World Academy of Science, Engineering and Technology
International Journal of Economics and Management Engineering
Vol:12, No:06, 2018

Comparison Study of Capital Protection Risk Management Strategies: Constant Proportion Portfolio Insurance versus Volatility Target Based Investment Strategy with a Guarantee

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Abstract : In the current capital market environment, investors constantly face the challenge of finding a successful and stable investment mechanism. Highly volatile equity markets and extremely low bond returns bring about the demand for sophisticated yet reliable risk management strategies. Investors are looking for risk management solutions to efficiently protect their investments. This study compares a classic Constant Proportion Portfolio Insurance (CPPI) strategy to a Volatility Target portfolio insurance (VTPI). VTPI is an extension of the well-known Option Based Portfolio Insurance (OBPI) to the case where an embedded option is linked not to a pure risky asset such as e.g., S&P 500, but to a Volatility Target (VolTarget) portfolio. VolTarget strategy is a recently emerged rule-based dynamic asset allocation mechanism where the portfolio's volatility is kept under control. As a result, a typical VTPI strategy allows higher participation rates in the market due to reduced embedded option prices. In addition, controlled volatility levels eliminate the volatility spread in option pricing, one of the frequently cited reasons for OBPI strategy fall behind CPPI. The strategies are compared within the framework of the stochastic dominance theory based on numerical simulations, rather than on the restrictive assumption of the Black-Scholes type dynamics of the underlying asset. An extended comparative quantitative analysis of performances of the above investment strategies in various market scenarios and within a range of input parameter values is presented.

Keywords : CPPI, portfolio insurance, stochastic dominance, volatility target
Conference Title : ICMFSE 2018 : International Conference on Mathematical Finance, Statistics and Economics
Conference Location : Vienna, Austria
Conference Dates : June 14-15, 2018