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Scaling properties of extreme price fluctuations in Bitcoin markets

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## ACCEPTED MANUSCRIPT

Scaling properties of extreme price fluctuations in Bitcoin markets

## Highlights

- Bitcoin price fluctuations across multiple exchanges and time intervals are found to exhibit heavy tails which follow a power-law
- The scaling exponents are estimated to fall within the region  $2 < \alpha < 2.5$ , suggesting that Bitcoin price fluctuations exhibit heavier tails than the inverse cubic law found in stocks
- The fact that  $\alpha > 2$  implies the existence of a finite second moment and presents a fundamental basis for covariance-based characterization of risk

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