

Applied Contract Theory

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Course Description

The aim of this course is to offer an introduction to recent applications of the tools and techniques covered in Microeconomics III, Information Economics and Contract Theory. We cover both applications of theoretical concepts and investigate as well the empirical relevance of these models. The course explores a wide range of applications (i.e. insurance, incentive contracts, matching markets). In each session, we investigate how the main theoretical concepts have been adapted in specific applications, explain what the predictions of the theory are, and how these predictions have been tested. For each topic, we briefly review the empirical literature and cover in depth important contributions.

Evaluation: Researchers have to (a) hand in a short report on 3 assigned papers, (b) write a referee report on a recent research paper that will be discussed in the second to last session, and (c) write a short essay project. The first assignment can be done by pairs while the other two assignments have to be done individually. (See below for more details.)

Books

Botlon and Dewatripont (2004). *Contract Theory*, The MIT Press.

Salanie, B. *The Economics of Contracts: A Primer*, MIT Press, 1997.

Jean-Jacques Laffont and David Martimort *The Theory of Incentives: The Principal-Agent Model*. 2002, Princeton University Press.

Mas-Colell, Whinston, Green (1995) *Microeconomic Theory* Oxford University Press (Chapter 13-14).

Freixas, X. and Rochet, J.C. *Microeconomics of Banking*, The MIT Press, 1997. (Chapter 2, 4, and 5).

Roth, Alvin E. and Marilda Sotomayor [1990], *Two-Sided Matching: A Study in Game-Theoretic Modeling and Analysis*, Cambridge, Cambridge University Press.

1. Adverse Selection and Insurance

Akerlof G (1970) "The Market for Lemon," *QJE* 89: 488 – 500.

Rothchild and Stiglitz, "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect information," *QJE*, (November 1976):629-650.

Stiglitz, Joseph E. "The Contribution of the Economics of Information to Twentieth Century Economics". *Quarterly Journal of Economics*, Nov. 2000, pp. 1441-1478.

Spence, A. M.(1973) "Job Market Signaling" *QJE* 87: 355 - 74 .

Chiappori, Pierre-Andre; Salanie, Bernard. "Testing for Asymmetric Information in Insurance Markets" *Journal of Political Economy*. 108, 1, 2000, 56-78.

Chiappori, Pierre-Andre; Salanie, Bernard. 'Testing Contract Theory: a Survey of Some Recent Work', in *Advances in Economics and Econometrics - Theory and Applications*, Eighth World Congress, M. Dewatripont, L. Hansen and P. Turnovsky, ed., *Econometric Society Monographs*, Cambridge University Press, Cambridge, 2003, 115-149.

Empirical Work

Ausubel, Laurence. "Adverse Selection in the Credit Card Market". Mimeo, University of Maryland.

Amy Finkelstein (Harvard University) and Kathleen McGarry (University of California-Los Angeles): *Multiple Dimensions of Private Information: Evidence from Long-Term Care Insurance*

Chiappori, Pierre-Andre, Bruno Jullien, Bernard Salanie, and Francois Salanie, "Asymmetric Information in Insurance: General Testable Implications," *Rand Journal of Economics* (forthcoming).

Dean Karlan (Princeton University) and Jonathan Zinman (Federal Reserve): *Observing Unobservables: Identifying Information Asymmetries with a Consumer Credit Field Experiment*

Jaap H. Abbring & James J. Heckman & Pierre-André Chiappori & Jean Pinquet, 2003. "Adverse Selection and Moral Hazard In Insurance: Can Dynamic Data Help to Distinguish?," *Journal of the European Economic Association*, MIT Press, vol. 1(2-3), pages 512-521, 04/05.

2. Moral Hazard and Personnel Economics

Baker, George P. "Incentive Measures and Performance Measurement." *Journal of Political Economy*, (1992): 598-614.

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

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

Holmstrom, B., and P. Milgrom (1991) "Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design," *Journal of Law, Economics, and Organization*, 57:25-52.

Prendergast, Canice. "The Provision of Incentives in Firms", *Journal of Economic Literature*, (March 1999). 7-63.

Empirical Work

Bedard, K. "Human Capital Versus Signalling Models: University Access and High School Drop-outs", *Journal of Political Economy* 109 (4) (August 2001): 749-775.

Courty, Pascal and Gerald Marschke. Measuring Government Performance: Lessons from a Federal Training Program. *American Economic Review, Papers and Proceedings*. May, 1997. p.383-88.

Courty, Pascal and Gerald Marschke. "An Empirical Investigation of Gaming Responses to Explicit Performance Incentives." *Journal of Labor Economics* (Forthcoming, 2004).

A General Test of Distortion (with G. Marschke). January 2006. CEPR Discussion Paper 4514.

Healy, Paul M. "The Effect of Bonus Schemes on Accounting Decisions." *Journal of Accounting and Economics*, 7 (1985): 85-107.

Jacob, Brian and Steven Levitt. "Rotten Apples: An Investigation of the Prevalence and Predictors of Teacher Cheating." Working Paper, University of Chicago, 2002.

Jensen and Murphy 1990. "Performance Pay and Top Management Incentives." *Journal of Political Economy*. 98:2 225-64.

3. Matching, Contracts, and Markets

Besley T., Ghatak M. (2005). "Competition and Incentives with Motivated Agents." *The American Economic Review*. 95, 616-636

Holmstrom, Bengt & Milgrom, Paul, 1994. "The Firm as an Incentive System." *American Economic Review*. 84, 972-91.

Kihlstrom, R. and J.-J. Laffont (1979), "A General Equilibrium Entrepreneurial Theory of Firm Formation Based on Risk Aversion," *Journal of Political Economy*, 87(4): 719-48.

Koopmans, T.C. and Beckmann, M. 1957. "Assignment problems and the location of economic activities." *Econometrica*. 25, 53-76.

Legros Patrick; Andrew F. Newman. 2002. "Monotone Matching in Perfect and Imperfect Worlds." *The Review of Economic Studies*, Vol. 69, No. 4. (Oct., 2002), pp. 925-942.

Milgrom, Paul (2003), "Matching with Contracts," *AER*, 2005 (4) 914-935.

Roth, Alvin and Marilda Sotomayor. 1989. "The College Admission Problem Revisited." *Econometrica*. 57, 559-70.

Roth, Alvin and Marilda Sotomayor. 1990. *Two-Sided Matching: A Study in Game-Theoretic Modeling and Analysis*, Cambridge, Cambridge University Press.

Shimer, Robert and Lones Smith. "Assortative Matching and Search." *Econometrica*, 2000, 68(2), pp. 343-69.

Empirical Work

Akerberg, D. and M. Botticini (2002), "Endogenous Matching and the Empirical Determinants of Contract Form," *Journal of Political Economy*, 110:564-591.

McKinney, C. Nicholas, Niederle, Muriel and Alvin E. Roth, "The collapse of a medical labor clearinghouse (and why such failures are rare)," *American Economic Review*, 95, 3, June, 2005, 878-889.

Guillaume R. Fréchette, Alvin E. Roth, M. Utku Ünver. "Unraveling Yields Inefficient Matchings: Evidence from Post-Season College Football Bowls." Mimeo, 2007.

Assignments for the course

(a) Three Short Reports

Jaap H. Abbring & James J. Heckman & Pierre-André Chiappori & Jean Pinquet, 2003. "Adverse Selection and Moral Hazard In Insurance: Can Dynamic Data Help to Distinguish?," *Journal of the European Economic Association*, MIT Press, vol. 1(2-3), pages 512-521, 04/05.

Bedard, K. "Human Capital Versus Signalling Models: University Access and High School Drop-outs", *Journal of Political Economy* 109 (4) (August 2001): 749-775.

Akerberg, D. and M. Botticini (2002), "Endogenous Matching and the Empirical Determinants of Contract Form," *Journal of Political Economy*, 110:564-591.

For the above 3 papers you should write a short report of about 400 words summarizing the main contribution of the article.

(b) Referee Report

Anna L. Paulson, Robert M. Townsend and Alexander Karaivanov; "Distinguishing Limited Liability from Moral Hazard in a Model of Entrepreneurship." *The Journal of Political Economy*, 2006, 114(1), pp. 100-44.

You should write a referee report of no more than 1000 words. The referee report will be due on the 8th session. We will discuss the articles in class toward the end of the course. You will also have to assess the report of one of your colleague.

For the article you have been assigned, you should summarize its main contributions, show how it relates to the literature covered in class, discuss the article's main limitations and identify possible alleys of research along the line of the article. Most importantly, you should try provide an assessment of the importance of the article's contribution to the literature.

In particular, I would like you to explain how the article proposes to bring the theory (broadly defined concepts or specific model) to the data. Explain (a) What hypothesis the article tests? (b) What is the empirical strategy? (c) What are the strength and weaknesses of the data used to test the theory? (d) Are there alternative models/hypothesis that could explain the evidence?

(c) Essay

In your essay, you could propose to either (1) test one of the theories (broadly defined) we covered in the class (2) construct a simple applied model using the theories covered in class to explain a phenomenon or stylized fact of interest. Your essay will be due on 9th session.

In both cases, your essay should (a) introduce the topic you are investigating (b) review the theory(ies) that are related to your topic.

If you choose (1) you should then (c) articulate a testable hypothesis (d) describe data and evidence that should be collected to test your hypothesis (e) present preliminary evidence and discuss what you can infer from this evidence.

If you choose (2) you should (c) present a very simple model that could explain your puzzle, (d) derive the implications of a strip-down version of the model, (e) discuss how these conclusions could generalize.