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Asymptotic properties of the realized skewness and related statistics

Yuta Koike[1,2,3,4] · **Zhi Liu**[5]

Abstract The recent empirical works have pointed out that the realized skewness, which is the sample skewness of intraday high-frequency returns of a financial asset, serves as forecasting future returns in the cross section. Theoretically, the realized skewness is interpreted as the sample skewness of returns of a discretely observed semimartingale in a fixed interval. The aim of this paper is to investigate the asymptotic property of the realized skewness in such a framework. We also develop an estimation theory for the limiting characteristic of the realized skewness in a situation where measurement errors are present and sampling times are stochastic.

Keywords High-frequency data · Itô semimartingale · Jumps · Microstructure noise · Realized skewness · Stochastic sampling

✉ Zhi Liu
liuzhi@umac.mo

1 Graduate School of Mathematical Sciences, University of Tokyo, Tokyo 153-8914, Japan

2 Department of Business Administration, Graduate School of Social Sciences, Tokyo Metropolitan University, Tokyo 100-0005, Japan

3 The Institute of Statistical Mathematics, 10-3 Midori-cho, Tachikawa, Tokyo 190-8562, Japan

4 CREST, Japan Science and Technology Agency, Kawaguchi 333-0012, Japan

5 Department of Mathematics, University of Macau, Avenida da Universidade, Taipa, Macau 999078, China

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