

Descriptions of MATLAB Code used in [Li and Linton \(2021\)](#)

Z. Merrick Li* Oliver Linton†

May 19, 2021

1 Descriptions of the Main Programs

1. `empirics_KO.m`: Estimate autocovariances of noise for Coca-Cola (KO) in January 2018. It produces Figure 5 in [Li and Linton \(2021\)](#).
2. `Simu_ReMeDI_Irre_autocorr.m`: Estimate the autocorrelation function of microstructure noise using both the ReMeDI and LA approaches under the simulation setting in Section 5.3 in [Li and Linton \(2021\)](#). It produces Figure 4 of [Li and Linton \(2021\)](#).
3. `Simu_ReMeDI_LA_BCLA.m`: Estimate the autocovariances of microstructure noise using both the ReMeDI and LA approaches under the simulation setting in Section 5.2 in [Li and Linton \(2021\)](#). It produces Figure 2 of [Li and Linton \(2021\)](#).
4. `Simu_ReMeDI_LA_sample_size_NSR.m`: Compare the mean squared error of ReMeDI and LA estimators of autocovariances of noise with different noise-to-signal ratio and sample sizes. It produces Figure 3 in [Li and Linton \(2021\)](#).

2 Descriptions of the Functions Used in the Main Programs

1. `AVarReMeDI2.m`: Estimate the asymptotic variance of the ReMeDI estimators of variance and autocovariances of microstructure noise.
2. `DGP_irregular.m`: simulate noisy prices in the simulation settings of [Li and Linton \(2021\)](#); for details of specifications, see Section 5.1 and Section 5.3 in [Li and Linton \(2021\)](#).
3. `DGP_regular.m`: simulate noisy prices with regular observation scheme; see Section 5.2 in [Li and Linton \(2021\)](#).
4. `LA2.m`: *Local Averaging* estimators of the second moments of noise, see [Jacod et al. \(2017\)](#).
5. `ReMeDI2.m`: *ReMeDI* estimators of the second moments of noise, see [Li and Linton \(2021\)](#).

References

- JACOD, J., Y. LI, AND X. ZHENG (2017): “Statistical properties of microstructure noise,” *Econometrica*, 85, 1133–1174.
- LI, Z. M. AND O. LINTON (2021): “A ReMeDI for microstructure noise,” <https://papers.ssrn.com/abstract=3788658>.

*Department of Economics, the Chinese University of Hong Kong, Esther Lee Building, Shatin, New Territories, Hong Kong SAR. Email: z.merrick.li@gmail.com

†Faculty of Economics, University of Cambridge, Austin Robinson Building, Sidgwick Avenue, Cambridge, CB3 9DD, United Kingdom. Email: obl20@cam.ac.uk.