The Pricing of Financial Derivatives under Transaction Costs

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Trier, March 2001

Abstract

This work is concerned with arbitrage bounds for prices of contingent claims under transaction costs, but regardless of other conceivable market frictions. Assumptions on the market are held as general as convenient for the deduction of meaningful results that make good economic sense. In discrete time we also allow for underlying price processes with uncountable state space. In continuous time the underlying price process is modeled by a semimartingale. For the most part, we could avoid any stronger assumptions. The main problems we deal with in this work are

- the modelling of (proportional) transaction costs,
- Fundamental Theorems of Asset Pricing under transaction costs,
- dual characterizations of arbitrage bounds under transaction costs,
- Quantile-Hedging under transaction costs,
- alternatives to the Black-Scholes model in continuous time (under transactions costs).