

Contract Economics

Dec. 16-19, 2019

IAER, Dongbei University of Finance and Economics

Speaker: Rongzhu KE

Time: 14:00-17:00 December 16, 2019

14:00-17:00 December 17, 2019

14:00-17:00 December 18, 2019

14:00-17:00 December 19, 2019

Venue: I-206, Boxue Building, DUFE

Overview

This series of seminars will cover the basic and some advanced topics in contract theory. It contains a mixture of foundational theories and applications to fields such as labor, macro, corporate finance and organizations.

Textbook:

Patrick Bolton and Mathias Dewatripont: Contract Theory, MIT Press, 2005.

Fudenberg and Tirole, Game Theory, MIT Press (有中译本), 1991, 第7章。

Krishna: Auction Theory, 2002, Academic Press.

The structure of the seminar is as follows:

1. Introduction (0.5 lecture, BD, Ch1)

- a. Information and incentive: real world and theory
- b. Information asymmetry: hidden action and hidden type.
- c. Moral hazard and adverse selection
- d. Empirical implications

2. Moral Hazard (2 lectures, BD, Ch4, Ch6.2, Ch8.1)

- 1) Complete contract framework
 - a. The basic principal-agent problem
 - b. Information in moral hazard
 - c. Variations on the single-agent problem
 - d. Multi-agent moral hazard
 - e. Tournaments
- 2) Incomplete contract and the theory of firm
 - a. Grossman-Hart model
 - b. Hold-up and ownership issue
 - c. A framework for substitutable investment

3. Adverse selection, auction, mechanism design (1.5 lectures, BD, Ch2-3, 7; Kr., Ch1-4)

- 1) Adverse selection
 - a. Simple two-type model/non-linear pricing
 - b. Continuous type, single-crossing condition
 - c. Signaling
 - d. Optimal income taxation
- 2) Auction and mechanism design
 - a. Basic framework
 - b. Second price auction/first price auction
 - c. Revenue equivalence theorem
- 3) Private information and public good provision
 - a. Vickery-Clark-Groves mechanism, AGV
 - b. Myerson-Satterthwaite impossibility theorem
 - c. Budget balance and difficulty of public good provision.

Selected Reference (by topic)

1. Static Moral hazard

BD, Ch 4.1-5, 6.2, 8.1 and 12.4.2.

Holmstrom, B. (1979), "Moral Hazard and Observability," *Bell Journal of Economics*, 10, pp. 74-91.

Holmstrom, B. and P. Milgrom (1991), "Multi-Task Principal-Agent Analyses," *Journal of Law, Economics and Organization* 7, Special Issue.

Holmstrom, B. (1982), "Moral Hazard in Teams," *Bell Journal of Economics*, 13, pp. 324-340.

Hart, O. and B. Holmstrom (1987), "The Theory of Contracts," In T. Bewley (ed.), *Advances in Economic Theory*. Cambridge: Cambridge University Press, pp. 71-155.

Grossman, S. and O. Hart (1983), "An Analysis of the Principal-Agent Problem," *Econometrica*, 51(1): 7-45.

Green, J.R. and N. Stokey (1983), "A Comparison of Tournaments and Contracts," *Journal of Political Economy*, 91, pp. 349-64.

Lazear, E.P. and S. Rosen (1981), "Rank-Order Tournaments as Optimum Labor Contracts," *Journal of Political Economy*, 89, pp. 841-64.

Innes, R. (1990), "Limited Liability and Incentive Contracting with Ex Ante Action Choices," *Journal of Economic Theory*, 52 (1): 45-67.

Mirrlees, J. A. (1999), "The Theory of Moral Hazard and Unobservable Behaviour: Part I," *Review of Economic Studies*, 66(1): 3-21.

Rogerson, W. (1985), "The First-Order Approach to Principal-Agent Problems," *Econometrica*, 53(6): 1357-1368.

2. Adverse selection and screening

BD, Ch 13.1.1-2 and 2.1-2.

Akerlof, G. (1970), "The Market for Lemons: Qualitative Uncertainty and the Market Mechanism," *Quarterly Journal of Economics*, 84 (3), pp. 488-500.

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

Maskin, E. and J. Riley (1984), "Monopoly with Incomplete Information," *Rand Journal of Economics*, 15, pp. 171-196.

3. Mechanism design

BD, Ch 7. Krishna, Ch 1-4.

d'Aspremont, C. and L.A. Gérard-Varet (1979), "Incentives and Incomplete Information," *Journal of Public Economics*, 11, pp. 24-45.

Myerson, R. and M. Satterthwaite (1983), "Efficient Mechanisms for Bilateral Trading," *Journal of Economic Theory*, 29, pp. 265-81.

Myerson, R. (1983), "Optimal Auction Design," *Mathematics of Operations Research*, 6, pp. 58-73.

4. Incomplete contracts

BD, Ch 10.3, 11.1 and 12.1-3. Hart, Ch 1-4.

Hart, O. and J. Moore (1988), "Incomplete Contracts and Renegotiation," *Econometrica*, 56(4): 755-785.

Hermalin, B. and M. Katz (1991), "Moral Hazard and Verifiability: The Effects of Renegotiation in Agency," *Econometrica*, 59, pp. 1735-53.

Grossman, S. and O. Hart (1986), "The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration," *Journal of Political Economy*, 94, pp. 691-719.

Maskin, E. (1999), "Nash Equilibrium and Welfare Optimality," *Review of Economic Studies*, 66, pp. 23-38.

Moore, J. and R. Repullo (1988), "Subgame-Perfect Implementation," *Econometrica*, 56, 1191-1220.