Statistical Properties of Microstructure Noise

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We study the estimation of moments and joint moments of microstructure noise. Estimators of arbitrary order of (joint) moments are provided, for which we establish consistency as well as central limit theorems. In particular, we provide estimators of auto-covariances and auto-correlations of the noise. Simulation studies demonstrate excellent performance of our estimators even in the presence of jumps and irregular observation times. Empirical studies reveal (moderate) positive auto-correlation of the noise for the stocks tested.

Keywords: market microstructure noise, high frequency data, joint moments, auto-covariance, auto-correlation