies to reveal the relationship. The third question is to extend the result of Amin and Kat (2003) to state-dependent conditions. We find a new tool to measure the performance of the hedge funds.