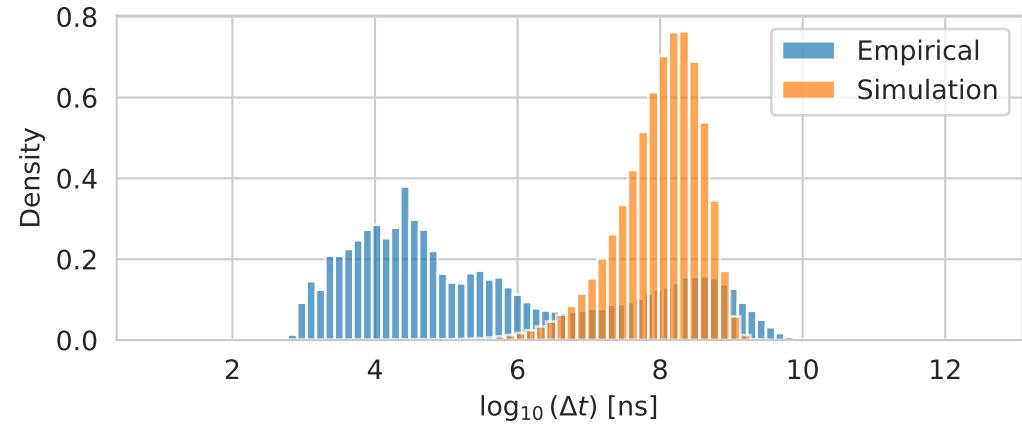
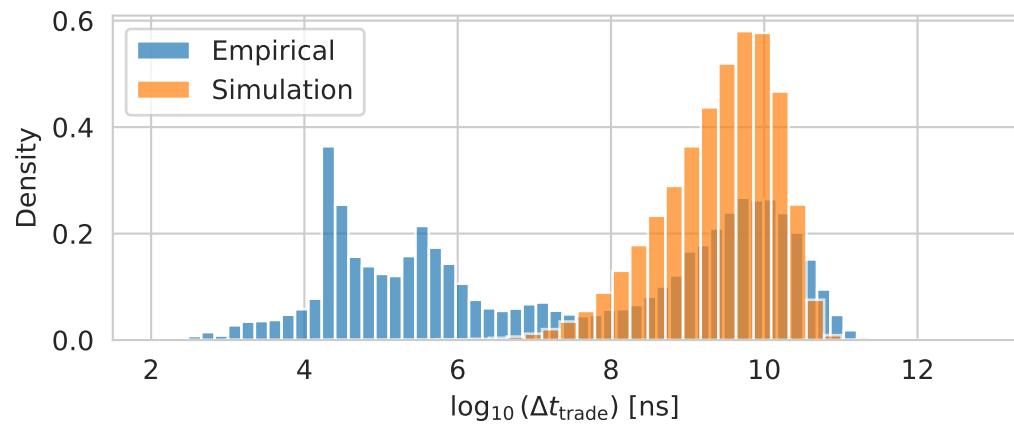


# Microstructure: Empirical vs Basic QR

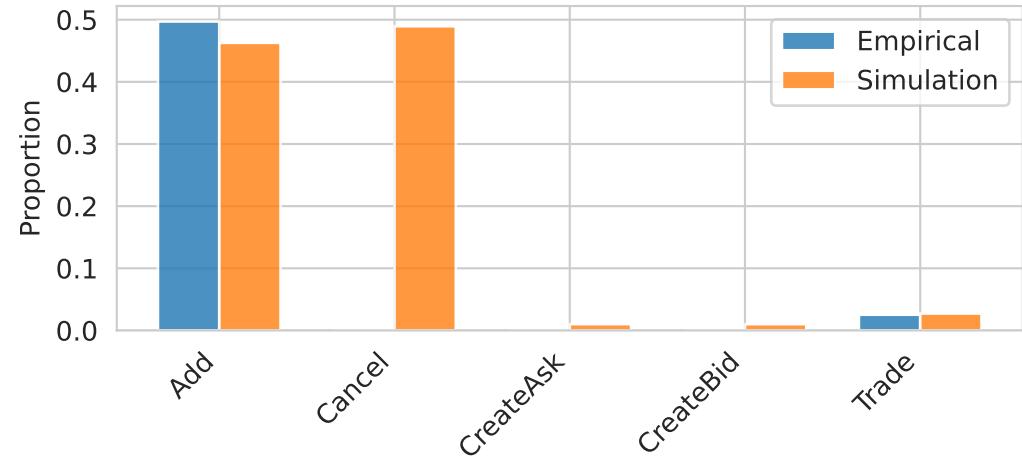
Inter-event time  $\Delta t$



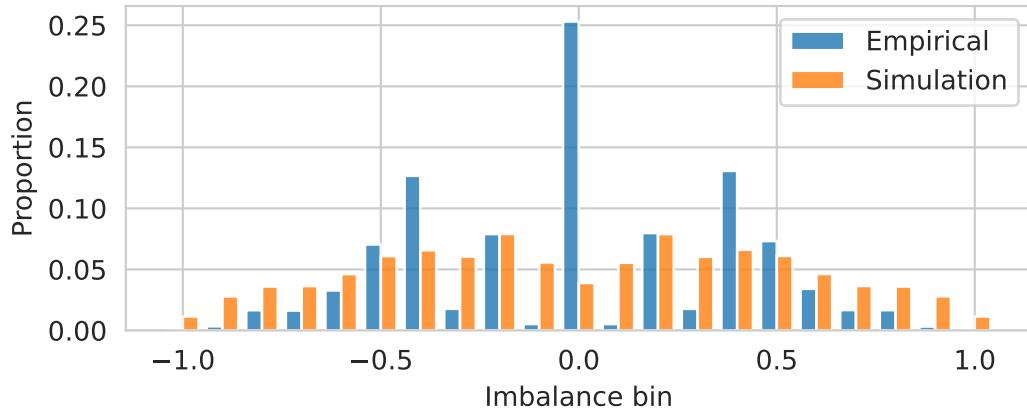
Inter-trade time



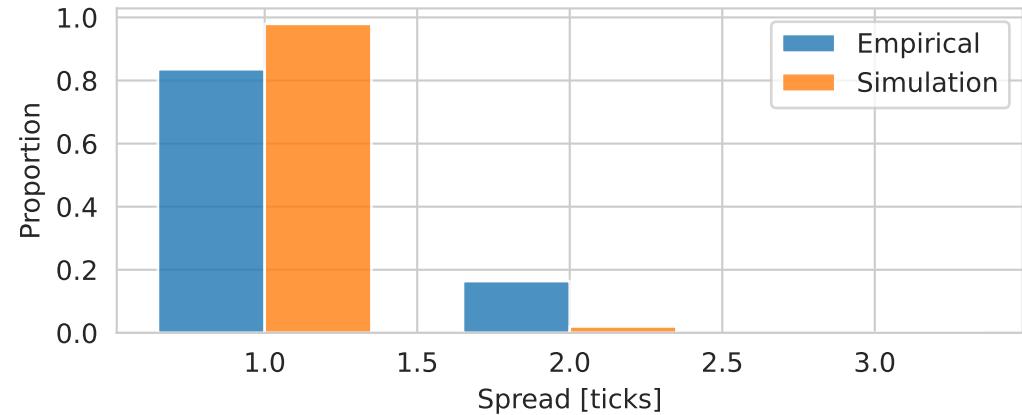
Event type distribution



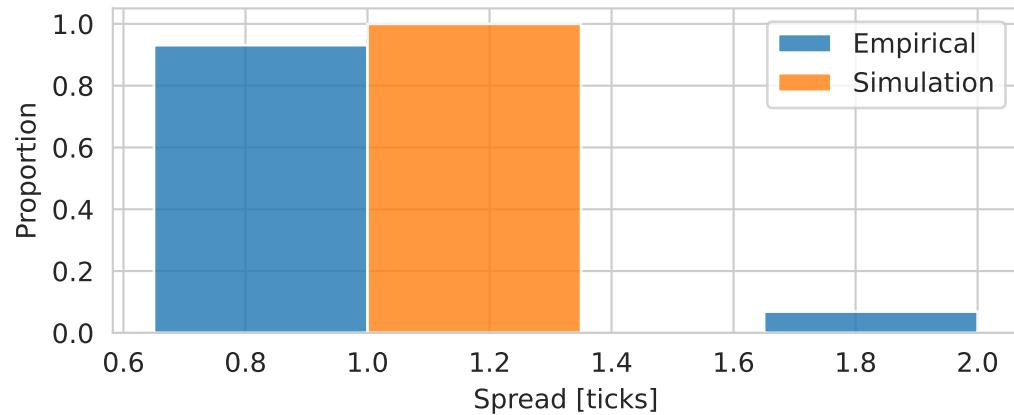
Order book imbalance



Spread distribution

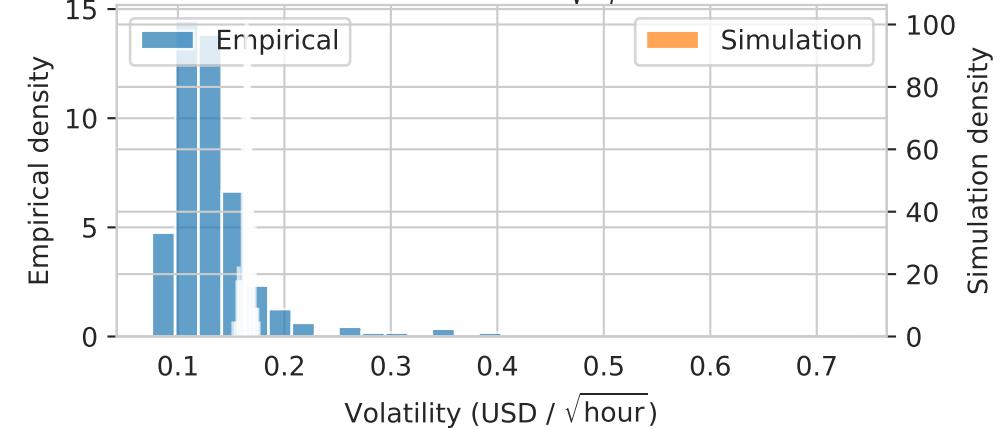


Pre-trade spread

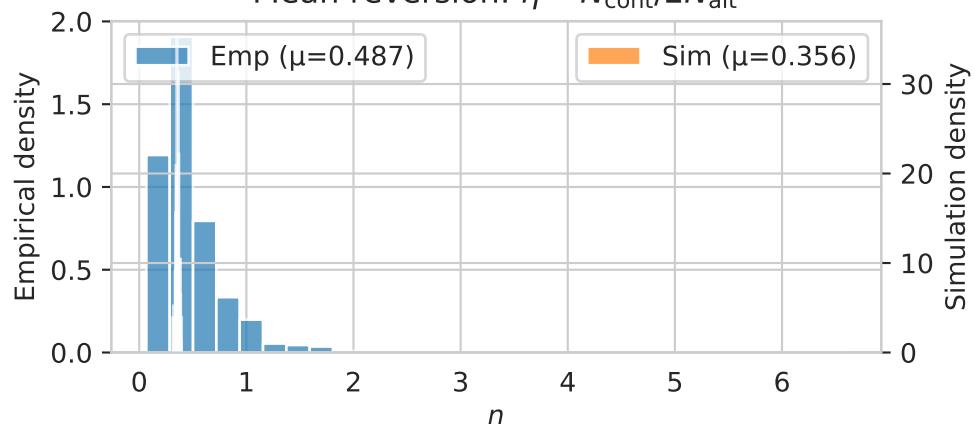


# Aggregate Statistics: Empirical vs Basic QR

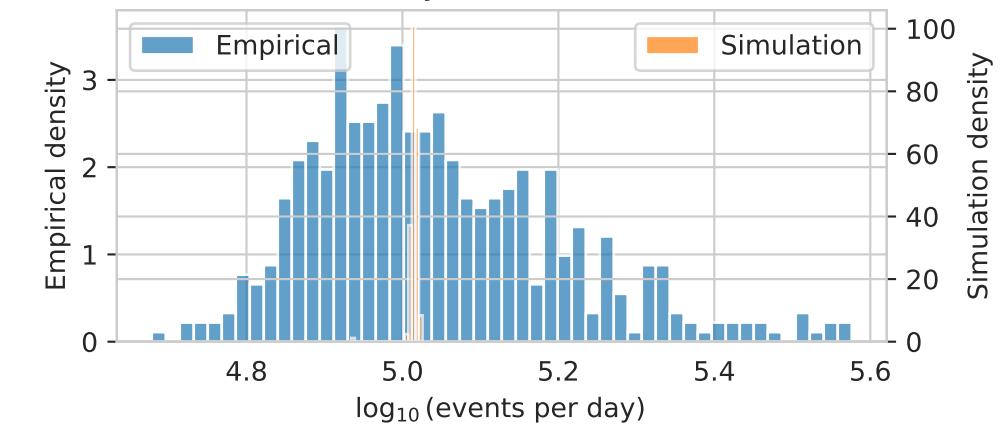
Daily volatility:  $\sigma = \sqrt{\sum_i (\Delta P_i)^2 / T}$



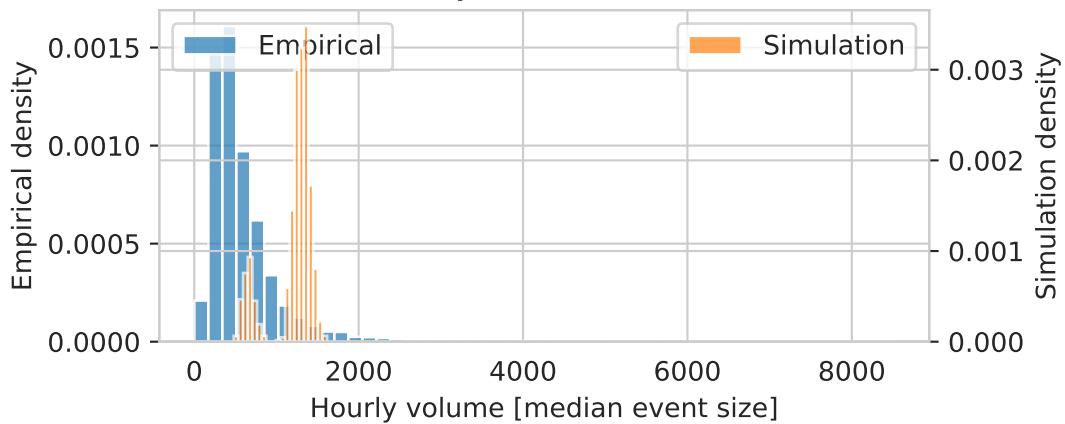
Mean reversion:  $\eta = N_{\text{cont}}/2N_{\text{alt}}$



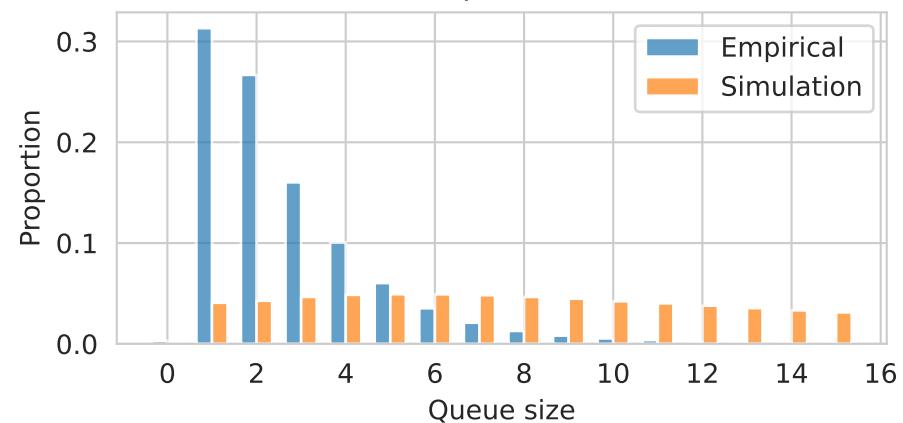
Daily event count



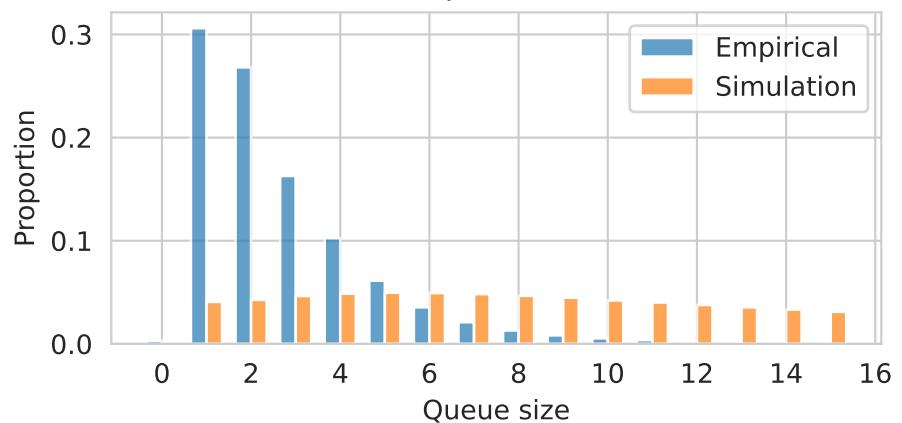
Hourly traded volume



Best ask queue size ( $Q_1$ )

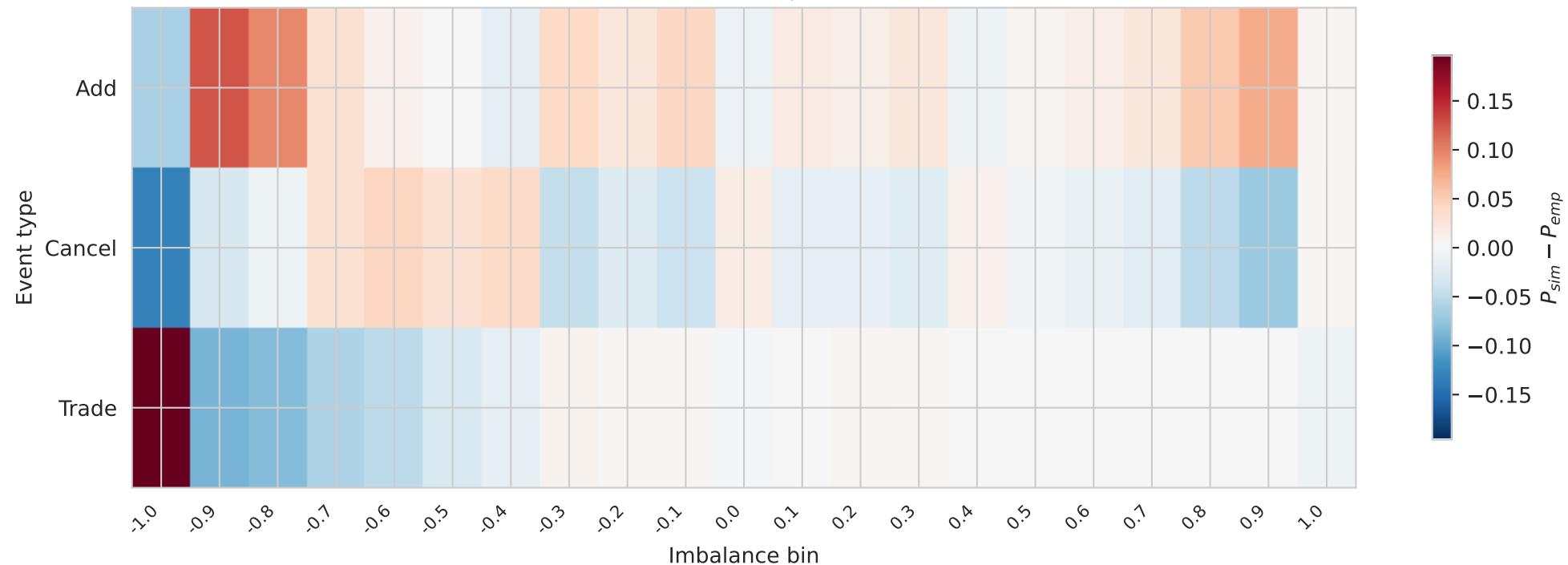


Best bid queue size ( $Q_{-1}$ )



# Event Probability Deviation: Basic QR - Empirical

Best level ( $q=-1$ )



Second level ( $q=-2$ )

