

Some exceptional properties of f -divergence minimal martingale measures for exponential Levy models

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Abstract

We study such important properties of f -divergence minimal martingale measure as Levy preservation property, scaling property, invariance in time property for exponential Levy models. We give some useful decomposition for f -divergence minimal martingale measures and we answer on the question which form should have f to ensure mentioned properties. We show that f is not necessarily common f -divergence. For common f -divergences, i.e. functions verifying $f''(x) = ax^\gamma$, $a > 0$, $\gamma \in \mathcal{R}$, we give necessary and sufficient conditions for existence of f -divergence minimal martingale measure.