

Ecole Polytechnique

ECO 560 Economics of Contracts

Raicho Bojilov
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1 Course Details

Instructor: Raicho Bojilov

Office: 81:30-13

E-mail: raicho.bojilov@polytechnique.edu

Time and Location of Lecture: F, 10:30-12, Amphi Sauvy

Time and Location of PC: F, 15:45-17:45, Amphi Sauvy

Office Hours: M 10-12

2 Course Description

This course has a strong methodological component. It introduces basic models in contract theory (or economics of information), which are illustrated through applications to price discrimination, taxation, insurance, compensation policies, educational choice, auctions, and regulation. The course also presents some concepts in dynamic contract theory, such as commitment, renegotiation, and incomplete contracts. Finally, it relates the covered material to mechanism design.

The topics are presented through the Principal-Agent paradigm, i.e. the strategic interaction of two economic agents within a Stackelberg game: one party who possesses information affecting the welfare of both (informed party) and one who does not have this information (uninformed party). The information is either about what the informed party does (hidden action) or about what her characteristics are (hidden information). Depending on the type of information and who acts first, the course focuses on three types of models:

- Screening models, which involve hidden information and in which the uninformed party acts first;

- Signaling models, which again involve hidden information but the initiative belongs to the informed party; and
- Moral hazard models, which involve hidden action and the uninformed party moves first.

It then considers some issues arising from the repeated interaction of the informed and uninformed parties. The first topic on screening is developed within a brief introduction to mechanism design.

3 Course Requirements

The course builds on basic concepts in game theory and decision-making under uncertainty. Knowledge of strategic and extensive games of imperfect information is recommended. There are 9 main lectures (1:30 each) followed by two-hour exercise classes whose purpose is to familiarize the students with the techniques involved. Evaluation is based on a final written examination, problem sets, and participation bonus.

4 List of Lectures

1. Introduction, mechanism design, adverse selection
2. Static adverse selection: extensions
3. Auctions
4. Signaling: review of related game theory and costly signals.
5. Signaling: cheap talk.
6. Moral hazard: basic model
7. Moral hazard: extensions
8. Dynamic contracts: an introduction
9. Dynamic contracts: continued

5 References

The following books are recommended as they cover part of the material for the course:

Bolton, P., and M. Dewatripont. 2004. *Contract Theory*. Cambridge: MIT Press.

Fudenberg, D. and J. Tirole. 1991. *Game Theory*. Cambridge: MIT Press.

Laffont, J.-J. 1989. *Economics of Information and Uncertainty*. Cambridge: MIT Press.

Laffont, J.-J. and D. Martimort. 2001. *The Theory of Incentives: the Principal – Agent Model*. Princeton: Princeton University Press.

Mas-Colell, A., J. Green, and M. Whinston. 1995. *Microeconomic Theory*. Oxford: Oxford University Press.

Salanié, B. 2005. *The Economics of Contracts: a Primer*. Cambridge: MIT Press.