

# A sensitivity analysis of the long-term expected utility of optimal portfolios

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## ABSTRACT

This talk discusses the sensitivity of the long-term expected utility of optimal portfolios. Under an incomplete market given by a factor model, we consider the utility maximization problem with long-time horizon. The main purpose is to find the long-term sensitivity, that is, the extent how much the optimal expected utility is affected in the long run for small changes of the underlying factor model. The long-term behavior of the optimal expected utility can be characterized by a solution pair of an ergodic HJB equation, and we will conclude that this solution pair determines the long-term sensitivity. As examples, explicit results for several market models such as the Kim-Omberg model for stochastic excess returns and the Heston stochastic volatility model are presented.