Market Microstructure in Practice: Why and how to trade optimally in a fragmented market

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Purpose of these Lectures

It is not the presentation of a recent research, but a mix of my former experience as the Global Head of Quant Research of the Equity Brokerage and Derivative Dept. of a large Investment Bank (Crédit Agricole CIB), with a specific focus on trading since I started at CACIB as Head of Quant Research of its brokerage arm (CA Cheuvreux), my current one as Senior Research Advisor in an hedge fund (CFM), and the questions I have or had to answer to the French regulator (AMF), the European one (ESMA), and other entities I have positions into. Nevertheless I only talk on my behalf, all that is written or said is only my opinion and not theirs.

My three lectures are split across:

- **The Emergence of Continuous Trading**. In this part I will deal with microstructural topics in the *classical sense*, but with a specific angle: the one of the role of the financial system. We will talk about intermediation, fragmentation, regulation, market making, etc.

- **What to model and what for?** is the question I will address during the second part. Of course it is linked with the user of the model. The role of market participants, their needs in modelling (observed market dynamics and/or the nature of their interactions with markets) will be discussed. From an empirical or a theoretical viewpoint.

- **Optimal trading? In what sense?** During the last part I will simply focus on the principal — agent problem in optimal trading (we will have a lot of talks about optimal trading techniques this week), and open the topics to big data with the issue of monitoring hundreds of trading algorithms in realtime.
More Details About the Talks

The Emergence of Continuous Trading

▶ The role of financial markets in the financial system
▶ Recent evolutions of microstructure
▶ Fragmentation(s)

What to model and what for?

▶ Market participants
▶ Observing short term dynamics: simple descriptions
▶ Short term dynamics: towards orderbook modelling
▶ Modelling interactions with markets: Market Impact

Optimal trading? In what sense?

▶ Optimal trading in the Principal-Agent problem
▶ Monitoring trading algorithms: a machine learning viewpoint
Main Supporting Papers and Books I

Optimal Trading.


Market Microstructure.


Stochastic Algorithms for trading.


