

Accepted Manuscript

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PII: S0378-4371(16)30936-0

DOI: <http://dx.doi.org/10.1016/j.physa.2016.11.113>

Reference: PHYSA 17769

To appear in: *Physica A*

Received date: 28 April 2016

Revised date: 15 September 2016

Please cite this article as: J. Ma, X. Xiong, F. He, W. Zhang, Volatility measurement with directional change in Chinese stock market: Statistical property and investment strategy, *Physica A* (2016), <http://dx.doi.org/10.1016/j.physa.2016.11.113>

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Volatility Measurement with Directional Change in Chinese Stock

Market: statistical property and investment strategy¹

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Abstract

The stock price fluctuation is studied in this paper with intrinsic time perspective. The event, directional change (DC) or overshoot, are considered as time scale of price time series. With this directional change law, its corresponding statistical properties and parameter estimation is tested in Chinese stock market. Furthermore, a directional change trading strategy is proposed for invest in the market portfolio in Chinese stock market, and both in-sample and out-of-sample performance are compared between the different method of model parameter estimation. We conclude that DC method can capture important fluctuations in Chinese stock market and gain profit due to the statistical property that average upturn overshoot size is bigger than average downturn directional change size. The optimal parameter of DC method is not fixed and we obtained 1.8% annual excess return with this DC-based trading strategy.

Keywords: intrinsic time; directional change; statistical property; trading strategy

¹ This work is supported by National Natural Science Foundation of China (71320107003, 71532009, 71271145), Social Science Core Project of Tianjin Education Commission(2014ZD13), China Postdoctoral Science Foundation(2016M600182)

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