

UNIVERSITY OF ATHENS

Department of Economics

Fall 2006-2007

Seminar in Industrial Organization

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Course Description

Industrial organization is a broad field within microeconomics that focuses on business behaviour and its implications both for market structures and processes as well as the public policy towards them. Our purpose is to provide reasonable comprehensive and up-to-date discussions of recent developments as well as the state of knowledge in the major research areas in the field. There is now a vast literature relating industrial organization with major issues in economics, finance and law yet a relative small number of core notions have found their way into applied cases. The goal of this course is to provide a synthesis of this huge area by highlighting the common themes and methodologies that unite the field.

Required Text

There is not a single book that covers all the topics that will be discussed during the lectures. However, the main textbooks for the course will be:

- Jean Tirole (1988), *The Theory of Industrial Organization*, MIT Press.
- Stephen Martin (2002), *Advanced Industrial Organization*, Blackwell Ed.

Additional readings will be provided for each topic separately. All the lectures will be supplemented with detailed notes as well.

A pre requirement for effective attendance of the course is that students have a thorough understanding of game theory and contract theory. Recommended reading for contracts are:

- Jean Jacques Laffont & David Martimort (2002), *The Theory of Incentives: The Principal-Agent Model*, Princeton U.P. (ch. 1, 2 and 4)
- Andreu Mas-Colell, Michael Whinston & Jerry Green (1995), *Microeconomic Theory*, Oxford

U.P. (ch. 13, 14 and 23)

- Patrick Bolton & Mathias Dewatripont (2005), *Contract Theory*, MIT Press (ch. 1, 2, 3, 4)

Recommended reading for games is:

- Drew Fudenberg & Jean Tirole (1991), *Game Theory*, MIT Press (ch. 1, 3, 4, 5, 6, 7, 8 & 9).

Grading

The course will meet for 3 hours lecture sessions per week. All students must submit a pre-assigned paper on relevant topics for each major topic discussed in the class. No other requirements are needed.

Course Outline

1. Theory of the Firm

Topics

- Existence
- Boundaries
- Separation of ownership and control
- Incentives in hierarchies (information and decision making)

Readings

- Tirole (Introduction and the Theory of the Firm).
- Martin (Chapter 12.1 - 12.5).
- Hart (1995), *Firms Contracts and Financial Structure*, OUP (Part I).
- Holmstrom & Tirole (1989), "The Theory of the Firm", in Schmalensee & Willig, *Handbook of Industrial Organization*, North Holland.
- Symposium "The Firm and its Boundaries", *Journal of Economic Perspectives*, Fall 1998.

Assignments

- **Collusion in Organizations:** Tirole (1992), "Collusion and the Theory of Organizations", in J.J. Laffont, *Advances in Economic Theory*, CUP.
- **Board of Directors:** Hermalin & Weisbach (2001), "Board of Directors as an Endogenously Determined Institution: A Survey of the Literature", NBER WP8161.
- **Authority and Power in Organizations:** Aghion & Tirole (1997), "Formal and Real Authority in Organizations", *Journal of Political Economy*, 105(1): 1-29.
- **Information flows:** Radner (1993), "The Organization of Decentralized Information Processing," *Econometrica*, 61: 1109-1146.

2. Pricing

Topics

- Single pricing
- First degree price discrimination
- Second degree price discrimination
- Third degree price discrimination
- Mechanism design
- Durable goods pricing
- Search theory

Readings

- Tirole (Chapter 1 & 3).
- Hermalin, *Lecture Notes for Economics*, (Part I).
- Salanie (1997), *The Economics of Contracts*, MIT Press (Chapter 2).

Assignments

- **Price dispersion:** Dana (1999), “Equilibrium Price Dispersion under Demand Uncertainty: The Roles of Costly Capacity and Market Structure”, *RAND Journal of Economics*, 30(4): 632-660.
- **Sales:** Varian (1980), “A Model of Sales”, *American Economic Review*, 70: 651-659.
- **Bundling and tying:** Adams & Yellen (1976), “Commodity Bundling and the Burden of Monopoly”, *Quarterly Journal of Economics*, 90 (Aug.): 475–98.
- **Legal aspects of price discrimination:** Motta (2004), *Competition Policy: Theory and Practice*, CUP (Chapter 7.4).

3. Product differentiation

Topics

- Product selection
- Vertical differentiation
- Horizontal differentiation
- Product diversity

Readings

- Tirole (Chapter 2 & 7).
- Martin (Chapter 4).
- d'Aspremont, Gabszewicz & Thisse (1979), “On Hotelling’s Stability in

Competition”, *Econometrica*, 17: 1145-1151.

- Shaked & Sutton (1982), “Relaxing Price Competition through Product Differentiation”, *Journal of Industrial Organization*, 31: 1-13.
- Dixit & Stiglitz (1977), “Monopolistic Competition and Product Diversity”, *American Economic Review*, 10: 20-32.
- Salop (1979), “Monopolistic Competition with Outside Goods”, *Bell Journal of Economics*, 10: 141-156.

Assignments

- **Information and quality signalling through price:** Riley (2001), “Silver Signals: Twenty-Five Years of Screening and Signalling”, *Journal of Economic Literature*, 34(2): 432-478.
- **Under and overprovision of quality/diversity:** Anderson & Renault (1999), “Pricing, Product Diversity and Search Costs: A Bertrand-Chamberlin-Diamond Model”, *RAND Journal of Economics*, 30(4): 719-735.
- **Advertising:** Bagwell (2005), “The Economic Analysis of Advertising”, Columbia University.
- **Reputation:** Fudenberg & Tirole (1991), *Game Theory*, MIT Press (Chapter 9).
- **Quality and time (trade-ins, buybacks and strategic obsolescence):** Fudenberg & Tirole (1998), “Upgrades, Trade-ins and Buybacks”, *RAND Journal of Economics*, 29(2): 235-258.

4. Oligopoly

Topics

- Static oligopoly
- Repeated interaction and collusion
- Repeated interaction and commitment
- Dynamic oligopoly

Readings

- Tirole (Chapter 5 & 6).
- Martin (Chapter 2 & 3).
- Vives (1999), *Oligopoly Pricing*, MIT Press (Chapter 4, 5 & 9).
- Wolfstetter (1999), *Topics in Microeconomics*, CUP (Chapter 3).

Assignments

- **Strategic complements and substitutes:** Bulow, Geanakoplos & Klemperer (1985), “Multimarket Oligopoly: Strategic Substitutes and Complements”, *Journal of Political Economy*, 93:488-511.
- **Switching costs models:** Klemperer (1995), “Competition when Consumers have Switching Costs: An Overview with Applications to Industrial Organization, Macroeconomics, and International Trade”, *Review of Economic Studies*, 62(4): 515-539.
- **Oligopolistic supergames and cartel stability:** Green & Porter (1984), “Noncooperative Collusion under Imperfect Price Information”, *Econometrica*, 52(1): 87-100 and Rotemberg & Saloner (1986), “Supergame Theoretic Model of Price Wars During Booms”, *American Economic Review*, 76(3): 390-407.
- **Conjectural variations:** Figuières, Jean-Marie, Querou & Tidball (2004), *Theory of Conjectural Variations*, World Scientific Publishing and Martin (2002), *Advanced Industrial Economics*, Blackwell (Chapter 3.4).
- **Strategic commitment:** Maggi (1999), “The Value of Commitment with Imperfect Observability and Private Information”, *RAND Journal of Economics*, 30(4): 555-574 & Hirshleifer (2001), “Game Theoretic Interpretations of Commitment” in R. Nerse (ed.), *Evolution and the Capacity for Commitment*, Sage Foundation.

5. Entry and Predation

Topics

- Entry
- Limit pricing and Predation
- Reputation
- Exit

Readings

- Tirole (Chapter 8 & 9).
- Martin (Chapter 8).
- Milgrom & Roberts (1982), “Limit Pricing and Entry under Incomplete Information: An Equilibrium Analysis”, *Econometrica*, 50: 443-459.
- Dixit (1980), “The Role of Investment in Entry Deterrence”, *Economic Journal*, 90: 95-106.

Assignments

- **Sunk cost and market structure:** Sutton (1991), *Sunk Costs and Market Structure*, MIT Press.
- **Contracts as a barrier to entry:** Aghion & Bolton (1987), “Contracts as a Barrier to Entry”, *American Economic Review*, 77(3): 388-401.
- **Predation and antitrust:** Motta (2004), *Competition Policy: Theory and Practice*, CUP (Chapter 7).
- **Industry evolution:** Audretsch (1995), *Innovation and Industry Evolution*, MIT Press.

6. Vertical and Horizontal Relations

Topics

- Double marginalization
- Vertical control
- Horizontal mergers

Readings

- Tirole (Chapter 4)
- Martin (Chapter 12.6 - 12.10 & 13).
- Salanie (2000), *Microeconomics of Market Failures*, MIT Press (Chapter 12).
- Katz (1989), “Vertical Contractual Relations”, in Schmalensee & Willig, *Handbook of Industrial Organization*, North Holland.

Assignments

- **Tied sales – US vs. Microsoft:** Motta (2004), *Competition Policy: Theory and Practice*, CUP (Chapter 7.5).
- **Horizontal legal aspects (antitrust & mergers):** Motta (2004), *Competition Policy: Theory and Practice*, CUP (Chapter 4 & 5).
- **Vertical legal aspects (regulation):** Motta (2004), *Competition Policy: Theory and Practice*, CUP (Chapter 6).
- **Franchising:** Spulber (1989), *Regulation and Markets*, MIT Press (Chapter 9).

7. Mediated Markets

Topics

- Mediation in product markets
- Mediation in financial markets
- Mediators' reputation and credibility
- Information revelation

Readings

- Spulber (1999), *Market Microstructure: Intermediaries and the Theory of the Firm*, CUP.
- Freixas & Rochet (1988), *Microeconomics of Banking*, MIT Press (Chapter 2).

Assignments

- **Supermarkets:** Rubinstein & Wolinsky (1987), “Middlemen”, *Quarterly Journal of Economics*, 102: 581-593.
- **Investment banking and IPOs:** Diamond (1997), “Liquidity, Banks, and Markets”, mimeo, University of Chicago.
- **Liquidity insurance:** Holmstrom & Tirole (1998), “Private and Public Supply of Liquidity”, *Journal of Political Economy*, 106(1): 1-40.
- **Audit firms and certification:** Lizzeri (1999), “Information Revelation and Certification Intermediaries”, *RAND Journal of Economics*, 30(2): 214-231.

8. Two-sided Markets

Topics

- Two-sided markets

Readings

- Rochet & Tirole (2004), “Two-Sided Markets: An Overview”, IDEI.
- Armstrong (2005), “Competition in Two-Sided Markets”, UCL.

Assignments

- **Open Source Software:** Lerner & Tirole (2004), “The Economics of Technology Sharing: Open Source and Beyond”, mimeo.
- **Credit cards:** Rochet & Tirole (2002), “Cooperation among Competitors: Some Economics of Payment Card Associations”, *RAND Journal of Economics*, 33(4): 59-570.

9. Networks

Topics

- Network externalities
- Demand of network goods
- Standardization and compatibility

Readings

- Shy (2001), *The Economics of Network industries*, CUP.
- Economides (1989), “Desirability of Compatibility in the Absence of Network Externalities”, *American Economic Review*, 79: 1165-1181.
- Farrell & Saloner (1986), “Standardization and Variety”, *Economic Letters*, 20: 71-74.
- Katz & Shapiro (1985), “Network Externalities, Competition and Compatibility”, *American Economic Review*, 75: 424-440.
- Katz & Shapiro (1986), “Technology Adoption in the Presence of Network Externalities”, *Journal of Political Economy*, 94: 822-841.
- Matutes & Regibeau (1988), “Mix and Match: Product Compatibility without Network Externalities”, *RAND Journal of Economics*, 19: 221-234.
- *Journal of Economic Perspectives*, Spring 1994.

Assignments

- **Telecommunications:** Laffont & Tirole (2000), *Competition in Telecommunications*, MIT Press.
- **Energy:** Newbery (2000), *Privatization, Restructuring and Regulation of Network Utilities*, MIT Press.

10. Electronic Markets and E-Trade

Topics

- Auctions and market design
- E-Commerce

Readings

- Varian, Farrell & Shapiro (2004), *The Economics of Information Technology: An Introduction*, CUP.
- *Journal of Economic Perspectives*, Winter 2001.
- Klemperer (2004), *Auctions: Theory and Practice*, Princeton University Press.
- Wilson (1999), “Market Architecture”, mimeo.

Assignments

- **3G Mobile phone auctions:** Klemperer (2004), *Auctions: Theory and Practice*, Princeton University Press (Part D).
- **Energy auctions:** Milgrom (2004), *Putting Auction Theory to Work*, CUP (Chapter 7).

11. Industrial Organization and Finance

Topics

- Capital structure and managerial incentives
- Financial constraints and product market competition

Readings

- Bolton & Scharfstein (1990), “A Theory of Predation Based on Agency Problems in Financial Contracting”, *American Economic Review*, 80(1): 93-106.
- Faure-Grimaud (2000), “Product Market Competition and Optimal Debt Contracts: The Limited Liability Effect Revised”, *European Economic Review*, 44(10): 1823-1840.
- Povel & Raith (2004), “Financial Constraints and Product Market Competition: Ex ante vs. Ex post Incentives”, *International Journal of Industrial Organization*, 22(7): 917-949.
- Brander & Lewis(1986), “Oligopoly and Financial Structure: The Limited Liability Effect”, *American Economic Review*, 76: 956-970.