

Quantitative Finance > Statistical Finance

Nonuniversal distributions of stock returns in an emerging market

Guo-Hua Mu, Wei-Xing Zhou (ECUST)

(Submitted on 31 Mar 2010)

There is convincing evidence showing that the probability distributions of stock returns in mature markets exhibit power-law tails and both the positive and negative tails conform to the inverse cubic law. It supports the possibility that the tail exponents are universal at least for mature markets in the sense that they do not depend on stock market, industry sector, and market capitalization. We investigate the distributions of one-minute intraday returns of all the A-share stocks traded in the Chinese stock market, which is the largest emerging market in the world. We find that the returns can be well fitted by the q -Gaussian distribution and the tails have power-law relaxations with the exponents fluctuating around $\alpha=3$ and being well outside the Levy stable regime for individual stocks. We provide statistically significant evidence showing that the exponents logarithmically decrease with the turnover rate and increase with the market capitalization, and find that the market capitalization has a greater impact on the tail exponent than the turnover rate. Our findings indicate that the intraday return distributions are not universal in emerging stock markets.

Comments: 6 RevTex 4-1 pages, 7 eps figures, 1 table

Subjects: **Statistical Finance (q-fin.ST)**Cite as: **arXiv:1003.5984v1 [q-fin.ST]**

Submission history

From: Wei-Xing Zhou [[view email](#)]

[v1] Wed, 31 Mar 2010 07:06:00 GMT (1223kb)

[Which authors of this paper are endorsers?](#)

Download:

- [PDF](#)
- [PostScript](#)
- [Other formats](#)

Current browse context:

q-fin.ST[< prev](#) | [next >](#)[new](#) | [recent](#) | [1003](#)

Change to browse by:

[q-fin](#)

References & Citations

- [NASA ADS](#)

Bookmark (what is this?)

