

# Asset returns and volatility clustering in financial time series

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(Submitted on 1 Feb 2010)

An analysis of the stylized facts in financial time series is carried out. We find that, instead of the heavy tails in asset return distributions, the slow decay behaviour in autocorrelation functions of absolute returns is actually directly related to the degree of clustering of large fluctuations within the financial time series. We also introduce an index to quantitatively measure the clustering behaviour of fluctuations in these time series and show that big losses in financial markets usually lump more severely than big gains. We further give examples to demonstrate that comparing to conventional methods, our index enables one to extract more information from the financial time series.

Comments: 22 pages, 14 figures, 4 tables

Subjects: **Statistical Finance (q-fin.ST)**; Physics and Society (physics.soc-ph)

Cite as: [arXiv:1002.0284v1](https://arxiv.org/abs/1002.0284v1) [q-fin.ST]

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