HeiKaMEtrics-Seminar

Joint Heidelberg, Karlsruhe and Mannheim research seminar in Econometrics

---

Limits to Arbitrage in Markets with Stochastic Latency

Stefan Voigt
Vienna Graduate School of Finance

Wednesday, November 14, 2018
17:00 – 18:00
Alfred-Weber-Institute
Bergheimer Str. 58, Room 01.030
Heidelberg University

Abstract:

We analyze how stochastic latency in the transaction settlement process, as introduced by distributed ledger technology, affects cross-market arbitrage. The time-consuming settlement process exposes arbitrageurs to price risk and imposes limits to arbitrage. We derive arbitrage boundaries imposed by stochastic latency and show that larger price differences are consistent with higher expected latency, higher uncertainty in latency, higher volatility, or higher risk version. We parametrize stochastic latency in the Bitcoin network and estimate boundaries for high-frequency orderbook data from several exchanges. 95% of observed price differences adjusted for transaction costs fall into our estimated arbitrage boundaries.