

Econ 885.14
Topics in Economics: Economics of Contracts
SPRING 2019

Instructor: Prof. Huseyin Yildirim, Soc. Sci. 205, <email: hy12@duke.edu>

Time and Location: TTh 8:30 - 9:45AM, Social Sciences 111

Office Hour: By appointment

Textbook: *The Theory of Incentives: The Principal-Agent Model* by Jean-Jacques Laffont & David Martimort, Princeton University Press [L-M]

Optional: *Contract Theory* by Patrick Bolton and Mathias Dewatripont, MIT Press [B-D]

Objective: A contract is a legally binding agreement between two or more parties. Think of your rental agreement and school admission letter. In this class, we will review the basic principal-agent model in which two potential imperfections, hidden information (or adverse selection) and hidden action (or moral hazard), govern the efficiency and scope of contracts. The emphasis will be on modeling and solution techniques.

Grading:

Problem sets	20%
Referee report	25%
Class presentation	25%
Final	30%

Referee Report: You are expected to write a 2.5-5 page report on a research article related to topics below. The report should include: an overview (main idea, key elements of the model, the solution technique, key formal results) (1-2 pages); an overall assessment (as to potential publication) (.5-1 page); and comments (pointed, specific) (1-2 pages).

Tentative Schedule:

- **Adverse selection: binary types, Chapter 2 [1-9, 11, 14-5]**
- **Adverse selection: continuum types, Chapter 3 [Appendix]**
- **Adverse selection with moral hazard: Laffont-Tirole Model [paper and own notes]**
- **Adverse selection: dynamic contracts, sequential screening [papers and own notes]**
- **Contracting with Multiple Agents**
- **Moral Hazard: binary outcome, Chapters 4-5 [L-M], Chapter 4 [B-D]**
- **Moral Hazard: First-Order Approach Chapter 4 [B-D]**

FINAL EXAM (Tuesday, February 26, in class)

Suggested Reading

- Baron, David P., and Roger B. Myerson. "Regulating a monopolist with unknown costs." *Econometrica* (1982): 911-930. [Static, continuous type screening – a classic]
- Bergemann, Dirk, and Juuso Valimäki. "Dynamic mechanism design: an introduction." (2018). [Dynamic mechanism design – a survey]
- Carroll, Gabriel. "Robustness and linear contracts." *American Economic Review* 105.2 (2015): 536-63. [Why linear contracts are prevalent in practice.]
- Chu, Leon Yang, and David EM Sappington. "Implementing high-powered contracts to motivate intertemporal effort supply." *RAND Journal of Economics* 40.2 (2009): 296-316. [A mix of moral hazard and adverse selection models]
- Chu, Leon Yang, and David EM Sappington. "Contracting with private knowledge of signal quality." *RAND Journal of Economics* 41.2 (2010): 244-269.
- Cornelli, Francesca. "Optimal selling procedures with fixed costs." *Journal of Economic Theory* 71.1 (1996): 1-30. [Multi-agent screening – a public good problem]
- Courty, Pascal, and Li Hao. "Sequential screening." *Review of Economic Studies* 67.4 (2000): 697-717. [Two-stage screening]
- Cremer, Jacques, and Richard P. McLean. "Optimal Selling Strategies under Uncertainty for a Discriminating Monopolist when Demands are Interdependent ." *Econometrica* 53(2) (1985): 345-361. [Correlation helps implement the first-best – a classic]
- Dana Jr, James D., and Kathryn E. Spier. "Designing a private industry: Government auctions with endogenous market structure." *Journal of Public Economics* 53.1 (1994): 127-147. [Screening through market structure]
- Hölmstrom, Bengt. "Moral hazard and observability." *Bell Journal of Economics* (1979): 74-91. [Seminal paper on the moral hazard problem]
- Holmström, Bengt. "Pay for performance and beyond." *American Economic Review* 107.7 (2017): 1753-77. [A fun, mostly nontechnical overview]
- Laffont, Jean-Jacques, and Jean Tirole. "Using cost observation to regulate firms." *Journal of Political Economy* 94.3, (1986): 614-641. [Static, continuous-type screening with effort - a classic]
- Lewis, Tracy R., and David EM Sappington. "Inflexible rules in incentive problems." *American Economic Review* (1989): 69-84. [Static screening with type-dependent outside option – countervailing incentives]

- Myerson, Roger B. "Optimal auction design." *Mathematics of Operations Research* 6.1 (1981): 58-73. [A classic paper on optimal auctions.]
- Riordan, Michael H., and David EM Sappington. "Awarding monopoly franchises." *American Economic Review* (1987): 375-387. [Two-stage screening]