

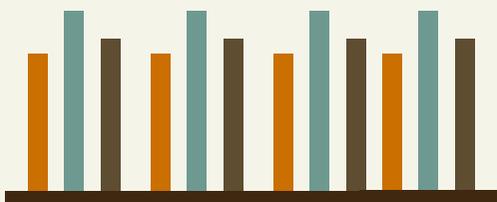
Fall 2018 Minerva Lectures

Starting Monday, September 10, 2018

Monday 1:10pm - 2:25 pm

Mathematics Hall, Room 507

Professor Walter Schachermayer (University of Vienna)



Asymptotic Theory of Transaction Costs

“A classical topic in Mathematical Finance is the theory of portfolio optimization. Robert Merton's work from the early seventies had enormous impact on academic research as well as on the paradigms guiding practitioners.

One of the ramifications of this topic is the analysis of (small) proportional transaction costs, such as a Tobin tax. The lectures will present some striking recent results of the asymptotic dependence of the relevant quantities when transaction costs tend to zero.

An appealing feature of the consideration of transaction costs is that it allows for the first time to reconcile the no arbitrage paradigm with the use of non-semimartingale models, such as fractional Brownian motion. This leads to the culminating theorem of the present lectures which roughly reads as follows: for a fractional Brownian motion stock price model we always find a shadow price process for given transaction costs. This process is a semimartingale and can therefore be dealt with using the usual machinery of mathematical finance”.



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