

Financial markets with concave transaction costs

Tuesday, August 13, 2024 12:00 PM (30 minutes)

In the talk we consider discrete time financial markets with concave transaction costs. This means that bid and ask prices depend on the volume of transaction in such a way that when we buy more assets we pay smaller (proportionally) transaction costs, while when we sell more assets we pay less for proportional transaction costs. Such situation appears usually on currency markets and real estate markets (for more expensive real estates transaction costs paid as a certain percentage of the transaction volume usually diminish). In the case of concave transaction costs so called solvent sets (the sets of non-negative positions) are not convex and we have problems to find proper mathematical tools. In the talk sufficient conditions for absence of so called strong arbitrage are formulated. The results overcome a gap which appeared in the paper [1]. The presentation is based on the paper [2].

References:

- [1] E. Lepinette, T. Tran, Arbitrage theory for non convex financial market models, Stochastic processes and their appl. 127 (2017), 3331–3353,
- [2] A. Rygiel, L. Stettner, On general financial markets with concave transaction costs, in preparation.

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