



## Course and Examination Fact Sheet: Spring Semester 2019

### 8,166: Market Microstructure

ECTS credits: 4

#### Overview examination/s

(binding regulations see below)

Decentral - Written examination (100%, 90 mins.)

#### Attached courses

Timetable -- Language -- Lecturer

[8,166,1.00 Market Microstructure](#) -- Englisch -- [Rinaldo Angelo](#)

#### Course information

#### Course prerequisites

The course Market Microstructure relies on the compulsory subjects of the MBF program.

#### Course content

This course on Market Microstructure gives an introduction into the analysis of price determination and trading activities in financial markets. Starting out from perfect (efficient) markets, market microstructure theory introduces more realistic features that explain why prices converge to or diverge from a long-range equilibrium. These realistic features correspond to a number of "frictions" such as order handling costs, inventory costs, asymmetric information, market power, search costs, or strategic behavior of market participants. We will discuss various approaches with a close connection to the original journal articles.

Students who will successfully complete this course will gain a strong background to understand trading mechanisms used for financial securities and the actual behavior of market participants including the recent trends such as algorithmic and high-frequency trading. We will also discuss how new regulations such as Basel III have changed market infrastructures and the effects of Unconventional Monetary Policies (e.g. Quantitative Easing) on financial markets. The lecture Market Microstructure is research oriented. It is balanced between theoretical modeling and empirical findings.

#### Course structure

- Introduction, Structure of Financial Markets
- Guest Lecture on the actual functioning of financial markets and trading activity.
- Order Handling Costs
- Inventory Costs
- Asymmetric Information
- Liquidity
- Empirical Market Microstructure
- High Frequency Trading
- Computer lab session using high-frequency and intraday data
- Market Microstructure and Asset Pricing
- Market Design

#### Course literature

Suggested readings:

- Abdi, F., Rinaldo, A. (2017): "A Simple Estimation of Bid-Ask Spreads from Daily Close, High, and Low Prices". *Review of Financial Studies* 30(12), 4437-4480.



- Breedon, F., L. Chen, A. Ranaldo, and N. Vause (2018): "Judgement Day: Algorithmic Trading Around the Swiss Franc Cap Removal", Bank of England Working Paper 711.
- Cenedese, G., A. Ranaldo, and M. Vasios (2018): "OTC Premia", Bank of England Working Paper 751.
- Easley, D., M. Lopez de Prado and M. O'Hara (2012): "Flow Toxicity and Liquidity in a High-frequency World". *Review of Financial Studies* 24(5), 1457-1493.
- Foucault, T., M. Pagano, and A. Röell (2013): *Market Liquidity: Theory, Evidence, and Policy*. Oxford University Press.
- Hasbrouck, Joel (2007): *Empirical Market Microstructure*. Oxford University Press, chapters 1, 2, appendix.
- Karnaukh, N., A. Ranaldo, P Söderlind (2015): "Understanding FX Liquidity", *Review of Financial Studies*, 28 (11), 3073-3108.
- Kyle, A. (1985): "Continuous Auctions and Insider Trading". *Econometrica* 53(6) 1315-1335.
- Mancini, L., A. Ranaldo, J. Wrampelmeyer (2012): "Liquidity in the Foreign Exchange Market: Measurement, Commonality, and Risk Premiums". *Journal of Finance* 68(5), 1805-1841.
- Mancini, L., A. Ranaldo, J. Wrampelmeyer (2016): "The Euro Interbank Repo Market". *Review of Financial Studies*, 29 (7), 1747-1779.
- Ranaldo, A. (2009): "Segmentation & Time-of-Day Patterns in Foreign Exchange Markets". *Journal of Banking & Finance* 33(12), 2199-2206.
- Ranaldo, A. (2004): "Order Aggressiveness in Limit Order Book Markets". *Journal of Financial Markets* 7(1), 53-74.
- Roll, R. (1984): "A Simple Implicit Measure of the Effective Bid-Ask Spread". *Journal of Finance* 39(4), 1127-1139.
- Stoll, H. R. (1978): "The Supply of Dealer Services in Securities Markets". *Journal of Finance* 33(4), 1133-1151.

## Additional course information

Aside from knowledge in market microstructure, participants will gather some training in (micro-)economic modeling and in handling high-frequency and intraday data such as the Trade and Quotes (TAQ) database on transactions and orders of U.S. stocks. This course is especially suitable for graduate students in finance and economics, participants of other master's programs are of course welcome.

## Examination information

### Examination sub part/s

#### 1. Examination sub part (1/1)

##### Examination time and form

Decentral - Written examination (100%, 90 mins.)

##### Remark

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##### Examination-aid rule

Extended Closed Book

The use of aids is limited; any additional aids permitted are exhaustively listed under "Supplementary aids". Basically, the following is applicable:

- At such examinations, all the pocket calculators of the Texas Instruments TI-30 series and mono- or bilingual dictionaries (no subject-specific dictionaries) without hand-written notes are admissible. Any other pocket calculator models and any electronic dictionaries are inadmissible.
- In addition, any type of communication, as well as any electronic devices that can be programmed and are capable of communication such as notebooks, tablets, PDAs, mobile telephones and others, are inadmissible.
- Students are themselves responsible for the procurement of examination aids.

##### Supplementary aids

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##### Examination languages

Question language: English

Answer language: English



## Examination content

The exam covers the slides and everything discussed in class including the guest lecture.

## Examination relevant literature

The slides and papers used during the lectures.

### Please note

We would like to point out to you that this fact sheet has absolute priority over other information such as StudyNet, faculty members' personal databases, information provided in lectures, etc. When will the fact sheets become binding?

- Information about courses and examination time (central/decentral and grading form): from the start of the bidding process on 24 January 2019
- Information about decentral examinations (examination-aid rule, examination content, examination relevant literature): after the 4th semester week on 18 March 2019
- Information about central examinations (examination-aid rule, examination content, examination relevant literature): from the start of the enrolment period for the examinations on 08 April 2019

Please look at the fact sheet once more after these deadlines have expired.