

Syllabus, Ec717: Contract Theory

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Spring 2013, Boston University Department of Economics

This course is devoted to topics in contract theory and information economics. While it is an elective course for the micro theory field, it should be useful for students interested in applications to fields such as industrial organization, public economics, health, macro, development and labor.

Most of the material for this course is covered in a single textbook:

Contract Theory, by Patrick Bolton and Mathias Dewatripoint (BD hereafter), MIT Press, 2005.

Class: MW 2-3.30, starting Jan 16, ending May 1

Office Hours: T 5-6.30, W 11-12.30.

Prerequisites: First Year PhD courses in micro (Ec701, 703) or equivalent

Exams and Grading: There will be problem sets and a final exam. 30% of the course grade will be based on the problem sets, the rest on the final exam.

Academic Conduct: You are expected to know and understand the provisions of the CAS Academic Conduct Code. Cases of suspected academic misconduct will be referred to the Deans Office.

Sessions and Readings:

1. Single-Agent Adverse Selection (Jan 16,23): Optimal contracts for a single agent with private information: two types; continuum of types [BD, Ch. 2, esp. Sections 2.3.1 and 2.3.3]

2. Single-Agent Moral Hazard (Jan 28, 30; Feb 4,6): Optimal contracts for a single agent with moral hazard: first-order approach; existence problems; linear contracts; limited liability constraints [BD, Ch. 4 (esp. Sections 4.2,4.3, 4.4,4.5)]

3. Multidimensional Incentives (Feb 11,13): Bundling; Multi-tasking [BD, Ch. 6 (esp. Sections 6.1, 6.2)]

4. Multi-Agent Adverse Selection (Feb 20, 25, 27; March 4): Implementation concepts; mechanisms for public goods, bilateral trade and auctions [BD, Ch. 7 (esp. Sections 7.2, 7.3); also Ch. 7 of Fudenberg and Tirole, *Game Theory*, MIT Press.]

5. Multi-Agent Moral Hazard (March 6,18): Tournaments, relative performance [BD, Ch. 8 (esp. Sections 8.1, 8.2. 8.3)]

6. Contract Dynamics (March 20,25,27, Apr 1): durable good monopoly; repeated moral hazard; relational contracts [BD, Ch. 9 (esp. Sec 9.1, 9.2), Ch. 10 (Sec 10.1, 10.2, 10.4)]

7. Incomplete Contracts, Boundaries between Firms and Markets, Property Rights (Apr 3,8,10,17,18): hold-up and specific investments; property rights and firms; foundations of incomplete contract theory [BD: Ch. 11,12]

8. Internal Organization: Hierarchies and Decentralization (April 22,24,29, May 1):

Papers covered will include:

Melumad N., D. Mookherjee and S. Reichelstein (1995) 'Hierarchical Decentralization of Incentive Contracts,' *Rand Journal of Economics*, 26, 654-672

————— (1992), 'A Theory of Responsibility Centers,' *Journal of Accounting and Economics*, 15, 445-484.

Celik G. (2009), 'Mechanism Design with Collusive Supervision,' *Journal of Economic Theory*, 69-95.

Aghion P. and J. Tirole (1997), 'Formal and Real Authority in Organizations,' *Journal of Political Economy*, 105, 1-27.

Dessein W. (2002), 'Authority and Communication in Organizations,' *Review of Economic Studies*, 69, 811-838.

Poitevin M. (2000), "Can The Theory of Incentives Explain Decentralization?" *Canadian Journal of Economics*, 33(4), 878-906.