

EC 601 ADVANCED MICROECONOMICS (Part II)

Boğaziçi University

Department of Economics

Fall 2019

Instructor: Murat YILMAZ

office: NB222B, **phone:** 7646, **email:** *muraty@boun.edu.tr*, **office hours:** By appointment.

class hours/rooms: Thursday 10:00-12:50 (EF104)

Course Description: Many economic environments involve situations where not all actors have access to the full knowledge of the consequences of their actions. Often, some actors have better or more information than the others regarding the economic environment. These are called information asymmetries. It is almost impossible to think of an economic problem or a field where these asymmetries don't play an important role. The aim of this course is to have a robust understanding of how these information asymmetries affect the behavior of the actors and hence the outcome of the economic interaction. We will focus on two branches of information asymmetries in the context of contract theory: moral hazard and adverse selection (screening and signaling).

Textbooks: There is a number of standard texts on information economics and contract theory. We will follow some of the parts in these texts, which are based on original research papers. A list of related papers is provided at the end of this syllabus.

- Laffont and Martimort, *Theory of Incentives*, Princeton U. P., 2001.
- Bolton and Dewatripont, *Contract Theory*, The MIT Press, 2004.
- Macho-Stadler and Perez-Castrillo, *An Introduction to the Economics of Information*.
- Fudenberg and Tirole, *Game Theory*, The MIT Press, 1991

Grading: This part is 50% of the entire course, with Referee Report (30%) and Exam (70%).

Exam: The exam will be on **December 19, Thursday**, time and location to be determined. Makeup exam will be granted only to those students whose excuse complies with the University policy. Makeup exam requests should be directed to me in person with proper documentation (along with a clear written explanation of the reason of absence accompanied with the valid excuse documents).

Referee Report: A list of suggested papers you can choose from for your referee report is provided at the end of this syllabus. You need to choose one of them and let me know by **November 28, Thursday**. Referee report will be due **December 12, Thursday**. I will provide you with a sample referee report and guidelines in the upcoming weeks.

Problem Sets: There will be **2-3 problem sets** available for this part of the course, which are **not** going to be graded, **however** working on them diligently is the most effective way to learn the course material and prepare for the exam. I recommend you first work on them on your own and then discuss them in groups. For your questions you can always set up an appointment with me.

Attendance: Regular attendance is expected and strongly recommended. Although I will not take attendance in class, a poor attendance may result, as a result of my discretion, in poor grades even if you do well in the exam and the referee report.

Course Outline:

Part I : *Moral Hazard:*

- Basic model, with risk neutrality, with limited liability, with risk aversion.
- More than two effort levels.
- Application: insurance.
- Moral hazard with multiple tasks
- Moral hazard in teams

Part II : *Adverse Selection: Screening*

- Basic model, information rents, principal's problem, rent extraction-efficiency trade-off.
- More general utility, more than two types.
- Application: nonlinear pricing.

Part III : *Adverse Selection: Signaling*

- Equilibrium concept: perfect Bayesian eq. (review)
- Signaling games.
- Applications: Spence's education signaling model, Akerlof's lemons market.

Part IV : *Further Topics:*

- Adverse selection in insurance markets.
- A mixed model: regulation.
- A dynamic model: repeated moral hazard.
- Incomplete contracts

RELATED PAPERS:

Part I: *Moral Hazard*

1. Grossman and Hart (1983), "An Analysis of the Principal-Agent Problem", *Econometrica*, 51, 7-45.
2. Holmstrom (1979), "Moral Hazard and Observability", *Bell Journal of Economics*, 10, 74-91.
3. Holmstrom (1982), "Moral Hazard in Teams", *Bell Journal of Economics*, 13, 324-340.
4. Holmstrom and Milgrom (1987), "Aggregation and Linearity in the Provision of Intertemporal Incentives", *Econometrica*, 55, 303-328.
5. Holmstrom and Milgrom (1991), "Multi-Task Principal Agent Analyses", *Journal of Law Economics, and Organization*, 7, 24- 52.
6. Innes (1990), "Limited Liability and Incentive Contracting with Ex-ante Action Choices", *Journal of Economic Theory*, 52, 45-67.
7. Lazear and Rosen (1981), "Rank Order Tournaments as Optimal Labor Contracts", *Journal of Political Economy*, 89(5), 841-864.
8. Rogerson (1985), "The First-Order Approach to Principal-Agent Problems", *Econometrica*, 53, 1357-1367.

Part II-III: *Adverse Selection*

9. Akerlof (1970), "The market for lemons: quality, uncertainty and the market mechanism", Quarterly Journal of Economics, 84(3), 488-500.
10. Baron and Myerson (1982), "Regulating a Monopolist with Unknown Costs", Econometrica, 50, 911-930.
11. Maskin and Riley (1984), "Monopoly with Incomplete Information", Rand Journal of Economics, 15, 171-96.
12. Mussa and Rosen (1978), "Monopoly and Product Quality", Journal of Economic Theory, 18, 301-317.
13. Spence (1973), "Job Market Signaling", Quarterly Journal of Economics, 87(3), 355-374.

Part IV: *Further Topics*

14. Grossman and Hart (1986), "The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration", Journal of Political Economy, 94, 691-719.
15. Laffont and Tirole (1986), "Using Cost Observation to Regulate Firms", Journal of Political Economy, 94, 614-41.
16. Rogerson (1985), "Repeated Moral Hazard", Econometrica, 53(1), 69-76.
17. Rothschild and Stiglitz (1976), "Equilibrium in competitive insurance markets: An essay on the economics of imperfect information", Quarterly Journal of Economics, 90, 629-649.

PAPERS for REFEREE REPORT:

1. Destan and Yılmaz (2018), "Nonlinear pricing under inequity aversion", working paper
2. Eliaz and Spiegler (2006), "Contracting with diversely naive agents", Review of Economic Studies, 73, 689-714
3. Englmaier and Wambach (2010), "Optimal incentive contracts under inequity aversion," Games and Economic Behavior, 69(2), 312-328.
4. Hahn, Kim, Kim and Lee (2018), "Price discrimination with loss averse consumers", Economic Theory, 65(3), 681-728.
5. O'Donoghue and Rabin (2008), "Procrastination on long-term projects", Journal of Economic Behavior and Organization, 66, 161-175
6. Ye and Zhang (2017), "Monopolistic nonlinear pricing with consumer entry", Theoretical Economics, 12(1), 141-173.