CRRA Utility Maximization under Risk Constraints

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This paper studies the problem of optimal investment with CRRA (constant, relative risk aversion) preferences, subject to dynamic risk constraints on trading strategies. The market model considered is continuous in time and incomplete. the prices of financial assets are modeled by It\^o processes. The dynamic risk constraints, which are time and state dependent, are generated by risk measures. Optimal trading strategies are characterized by a quadratic BSDE. Within the class of \textit{time consistent distortion risk measures}, a three-fund separation result is established. Numerical results emphasize the effects of imposing risk constraints on trading.

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