

Limit theorems for stable-like law and fractional order book dynamics in liquid markets.*

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Andrey Chertok and Maria Veretennikova are currently working on a fractional model for limit order book, extending the paper by Cont and Larrard Order book dynamics in liquid markets: limit theorems and diffusion approximations 2012 Rama Cont [2011]. Our collaboration started with my visit to Moscow in April, when Professor Viktor Korolev advised me to collaborate with the postgraduate student Andrey Chertok V. Korolev. During that time we discussed several distinct lines of joint research and decided to concentrate on the limit order book theory application for now and leave the applications to modelling in insurance for later Hipp [2012]. Our current goal is to meet an abstract deadline of the 15/06/13 for a paper which will be published in the proceedings of the IEEE conference GlobalSIP 2013 Symposium on Signal and Information Processing in Finance and Economics in December 2013. Our aim is a stable-law extension of the limiting theorem presented in mentioned article.

Maria has been developing the model based on continuous time random walks involving domains of attraction of stable laws which lead to fractional in time Hamilton Jacobi Bellman equations M. Veretennikova [2012]. Andrey's PhD work belongs to the field of the limit order book theory and it's natural to apply my model to limit order book theory. The work we are carrying out seems to be valuable research based in particular on works of Cont and Larrard, whose articles Andrey studied extensively. In order for our collaboration to go further quicker it would be great for Andrey Chertok to come and visit the University of Warwick soon. We think that the beginning of July is a good time for Andrey to come to the University of Warwick, e.g. 01/07/13- 12/07/13. As for funding, we ask MASDOC for 500 pounds to cover travel expenses and provided accommodation, and Andrey will pay for food and visa costs himself.

References

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