On Utility-Based Derivative Pricing with and without Intermediate Trades

The neutral valuation approach for contingent claims in incomplete markets is based on the assumption that investors are identical utility maximizers and that derivative supply and demand are balanced. It is closely related to (marginal) utility-based pricing in the sense of Hugonnier et al. (2005), where however only buy-and-hold investments in the derivative are possible. This paper contains four results: Firstly, it is shown that neutral derivative prices exist in discrete-time markets with finite time horizon. They are characterized as martingales relative to certain finitely additive set functions. Secondly, it may happen that not any static utility-based derivative price can be extended to yield a neutral price process. Thirdly, neutral derivative prices may not exist in continuous-time markets. Finally, we consider the situation of finite utility on the whole real line.
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