The Hong Kong Polytechnic University
Department of Applied Mathematics

Seminar

Utility maximization with periodic evaluations

By

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Abstract

We present a continuous-time portfolio selection problem faced by an agent with S-shaped preference who maximizes the utilities derived from the portfolio's periodic performance over an infinite horizon. The periodic reward structure creates subtle incentive distortion. In some cases, local risk aversion is induced which discourages the agent from risk taking in the extreme bad states of the world. In some other cases, eventual ruin of the portfolio is inevitable and the agent underinvests in the good states of the world to manipulate the basis of subsequent performance evaluations. We outline several important elements of incentive design to contain the long-term portfolio risk. (Joint work with Alex S.L. Tse)

Biography

Harry Zheng is a professor of mathematics at Imperial College. His research is in stochastic control, portfolio optimization, and mathematical finance. He has broad publications in control and optimization, operations research, and financial economics journals, see his webpage for details https://www.ma.ic.ac.uk/~hz/.

Date: 3 April 2023 (Monday)
Time: 10:30am-12:00noon (Hong Kong Standard Time GMT +8)
Venue: TU101
Speaker: Prof. Harry Zheng, Imperial College London
Host: Dr. Zuoquan Xu, The Hong Kong Polytechnic University

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