Advanced Topics in Financial Markets (MSc)

Asset Pricing: Information Aggregation
in Financial Markets (M2 ETE)

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M2 ETE (TSE) & MSc (TSM)
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This module is made up of two parts. The first part is taught by Andrea Attar and comprises 15h of teaching. The lectures revisit the traditional approaches to insurance and credit provisions in the presence of incentive problems. The second deals with questions of information aggregation in financial markets. It comprises 15h of coursework and is taught by Alexander Guembel.

Course evaluation: Final Exam. Details to be confirmed.

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 markets prices.
- Explain how such frictions can be captured in a mathematical model of trade with asymmetric information.
- Identify the financial constraints arising from moral hazard and private information in financial markets.
- Explain how (perfect) competition amongst investors may affect these constraints, thereby generating novel economic predictions.
- Solve the corresponding models discussed in class.

PART I (A. Attar)

Overview

We discuss the growing literature which extends the traditional theories of incentives and optimal contracting to a competitive framework. Our final objective is to analyze the effects of financial constraints due to the combination of agency problems and competition among intermediaries on economic activity and market performances. This should lead to novel insights and results on the functioning of financial markets.

We will analyze financial markets under adverse selection and under moral hazard, both on the positive and on the normative side. Finally, we discuss policy interventions in the presence of side trading in these markets.

No background beyond standard graduate microeconomics is required, although familiarity with game theory and information economics is recommended.

Detailed course outline

II.1: Moral Hazard (Lectures 1,2)

Reference Articles:

(*) Attar, A., Casamatta, C., Chassagnon, A. and J.P. Decamps (2019): Multiple Lenders, Strategic Default and Covenants, American Economic Journal: Microeconomics: 11(2), 98-130.

(*) Donaldson J., Gromb D., and G. Piacentino (2020): The paradox of pledgeability, Journal of Financial Economics (forthcoming).

Bisin, A. and D. Guaitoli (2004): Moral Hazard and Nonexclusive Contracts, Rand Journal of Economics} 35(2), 306-328.

Parlour, C. A., and U. Rajan (2001): Competition in Loan Contracts, American Economic Review, 91(5), 1311-1328.

II.2: Adverse Selection (Lectures 3,4)

Reference Articles:

(*) Attar, A., Mariotti, T., and F. Salanie (2011): Non-exclusive competition in the market for lemons, Econometrica, 79(6): 1869-1918.

(*) Dubey, P., and J. Geanakoplos (2002): Competitive Pooling: Rothschild-Stiglitz Reconsidered, Quarterly Journal of Economics, 117(4), 1529-1570.

(*) Glosten, L.R. (1994): Is the Electronic Open Limit Order Book Inevitable? Journal of Finance, 49(4), 1127--1161.

Attar, A., Mariotti, T. and F. Salanie (2020): Entry-Proofness and Market Breakdown under Adverse Selection (mimeo).

Attar, A., Mariotti, T., and F. Salanie (2014): Non-exclusive competition under adverse selection, Theoretical Economics, 1-40.

Biais, B., D. Martimort, and J.C. Rochet (2000): Competing mechanisms in a common value environment, Econometrica, 78(4), 799-837.

II.2: Financial Market Interventions (Lecture 5)

Reference Articles:

(*) Attar, A., Mariotti, T., and F. Salanie (2020): The Social Cost of Side Trading, Economic Journal (forthcoming)

(*) J. Tirole, J. (2011): Overcoming Adverse Selection: How Public Intervention Can Restore Market Functioning, American Economic Review, 102(1): 31-59.

D. Neuhann (2020): Inefficient Asset Price Booms, Review of Financial Studies (forthcoming).

Papers with (*) are suggested readings

PART II (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.

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.

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.