

M2 Research Internship: Impact of a stock inclusions (exclusions) in indices

May 18, 2021

Laboratory name: CFM Chair of Econophysics & Complex Systems, LadHyX

CNRS identification code: UMR CNRS 7646

Internship location: Ecole polytechnique, Palaiseau, and Capital Fund Management, Paris.

Thesis possibility after internship: -

Funding: YES

Supervision: Yves Lempereire (Capital Fund Management), Michael Benzaquen (Ecole Polytechnique) & Jean-Philippe Bouchaud (Capital Fund Management)

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Subject

Special events can affect the pricing of a stock in ways that make its behaviour very non-stationary. In this project, we propose to examine in detail the impact of a stock inclusion (exclusion) in an index. The literature (see [1] for a classic exposition) reports mostly 2 effects: an increase of the price before the inclusion, as more and more players anticipate the stock inclusion and the subsequent mutual funds / ETF trading flows, and a relaxation afterwards. There is an on-going debate about the persistence of this effect [2 - 3], that we would like to examine. We would like to reproduce these results, and cross this with our data on ETF or mutual fund flows, that should allow us to be more precise in the timing and the scale of these effects. Also, it would be interesting to cross this with our order book data, to see how these events affect the trading and the order flow, especially in the end-of-day bins, that are notoriously dominated by institutional players. Looking at the precise relaxation kernel of these events could give us a more quantitative description of the relaxation effect reported in the literature.

The internship will be held within the CFM Chair of Econophysics and Complex Systems at Ecole polytechnique (visit www.econophysix.com) in collaboration with the team at CFM. The work will involve large amounts of high frequency market data. The intern will have access to the powerful computing infrastructure of the research team. The recommended language will be **python**, knowledge of C++ is beneficial.

References

- [1] Madhavan, 2001: The Russell reconstitution effect <https://dx.doi.org/10.2139/ssrn.278000>
- [2] Kappou, 2017: The diminished effect of index rebalances <https://dx.doi.org/10.2139/ssrn.2971211>
- [3] Huij, Kyosev, 2016: Price response to factor index additions and deletions <https://dx.doi.org/10.2139/ssrn.2846982>