Economic Theory

Course title - Intitulé du cours	Economic Theory
Level / Semester - Niveau /semestre	M2
School - Composante	TSE – Theoretical Economics
Teacher - Enseignant responsable	Thomas Mariotti (Part 1)
Other teacher(s) - Autre(s) enseignant(s)	Alex Smolin (Part 2)
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
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Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	0
TP Hours - Volume horaire TP	0
Course Language - Langue du cours	English
TA and/or TP Language - Langue des TD et/ou TP	

Teaching staff contacts - Coordonnées de l'équipe pédagogique :

Thomas Mariotti (thomas.mariotti@tse-fr.eu) (Part 1)

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Course's Objectives - Objectifs du cours :

Part 1: The goal of the first part of these lectures is to introduce to the theoretical study of competitive markets under adverse selection, ultimately bringing students to the frontier of research on this topic. Particular emphasis will be given to recent advances on nonexclusive competition.

Part 2: This part provides an introduction to information economics and games of incomplete information with a focus on information transmission. The goal is twofold: (i) to introduce fundamental game-theoretic models of information transmission and (ii) to provide basic tools for analyzing

information transmission and corresponding economic outcomes in a variety of applications. While being self-contained, this class can be viewed as complementary to other classes (e.g., Microeconomics 2).

Course outline :

Part 1: The course is composed of four parts:

1. The classical theory
2. Nonexclusivity I: Entry-proofness
3. Nonexclusivity II: Decentralization
4. The general-equilibrium approach

Part 2: The class will cover the following topics:
1. Bayesian Games and Correlated Equilibria;
2. Cheap Talk Communication;
3. Signaling and Equilibrium Refinements;
4. Voluntary Disclosure;
5. Statistical Experiments and Information Design.

Prerequisites - Pré requis :

Part 1: There are no particular requirements for the course, except some familiarity with standard tools from game and contract theory, a modicum of general-equilibrium theory, and a taste for somewhat old-fashioned, but still alive and kicking questions.

Part 2: Game Theory, Microeconomics 1. The basic knowledge of calculus and probability theory.

Grading system - Modalités d'évaluation :

Part 1: For the first part of these lectures, the evaluation will take the form of an essay – typically in the form of a referee report on a recent paper – showing the student's ability to engage in a conversation with the literature.

Part 2: Home assignments and a final report.

Bibliography/references - Bibliographie/références :

Part 1:

1. The classical theory

We shall start with classical approaches from the 70s and 80s. Good sources are

Mas-Colell, A., M.D. Whinston, and J.R. Green (1995): *Microeconomic Theory*. New York, Oxford: Oxford University Press.

Riley, J.G. (2001): « Silver Signals: Twenty-Five Years of Screening and Signaling, » *Journal of Economic Literature*, 39(2), 432-478.

The classical references for the description of market outcomes are

Akerlof, G.A. (1970): « The Market for `Lemons': Quality Uncertainty and the Market Mechanism, » *Quarterly Journal of Economics*, 84(3), 488-500.

Rothschild, M., and J.E. Stiglitz (1976): « Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information, » *Quarterly Journal of Economics*, 90(4), 629-649.

Spence, M. (1973): « Job Market Signaling, » *Quarterly Journal of Economics*, 87(3), 355-374.

For efficiency properties of market equilibria, see

Crocker, K.J., and A. Snow (1985): « The Efficiency of Competitive Equilibria in Insurance Markets with Asymmetric Information, » *Journal of Public Economics*, 26(2), 207-219.

Prescott, E.C., and R.M. Townsend (1984): « Pareto Optima and Competitive Equilibria with Adverse Selection and Moral Hazard, » *Econometrica*, 52(1), 21-46.

As a first pass at nonexclusivity, the locus classicus of the linear-pricing approach is

Pauly, M.V. (1974): « Overinsurance and Public Provision of Insurance: The Roles of Moral Hazard and Adverse Selection, » *Quarterly Journal of Economics*, 88(1), 44-62.

2. Nonexclusivity I: Entry-proofness

The key classical papers are

Jaynes, G.D. (1978): « Equilibria in Monopolistically Competitive Insurance Markets, » *Journal of Economic Theory*, 19(2), 394-422.

Hellwig, M.F. (1988): « A Note on the Specification of Interfirm Communication in Insurance Markets with Adverse Selection, » *Journal of Economic Theory*, 46(1), 154-163.

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

The modern presentations that we will follow are

Attar, A., T. Mariotti, and F. Salanié (2020): « The Social Costs of Side Trading, » *Economic Journal*, 130(630), 1608-1622.

Attar, A., T. Mariotti, and F. Salanié (2021): « Entry-Proofness and Discriminatory Pricing under Adverse Selection, » TSE Working Paper No. 17-788.

3. Nonexclusivity II: Decentralization

We shall start with a bit of abstract theory, following

Peters, M. (2001): « Common Agency and the Revelation Principle, » *Econometrica*, 69(5), 1349-1372.

Martimort, D., and L. Stole (2002): « The Revelation and Delegation Principles in Common Agency Games, » *Econometrica*, 70(4), 1659-1673.

The paper that got the literature off the ground is

Biais, B., D. Martimort, and J.-C. Rochet (2000): « Competing Mechanisms in a Common Value Environment, » *Econometrica*, 68(4), 799-837.

See also, for qualifications of the analysis (only the mediocre and the faint-hearted never commit mistakes)

Back, K., and S. Baruch (2013): « Strategic Liquidity Provision in Limit Order Markets, » *Econometrica*, 81(1), 363-392.

Biais, B., D. Martimort, and J.-C. Rochet (2013): « Corrigendum to « Competing Mechanisms in a Common Value Environment », » *Econometrica*, 81(1), 393-406.

This approach has been extended to lemon markets by

Attar, A., T. Mariotti, and F. Salanié (2011): « Nonexclusive Competition in the Market for Lemons, » *Econometrica*, 79(6), 1869-1918.

For a quantum of creative destruction, we will spend some time on

Attar, A., T. Mariotti, and F. Salanié (2014): « Nonexclusive Competition under Adverse Selection, » *Theoretical Economics*, 9(1), 1-40.

Attar, A., T. Mariotti, and F. Salanié (2019): « On Competitive Nonlinear Pricing, » *Theoretical Economics*, 14(1), 297-343.

Attar, A., T. Mariotti, and F. Salanié (2019): « Regulating Insurance Markets: Multiple Contracting and Adverse Selection, » TSE Working Paper, No. 19-1033.

And, for a grand Hegelian synthesis, we will come back to

Attar, A., T. Mariotti, and F. Salanié (2021): « Entry-Proofness and Discriminatory Pricing under Adverse Selection, » TSE Working Paper No. 17-788.

4. The general-equilibrium approach

If time permits, I would like to make an excursion into general equilibrium. The classical reference is

Prescott, E.C., and R.M. Townsend (1984): « Pareto Optima and Competitive Equilibria with Adverse Selection and Moral Hazard, » *Econometrica*, 52(1), 21-46.

See also, for alternative formulations,

Bisin, A., and P. Gottardi (2006): « Efficient Competitive Equilibria with Adverse Selection, » *Journal of Political Economy*, 114(3), 485-516.

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

Rustichini, A., and P. Siconolfi (2008): « General Equilibrium in Economies with Adverse Selection, » *Economic Theory*, 37(1), 1-29.

Azevedo, E.M., and D. Gottlieb (2017): « Perfect Competition in Markets with Adverse Selection, *Econometrica*, 85(1), 67-105.

Part 2:

Required texts:
- Roger B. Myerson, Game Theory: Analysis of Conflict, (Harvard University Press, 1997)
- Steve Tadelis, Game Theory: An Introduction, (Princeton University Press, 2013)

Recommended texts:
- Patrick Bolton and Matthias Dewatripont, Contract Theory (MIT Press, 2005)
- Drew Fudenberg and Jean Tirole, Game Theory (MIT Press, 1991)
- Jean-Jacques Laffont and David Martimort, The Theory of Incentives (Princeton University Press, 1990)
- Jean-Jacques Laffont and Jean Tirole, A Theory of Incentives in Procurement and Regulation (MIT Press, 1993)
- George J. Mailath, *Modeling Strategic Behavior: A Graduate Introduction to Game Theory and Mechanism Design*, (World Scientific Publishing, 2019)
- Andreu Mas-Collel, Michael D. Whinston and Jerry Green, Microeconomic Theory (Oxford University Press, 1995)
- Bernard Salanie, The Economics of Contracts (MIT Press, 2005)
- Jean Tirole, The Theory of Industrial Organization (MIT Press, 1988)

Relevant academic articles will be referred to throughout the class.