MICROECONOMICS - *Contract Theory*
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Course description

The course provides a rigorous introduction to the key elements of contractual design. The main results of contract theory and of the principal-agent model are presented in a unified conceptual framework. After having introduced a benchmark model under symmetric information, this assumption is relaxed to study the problems of adverse selection and moral hazard arising under asymmetric information.
Throughout the course applications of contract theory to a variety of fields in Economics and Finance are presented. If time allows, the last part of the course will discuss more advanced themes and focus specifically on some of them (i.e. common agency and games played through agents).

In what follows a provisional program of the course is outlined, with the indication of the required textbook and of further basic bibliographic references. A more precise syllabus, as well as additional readings - especially as far as applications are concerned, will be provided during the course. The required textbook constitutes the essential reference for the course and it will be covered entirely, but for some of the applications and of the more advanced themes.

1. *Contracts under symmetric information.* The optimal payment mechanism and the optimal level of effort.
2. *The principal-agent model*. Individual rationality and incentive compatibility.
3. *Contractual design under asymmetric information: moral hazard*. The basic idea: hidden actions and incentives; the baseline model with two levels of effort; the case of continuous effort: the first-order approach.
4. *Contractual design under asymmetric information: adverse selection*. The basic idea: the market for 'lemons'; the screening solution; adverse selection in the presence of principals competing for agents; adverse selection with a continuum of types.
5. *Signaling.* Private information and signaling. The basic idea: education as a signal; agents signaling their characteristics; the informational power of contracts; the intuitive criterion.
6. *More Advanced Themes*. The relationships between several principals and one agent: common agency. The interactions between several principals and several agents: games played through agents. The interaction between a principal and several agents: an introduction to auctions. Signaling and multiplicity of equilibria: an introduction to equilibrium refinements and cheap-talk games.

References

Required Text
Macho-Stadler I. and J.D. Pérez-Castrillo (1997). *An Introduction to the Economics of Information: Incentives and Contracts*. Oxford: Oxford University Press.

Further textbooks on contract theory
Bolton P. and M. Dewatripoint (2005). *Contract Theory*. Cambridge, Ma: The MIT Press.
Laffont J-J. and D. Martimort (2001). *The Theory of Incentives: The Principal-Agent Model*. Princeton: Princeton University Press.
Mas-Collel A., M.D. Whinston and J.R. Green (1995). *Microeconomic Theory*. New York: Oxford University Press.
Salanié B. (1997). *The Economics of Contracts: A Primer*. Cambridge, Ma: The MIT Press.

On common agency and games played through agents
Bernheim B.D. and M.D. Whinston (1986a). "Common Agency". *Econometrica*, 54, 923-942.
Bernheim B.D. and M.D. Whinston (1986b). "Menu Auctions, Resource Allocation, and Economic Influence". *Quarterly Journal of Economics*, 101, 1-31.
Dixit A., G.M. Grossman and E. Helpman (1997). "Common Agency and Coordination: General Theory and Application to Government Policy Making". *Journal of Political Economy*, 105, 752-769.
Prat A. and A. Rustichini (2003). "Games Played through Agents". *Econometrica*, 71, 989-1026.
Segal I. (1999). "Contracting with Externalities". *Quarterly Journal of Economics*, 114, 337-388.

Review sessions

Theoretical lectures will be complemented by specific review sessions on the key topics of the course. Problem sets will be assigned in advance and solved during the review sessions. These problem sets are meant to allow a self-assessment of a student's performance but do not count towards her/his final grade.

Assessment method

Students will be evaluated based on a written final exam, which can deal both with theoretical questions and specific problems. The answers to the questions aimed at testing the understanding of fundamental theoretical issues will be evaluated by looking at the extent of the candidate's knowledge, as well as at her/his ability to convey key messages in conceptually consistent ways through a clear and precise exposition. All problems will be designed in a way to effectively test the analytical and problem solving skills of the candidate.