

*Abstract:*

Distributed ledger technologies rely on time-consuming consensus protocols which confront traders with random waiting times until the transfer of ownership is settled. This time-consuming settlement process exposes arbitrageurs to price risk and imposes limits to arbitrage. We derive theoretical arbitrage boundaries under general assumptions and show that they increase with expected latency, uncertainty in latency, spot volatility, and risk aversion. Using unique high-frequency data from the Bitcoin network, we estimate arbitrage boundaries due to stochastic settlement latency of more than 60bp. 95% of the substantial price differences we observe across exchanges fall within our estimated boundaries.