Capital Markets

Alexander Guembel (part I)

Fany Declerck (part II)

M2 ETE (TSE) & MSc (TSM)

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This module focuses on the question to which extent financial markets are successful at aggregating and reflecting information by speculators and other investors. It is made up of two parts. The first half is taught by Prof. Alexander Guembel and covers the theory, while the empirical evidence is the focus of the second half, taught by Prof. Fany Declerck.

The course is taught over 10 weeks in blocks of 3h lectures per week.

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Intended Learning Outcomes

By the end of this course students should be able to:

- Identify key frictions that prevent the efficient aggregation of information in market prices.
- Explain how such frictions can be captured in a mathematical model of trade with asymmetric information.
- Solve the corresponding models discussed in class.
- Interpret code and data policy for publication in top-tier journals.
- Search and review financial market and economic data.
- Assess a core identification challenge in financial markets research.
- Design a robust empirical strategy in financial markets research.

Assessment

- Part I: 50%
- Part II: 50%

Class etiquette and expectations

Regular class attendance and participation in class work are expected of all students. Classes begin at the time indicated. Students are asked to arrive a few minutes before the scheduled start of the class so that they may find a seat and be prepared ahead of the teacher.

Success in research depends critically on teamwork. Therefore, we encourage and expect every student to engage in constructive discourse, to contribute actively to class discussions, and to be respectful of others' opinions. Class discussions are part of the learning process. Asking relevant questions and trying to answer classmates' questions constitutes a contribution to the class.

You are responsible for finding notes and handouts from any classes you may miss.

Contact and questions

The best way to contact us outside of the classroom is via the Google Classroom associated with this Capital Markets course. We will attempt to answer all questions asked through Google Classroom promptly.

PART I (A. Guembel)

Overview

In perfect markets equilibrium prices reflect the information and preferences of all potential investors and the corresponding allocation of the asset is efficient. We focus on the alternative case, where information asymmetries and strategic behaviour impair market efficiency. In this context the institutional arrangements governing the trading process can affect market outcomes. Against this backdrop, we will study the formation of prices, the trades conducted by market participants and the welfare properties of the resulting allocations. This will provide you with an introduction to a field of research in finance called "market microstructure."

The course will be organized as follows. There are 5 sessions of 3h each.

First, we will introduce the general topic and briefly review the actual organization of financial markets in practice, so as to understand the rules of the game (session 1).

Second, we will study some of the major models of price formation under information asymmetry (sessions 2 and 3).

Third, we will extend these models to study two applications, manipulation and herding (session 4)).

Finally, we consider price formation in over-the counter markets (session 5).

I will distribute lecture notes at the beginning of each session. The following provides general background reading.

Biais, Glosten and Spatt, 2005, "Market microstructure: A survey of microfoundations, empirical results and policy implications," *Journal of Financial Markets*, 217-264.

An advanced text that can serve as a reference is:

Xavier Vives, 2008, *Information and Learning in Markets: The Impact of Market Microstructure*, Princeton University Press.

Assessment

Part I assessment: individual 1.5 hours closed-booked final exam.

Detailed Course Outline

I.1) Introduction (Lecture 1)

Introduction: Overview and institutional details

An illustration of speculation; a simple model of market microstructure: bid-ask spreads in the Glosten – Milgrom model

Reference article: Glosten, L. and P. Milgrom, 1985, "Bid, Ask and Transactions Prices in a Specialist Market with Heterogenously Informed Agents," *Journal of Financial Economics*, 17, 71-100.

I.2) Fundamental principles of financial markets with privately informed traders

I.2.1) Competitive equilibrium in a financial market with private information

The benchmark model (Lecture 2.1)

Reference articles: Grossman, S. and J. Stiglitz, 1980, "On the Impossibility of Informationally Efficient Markets," *American Economic Review*, 70, 393-408.

I.2.2) Strategic traders

Informed traders with market power (Lecture 2.2)

Reference articles: Kyle, A., 1985, "Continuous auctions and insider trading", *Econometrica*, 1315—1335.

Hedging as a trading motive for uninformed traders (Lecture 3.1)

Reference article: Spiegel, M, and A. Subrahmanyam, 1992, "Informed speculation and hedging in a non-competitive securities market," *Review of Financial Studies*, 5, 307 – 329.

Limit orders and liquidity supply by risk averse agents (Lecture 3.2)

Kyle, A., 1989, "Informed Speculation with Imperfect Competition," *Review of Economic Studies*, 56, 317-355.

I.3) Applications

Manipulation (Lecture 4.1)

Reference articles: Goldstein, I. and A. Guembel, 2008, "Manipulation and the Allocational Role of Prices," *Review of Economic Studies*, 75, 133-164.

Herding (Lecture 4.2)

Reference articles: Avery, C. and P. Zemsky, 1998, "Multidimensional Uncertainty and Herd Behavior in Financial Markets," *American Economic Review*, 88, 724-748.

I.4) Over-the-counter markets *(Lecture 5)*

Reference article: Duffie, D., N. Garleanu and L.H. Pedersen, 2005, "Over-the-counter Markets," *Econometrica*, 73, 1815 – 1847.

PART II (F. Declerck)

Overview

The purpose of this part II of the Capital Markets course is to introduce students to the key questions and most common methods used in quantitative empirical financial markets. A key theme is that rigor is a necessary condition for relevance. In other words, while there are rigorous papers that are not relevant, a research paper cannot be relevant if not rigorous. In each class, we will work through research papers that build rigorous quantitative empirical strategy of important financial market topics.

Class structure

In class, we will engage in a detailed discussion of the papers. We will discuss research questions, the contribution of the paper to the previous literature, the empirical strategy, and the links between the research papers.

Session planning

There are 5 sessions of 3hrs each.

- Week 1:
  - Course Part II overview
  - Author guidelines: code and data policy
  - Trading structure, fee structure, and market quality
- Week 2: Corporate bond market
- Week 3: Biodiversity
- Week 4: Alternative data
- Week 5: Event study

Prerequisites

If you need an update about how securities are traded: the design, operation and regulation of trading processes, mechanisms and protocols, please check Joel Hasbrouck (NYU) website: Securities Trading: Principles and Procedures.

For a general overview of research papers in market microstructure I strongly recommend reading: Biais B., Glosten L., and C. Spatt, 2005, *Market microstructure: A survey of microfoundations, empirical results, and policy implications*, Journal of Financial Markets, 8, 217-264.

Further materials

- Fama French model data: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html#Developed
- Are markets efficient: https://www.chicagobooth.edu/review/are-markets-efficient
- Nikolov, Plamen. 2020. Writing tips for economics research papers. July 20, 2020, available HERE.

Assessment

Part II assessment: individual 1.5 hours closed-booked final exam.

References

Week 1: Trading structure, fee structure, and market quality

Cho Y., Yao C., and Y. Mao, *Why Discrete Price Fragments U.S. Stock Exchanges and Disperses Their Fee Structures*, The Review of Financial Studies / v 32 n 3 2019.

Foucault T., Kadan O., and E. Kandel, *Liquidity Cycles and Make/Take Fees in Electronic Markets*, The Journal of Finance, VOL. LXVIII, n°1, February 2013.

Malinova K. and A. Park, *Subsidizing Liquidity: The Impact of Make/Take Fees on Market Quality*, The Journal of Finance, VOL. LXX, n°2, April 2015.

Week 2: Corporate bond market

Bessembinder H., Spatt C., and K. Venkataraman, *A Survey of the Microstructure of Fixed-Income Markets*, Journal of Financial and Quantitative Analysis, Volume 55, Issue 1, February 2020, pp. 1 – 45.

Brugler J., Comerton-Forde C. and J.S. Martin, *Secondary market transparency and corporate bond issuing costs*, Review of Finance, Volume 26, Issue 1, February 2022, Pages 43–77.

Brogaard J., and Y. Yadav, The Broken Bond Market, working paper, 2021.

Goldstein M.A., Hotchkiss E.S., and E.R. Sirri, *Transparency and Liquidity: A Controlled Experiment on Corporate Bonds*, The Review of Financial Studies / v 20 n 2 2007.

Günduz Y., Pelizzon L., Schneider M., and M.G. Subrahmanyam, 2023, Lighting up the dark: A preliminary analysis of liquidity in the German corporate bond market, Journal of Fixed Income.

Hendershott T., Livdan D, and N. Schürhoff, *All-to-All Liquidity in Corporate Bonds*, working paper.

Week 3: Biodiversity

Flammer C., Giroux T., G. Heal, March 2023, Biodiversty Finance, NBER working paper series n°31022.

Garel A., Romec A., Sautner Z., A.F. Wagner, 2023, Do investors care about biodiversity?, Swiss Finance Institute Research Paper n° 23-24.

Gioglio S., Kuchler T., Stroebel Johannes, X. Zeng, April 2023, Biodiversity risk, NBER working paper series n°31137.

Ilhan E., Krueger P., Sautner Z., and L. Starks, 2023, Climate Risk Disclosure and Institutional Investors, The Review of Financial Studies, Volume 36, Issue 7, July 2023, Pages 2617–2650.

Week 4: Alternative data

Dessaint O., Foucault T., and L. Frésard, Does Alternative Data Improve Financial Forecasting? The Horizon Effect, Forthcoming Journal of Finance.

Hendershott T., Li D., Livdan D, and N. Schürhoff, Relationship Trading in Over-the-Counter Markets, The Journal of Finance, Vol. LXXV, n°2, April 2020.

Kim S., and S. Oh., 2023, Outside Directors' Insider Trading Around Board Meetings, Review of Accounting Studies.

Week 5: Event study

Denes M. and Seppi D.J., Race-Related Events and Stock Prices, working paper, 2023.

Harris L., McDonald R., Kahn C., and C. Spatt, The Role of Pilot Studies in Financial Regulation, working paper, 2021.

Jouvenot V., and P. Krueger, Mandatory Corporate Carbon Disclosure: Evidence from a Natural Experiment, working paper, 2021.

Nerlinger M., and R. Riordan, Carbon Liquidity, working paper, 2022.

Further readings

- @ft4s to a free access to read business columns, sections, and op-ed of the Financial Times
- Capitalisn't podcast co-hosted by Professor Luigi Zingales (Chicago Booth): https://www.capitalisnt.com/

Disclaimer
The information provided in this syllabus is subject to change. Changes to the course outline will be announced in class.