Abstract:

Portfolio insurance strategies that ensure a certain minimum portfolio value or floor such as the Constant Proportion Portfolio Insurance (CPPI) and the Option-based Portfolio Insurance (OBPI) are economically important and widely spread among the banking and insurance industries. In distress and volatile market environments, investors such as pension funds have a need to insure their portfolios against downside risk in order to meet certain future payments or liabilities. Non-anticipated shocks or negative interest rates, jumps, crashes or overnight trading restrictions in stock prices could drop companies’ portfolios below desired levels making them underfunded. For such scenarios there is a need for an investment strategy which covers both the case of funded and underfunded portfolios. This article introduces a novel strategy which generalizes the CPPI approach. It has the overall target of guaranteeing the investment goal or floor while participating in the performance of the assets and limiting the downside risk of the portfolio at the same time. We show that the strategy accounts for behavioral aspects of the investor such as distorted probabilities, a risk-averse behavior for gains, and a risk-seeking behavior for losses. The proposed strategy turns out to be optimal within the Cumulative Prospect Theory (CPT) framework by Kahneman and Tversky (1992).