Mathematics > Statistics Theory

Modeling high-frequency financial data by pure jump processes

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It is generally accepted that the asset price processes contain jumps. In fact, pure jump models have been widely used to model asset prices and/or stochastic volatilities. The question is: is there any statistical evidence from the high-frequency financial data to support using pure jump models alone? The purpose of this paper is to develop such a statistical test against the necessity of a diffusion component. The test is very simple to use and yet effective. Asymptotic properties of the proposed test statistic will be studied. Simulation studies and some real-life examples are included to illustrate our results.

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