CONSTANT PROPORTION PORTFOLIO INSURANCE AND RELATED TOPICS

Mingming Wang

Dr. Allanus Tsoi, Dissertation Supervisor

ABSTRACT

The concept of Constant Proportion Portfolio Insurance (CPPI) in terms of jump-diffusion, as well as the associated mean-variance hedging problem, has been studied. Three types of risk related to: the probability of loss, the expected loss, and the loss distribution are being analyzed. Both the discrete trading time case and the continuous trading time case have been studied. Next, CPPI with stochastic dynamic floors are being discussed. The concept of exponential proportion portfolio insurance is being introduced. Finally CPPI associated with the fractional Brownian market is being studied.