

"Economic Value of Volatility Timing Using Realized Volatility Under Optimal Sampling"

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ABSTRACT

Intradaily returns contain two unobserved components: the underlying efficient returns and the microstructure noises. We implement Russell and Bandi's (2004 and 2005) techniques to examine sample moments of high-frequency return data recorded at different frequencies and successfully identify the statistic for both components. Specifically, we analyze a bivariate sample of representative stocks SBC and XOM. We construct the daily covariance matrix using intradaily returns under optimally sampled interval, as well as 5-minute and 15-minute intervals. ARFIMA model is applied to create the out-of-sample forecasts given the nature of long memory in the constructed series. In the application of the volatility-timing trading strategy for the optimization of asset allocation, our results show the significant economic value of switching from the conventional 5-minute/15-minute intradaily returns to optimally-sampled returns to estimate the conditional covariance matrix.

