

Financial Contract Theory

NAKE Doctoral Course
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The course provides an advanced introduction to the theory of information and incentives and their use in financial theory. It uses basic game theory at the level of the first chapters of Fudenberg-Tirole (1991) and includes a brief introduction to that field. The course provides theoretical foundations to several important areas of finance such as corporate finance, market microstructure, banking, or portfolio management.

The course will not be based on a particular textbook. A good basis for some of the discussion in this course are

B. Salanié, *The Economics of Contracts*, Cambridge (MA), London: MIT Press 1997.
J.J. Laffont, D. Martimort, *The Theory of Incentives*, Princeton University Press 2002.

A good reference for the game theory needed in the course is

D. Fudenberg and J. Tirole, *Game Theory*, Cambridge (MA), London: MIT Press 1991.

Course outline:

In this outline, I indicate several articles for each chapter that are at the basis of the discussion in class. Given the limited and compact time we have, these articles are rather indications for further readings than prerequisites for the course.

1. Introduction

- O. Hart and B. Holmström, The Theory of Contracts, in: T. Bewley (ed.), *Advances in Economic Theory*, Cambridge, Cambridge University Press, 1987
- P.A. Chiappori, B. Salanié (2000), Testing for Asymmetric Information in Insurance Markets, *Journal of Political Economy* 108, 56-78.

2. Signaling

2.1 Hidden Information

2.2 Signaling: The Basic Model

2.3 Application: The Pricing of Equity Issues

2.4 The Continuum Case

- H. Leland, D. Pyle (1977), Informational Asymmetries, Financial Structure, and Financial Intermediation, *Journal of Finance* 32, 371-387.
- G. Mailath (1987), Incentive Compatibility in Signaling Games with a Continuum of Types, *Econometrica* 55, 1349-1365.

3. Screening

3.1 The Basic Model

3.2 Monopoly Insurance

3.3 The Continuum Case: The Specialist Market Maker

- J. Stiglitz (1977): Monopoly, Non-linear Pricing, and Imperfect Information: The Insurance Market, *Review of Economic Studies* 44, 407-30.
- R. Guesnerie, J.J. Laffont (1984), A Complete Solution to a Class of Principal-Agent Problems with an Application to the Control of a Self-Managed Firm, *Journal of Public Economics* 25, 329-369.

4. Scanning

4.1 The Basic Model

4.2 The Revelation Principle

4.3 Debt Contracts: The CSV Model

4.4 Debt Contracts: The CVA Model

4.5 Commercial Banking and Liquidity

- R. Townsend (1979), Optimal Contracts and Competitive Markets with Costly State Verification, *Journal of Economic Theory* 21, 265-93.
- E. von Thadden (1999), Liquidity Creation through Banks and Markets: Multiple Insurance and Limited Market Access, *European Economic Review* 43, 991-1006.

5. Imperfect Contractibility: Renegotiation

5.1 Debt reconsidered

5.2 Bankruptcy

- O. Hart, J. Moore (1998), Default and Renegotiation: A Dynamic Model of Debt, *Quarterly Journal of Economics* 113, 1-41.
- E. Berglöf, G. Roland, E. von Thadden (2002), Optimal Debt Structure and the Role of Bankruptcy, manuscript Université de Lausanne.

Outlook:

Application: Venture Capital

- R. Repullo, J. Suarez (1998), Venture Capital Finance: A Security Design Approach, manuscript CEMFI, Madrid.
- K. Schmidt (2003), Convertible Securities and Venture Capital Finance, *Journal of Finance* 58, 1139-1166.
- C. Casamatta (2000), Financing and Advising: Optimal Financial Contracts with Venture Capitalists, manuscript, IDEI, Toulouse.

Application: Delegated Portfolio Management

- R. Heinkel, N. Stoughton (1994), The Dynamics of Portfolio Management Contracts, *Review of Financial Studies* 7, 351-387.
- J. Dow, G. Gorton (1997), Noise Trading, Delegated Portfolio Management, and Economic Welfare, *Journal of Political Economy* 105, 1024-1050.
- Ph. Dybvig, H. Farnsworth, J. Carpenter (1999), Portfolio Management and Agency, manuscript, Washington University.

Application: Bankruptcy

- M. Harris, A. Raviv (1995), The Role of Games in Security Design, *Review of Financial Studies* 8, 327-367.
- A. Winton (1995), Costly State Verification and Multiple Investors: The Role of Seniority, *Review of Financial Studies* 8, 91-123.
- E. Berkovitch and R. Israel (1999), Optimal Bankruptcy Laws across Different Economic Systems, *Review of Financial Studies* 12, 347-77.
- K. Ayotte (2001), Bankruptcy and Entrepreneurship: The Value of a Fresh Start, manuscript, Princeton University

Application: Executive Compensation

- K. Murphy (1999), Executive Compensation, in O. Ashenfelter, D. Card (eds.): *Handbook of Labor Economics* Vol. 3, North Holland.
- G. Baker, B. Hall (1998), Understanding Top Management Incentives: Pay Sensitivity, CEO Productivity and Firm Size, manuscript Harvard University.
- T. Lewis, D. Sappington (2000), Motivating Wealth-Constrained Actors, *American Economic Review* 90, 944-960.
- W. B. MacLeod (1999), A Note on the Optimality of Bonus Pay, manuscript University of Southern California.