New approaches to statistical pair trading by cointegration

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Even among recent empirical studies, statistical pair trading seems to be consistently assessed as a profitable trading strategy, [1,2]. This should be seen in spite of the increased volume of quantitative hedge funds and electronic trading during the last decade, which could have been expected to exhaust any such possibilities.
The recent turmoil in the financial markets, combined with the advances in test procedures for identification of mean reverting relationships during the last couple of years, [3], seems to give an excellent opportunity to investigate the profitability of pair trading based on cointegration.
The main disadvantage of previous models, [4], has been the insuffient capability in the identification of the cointegrating relationships. This has yielded a large and poor quality pool of potential pairs, thereby reducing the potential profit of the strategy as more trades are based upon non mean reverting relationships. By introducing the methods from Jansson (2004) into the pair screening framework, a significant gain in power is achieved thereby resulting in a collection of much more promising pairs. As the quality of the pairs improves, fewer trades must be expected to go bad and the overall profit of the strategy improves.
In addition hereto an in depth analysis of the individual pairs, specifically using GARCH and mixed distributions, is performed, thereby refining the parameter values of the trading strategy. These methods have to the knowledge of the author not been used previously in the academic literature of pair trading, and only very limited in finance. The results can thereby be seen as a first response to the question of the strategy's empirical capabilities as asked by Do et al (2006), [5].
Initial results indicate significant yearly profits, robust to the changing market conditions caused by the current financial crisis.

Keywords
Cointegration, stationarity with covariates

References

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