

ECONOMICS 2900: INDUSTRIAL ORGANIZATION (IO)

(Fall Semester: Monday's 11:05 am to 12:45 pm, RT 147)

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login (user name): eco2900; (password): ipa2900
- Office Hours:** By Appointment
- Evaluation:** There will be a final exam (date to be determined) that will determine your grade in the course. Previous exams are posted on the course web site. Some problem sets will be distributed during the semester. While these will not be graded, answer templates will be posted.
- Other courses:** **ECO 2901S** (Winter Semester; IO, Friday 9 - 11) is offered by Professor Victor Aguirregabiria.
Bus Econ/IO Workshop: students are encouraged to attend this workshop that typically meets at Rotman on Monday's from 4:10 to 5:30 pm. Check seminar schedule for dates, room location, speakers and papers.
- Course Content:** The field of industrial organization is applied microeconomics/price theory concerned with the function of markets and the behavior of firms in these markets. In this course the focus is on two primary questions: (i) How do we explain observed behavior, prices or contractual practices by firms operating in markets that are not perfectly competitive? (ii) What is the role of government intervention in affecting market structure, the behavior of firms, and the efficient operation of markets? Recent developments in IO are both theoretical and empirical. This IO course stresses a basic understanding of the theory, including extensions and modern developments and applications of the theory; selected empirical applications will be presented in ECO 2404S and ECO 2901S.
- Text:** The Theory of Industrial Organization, by Jean Tirole, MIT Press, 1988 (**Tirole**) is the required text for the course. Additional readings are suggested.

Supplementary Texts:

- Armstrong, M. and R.H. Porter (eds) Handbook in Industrial Organization Volume 3, North Holland, 2007 (**Handbook 3**).
- Cabral, Luis, Introduction to Industrial Organization, The MIT Press, 2002 (**LC**)
- Cabral, Luis (ed), Readings in Industrial Organization, Blackwell Publishers, 2000 (**LCR**)
- Carleton, D. and J. Perloff, Modern Industrial Organization, Scott-Foresman-Little-Brown, 4th Edition, 2005 (**CP**).
- Church, J. and R. Ware, Industrial Organization: a Strategic Approach, Richard D. Irwin, 1998 (**CW**).
- Motta, Massimo, Competition Policy: Theory and Practice, Cambridge University Press, 2004 (**MM**)
- Salanié, Bernard, Microeconomics of Market Failure, MIT Press, 2000 (**SA**)
- Scherer, F.M. and D. Ross, Industrial Market Structure and Economic Performance, 3rd Edition, Houghton-Mifflin Co., Boston, 1990 (**SR**).
- Schmalensee, R. and R. Willig (eds.) Handbook in Industrial Organization Volumes 1 and 2, North Holland, 1989 (**Handbook 1-2**).
- Stigler, G. The Organization of Industry, U. Chicago Press, 1968 (**S**)

Journal Abbreviations:

- AER - American Economic Review
- AEJ:M - American Economic Journal: Microeconomics
- ALJ - Antitrust Law Journal
- BJE - Bell Journal of Economics
- CJE - Canadian Journal of Economics
- Ec - Economica
- EER - European Economic Review
- EI - Economic Inquiry
- EJ - Economic Journal
- EM - Econometrica
- IJO - International Journal of Industrial Organization
- JB - Journal of Business
- JEMS - Journal of Economics and Management Strategy
- JEP - Journal of Economic Perspectives
- JET - Journal of Economic Theory
- JIE - Journal of Industrial Economics
- JLaE - Journal of Labor Economics
- JLE - Journal of Law and Economics
- JLEO - Journal of Law, Economics and Organization
- JPE - Journal of Political Economy
- J Pub E - Journal of Public Economics
- NBER - National Bureau of Economic Research
- QJE - Quarterly Journal of Economics
- RES - Review of Economic Studies
- RIO - Review of Industrial Organization
- RJE - Rand Journal of Economics.

I. INTRODUCTION TO INDUSTRIAL ORGANIZATION: THE QUESTIONS

Tirole: pps 1 – 15 and Ch. 5, pps 209 – 212.

SR: Chapter 1.

II THEORY OF THE FIRM

Tirole: 15-60.

Arrow, K. The Limits of Organization, N.Y., Norton., 1974.

Bonatti, A. and J. Hörner “Collaborating,” AER April 2011, 101(2):632 – 663.

Grossman, S. and O. Hart “The Costs and Benefits of Ownership: A Theory of Lateral and Vertical Integration,” JPE 1986, 94: 691 – 719.

Hart, O. “Incomplete Contracts and the Theory of the Firm,” JLEO 1988, 4:119 - 139.

Hermalin, B.E. and M.L. Katz “Information and the Hold-up Problem,” RJE Autumn 2009, 40(3): 405 – 423.

Horstmann, I., F. Mathewson and N. Quigley “Sales Contracts with Long-Term Customer Relationships,” JLaE July 2005, 23(3): 589 – 608.

Alchian, A. and H. Demsetz “Production, Information Costs, and Economic Organization,” AER 1972, 62: 777 - 795. (One of the top 20 articles in the AER over 100 years of the publication of the AER. See Arrow, Kenneth J., B. Douglas Bernheim, Martin S. Feldstein, Daniel L. McFadden, James M. Poterba, and Robert M. Solow. 2011. "100 Years of the *American Economic Review*: The Top 20 Articles." *American Economic Review*, 101(1): 1-8.)

Holmstrom, B. and P. Milgrom “Multi-Task Principal-Agent Analyses: Incentive Contracts, Asset Ownership and Job Design,” JLEO 1991, 7: 24 - 51.

Lazear, E. P. and S. Rosen “Rank-Order Tournaments as Optimum Labor Contracts,” JPE 1981, 89(5): 841 – 864.

Kotowitz, Y. and F. Mathewson “The Economics of the Union-controlled Firm,” Ec 1982, 49 No. 196: 421 – 433.

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- Rajan, R. and L. Zingales “The Firm as a Dedicated Hierarchy: A Theory of the Origins and Growth of Firms,” QJE August 2001, 116 (3): 805 – 852.
- Levin, J. “Relational Incentive Contracts,” AER June 2003, 93(3): 835 – 857.
- Levin, J. and S. Tadelis “Profit Sharing and the Role of Professional Partnerships,” QJE February 2005, 120(1): 131 – 172.
- Corts, K. “Teams Versus Individual Accountability: solving Multitask Problems Through Job Design,” RJE Summer 2007, 38(2): 467 – 479.
- Bar-Isaac, H “Something to Prove: Reputation in Teams,” RJE Summer 2007 38(2): 495 – 511.
- Kosfeld, M. and F von Siemens “Competition, Cooperation and Corporate Culture,” RJE Spring 2011, 42(1): 23 – 43.
- Mukherjee, A. and L Vasconcelos “Optima; Job Design in the Presence of Implicit Contracts,” RJE Spring 2011, 41(1): 44 – 69.
- Aghion, P. and R. Holden, “Incomplete Contracts and the Theory of the Firm: What Have We Learned Over the Past 25 Years,” JEP Spring 2011, 25(2): 181 – 197.
- Tirole, J. “Cognition and Incomplete Contracts,” AER March 2009, 99(1): 265 – 294.
- Coase, R. “The Nature of the Firm,” Ec 1937, 4(16): 386 – 405.
- Stigler, G. “The Division of Labor is Limited by the Extent of the Market,” in (S).
- Klein, B., R. Crawford, and A. Alchian “Vertical Integration, Appropriable Rents, and the Competitive Contracting Process,” JLE 1978, 21: 297 – 326.
- Hart, O. and J. Moore “Contracts as Reference Points,” QJE 2008, 73(1): 1 – 48.
- Hart, O. “Hold-up, Asset Ownership and Reference Points,” QJE 2009, 74(1): 267 – 300.
- Hermalin, B. and M Katz “Information and the Hold-Up Problem,” RJE 2009 40(3): 405 – 423.

Masten, S. and E. Snyder “United States versus United Shoe Machinery Corporation: On the Merits,” JLE April 1993, 36(1) Part 1: 33 – 70.

Stole, L. and J. Zweibel “Organizational Design and Technology Choice Under Intrafirm Bargaining,” AER March 1996, 86(1): 195 – 222.

Whinston, M. “On the Transaction Cost Determinants of Vertical Integration,” JLEO, April 2003, 19(1): 1 – 23.

Prendergast, C. “The Tenuous Trade-off between Risk and Incentives,” JPE October 2002, 110 (5): 1071 – 1102.

Prendergast, C. “The Economics of Wild Goose Chases,” RJE Spring 2015, 46(1): 146 – 164.

Applications

Joskow, P. “Contract Duration and Relationship-Specific Investments,” AER 1987, 77: 168 – 185.

Mathewson, F. and R. Winter “Territorial Restrictions in Franchise Contracts,” EI April 1994, 32(2): 181 – 192.

Jensen, M. and K. Murphy “Performance Pay and Top-Management Incentives,” JPE 1990, 98: 225 – 264.

Crocker, K. and S. Masten “Mitigating Contractual Hazards: Unilateral Options and Contract and Contract Length,” RJE 19, Autumn 1984: 327 – 343.

III. THE THEORY OF MONOPOLY

Tirole: Ch. 1, pp. 65 – 72; 73 – 78.

Maskin, E. and J. Riley “Monopoly with Incomplete Information,” RJE 15, Summer 1984:171 – 196.

A. Durable Goods Monopoly

Tirole: Ch. 1: 72 – 73, 79 – 87.

Coase, R. “Durability and Monopoly,” JLE 15, 1972:143 – 149.

Pesendorfer, W. “Design Innovation and Fashion Cycles,” AER September 1995 85(4): 771 – 792.

- Bulow, J. “Durable Goods Monopolists,” JPE 1982, 90(2): 314 – 332.
- Fudenberg, D. and J. Tirole “Upgrades, Tradeins, and Buybacks,” RJE Summer 1998 29(2): 235-258.
- Deneckere, R. and A. de Palma “The Diffusion of Consumer Durables in a Vertically Differentiated Oligopoly,” RJE Winter 1998, 29 (4): 750 – 771.
- Hendel, I. and A. Lizzeeri “Interfering with Secondary Markets,” RJE, 30 (1), Spring 1999: 1 – 21.
- Denerkere, R. amd M.-Y. Liang “Imperfect Durability and the Coase Conjecture,” RJE Spring 2008 39(1): 1 – 19.
- House, C.L. amd E. Ozdenoren “Durable Goods and Conformity,” RJE Summer 2008 39(2): 452 – 468.

B. Production Selection, Quality and Advertising

Tirole: Ch. 2

- Akerlof, G. “The Market for Lemons: Quality Uncertainty and the Market Mechanism,” QJE 1970, 84: 488-500.
- Levin, J. “Information and the Market for Lemons,” RJE 32(4), Winter 2001: 657-666.
- Spence, M. “Monopoly, Quality, and Regulation,” BJE 1975, 6: 417-429.
- Becker, G. and K. Murphy “A Simple Theory of Advertising as a Good or Bad,” QJE 108, November 1991: 941-964.
- Shapiro, C. “Premiums for High Quality Products as Returns to Reputations,” QJE 98, November 1983: 659-679.
- Mussa, M. and S. Rosen “Monopoly and Product Quality,” JET 18, August 1978: 301 - 317.
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- Johnson, J. and M. Waldman, “Leasing, Lemons and Buybacks,” RJE Summer 2003 34(2): 247 – 266.
- Bagwell, K. “The Economic Analysis of Advertising,” Ch. 28, **Handbook 3**.

Tadelis, S. and F. Zettelmeyer, "Information Disclosure as a Matching Mechanism: Theory and Evidence from a Field Experiment," AER February 2015 105(2): 860 – 905.

C. **Price Discrimination**

Tirole: Ch. 3: 133 -165.

SR: Ch. 12, 13

Varian, H. "Price Discrimination," Ch.10, **Handbook 1-2**.

Shepard, A. "Price Discrimination and Retail Configuration," JPE 99, Feb. 1991: 30 - 53.

Borenstein, S. and N. Rose "Competition and Price Dispersion in the U.S. Airline Industry," JPE Aug. 1994.

Corts, K.S. "Third-Degree Price Discrimination in Oligopoly: All-Out Competition and Strategic Commitment," RJE Summer 1998 29(2): 306 - 323.

Rosen, S. and A. M. Rosenfield "Ticket Pricing," JLE October 1997, 40 (2): 351-376.

Kühn, Kai-Uwe "Nonlinear Pricing in Vertically Related Duopolies," RJE Spring 1997, 28 (1): 37-62.

Courty, Pascal and Li Hao "Sequential Screening," RES October 2000, 67(4): 697 – 717.

Armstrong, M. and J. Vickers "Competitive Price Discrimination," RJE Winter 2001, 32(4): 579 – 605.

Holmes, T.J. "The Effects of Third-Degree Price Discrimination in Oligopoly," AER 1989 79(1): 244 – 250.

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Bergeman, D., B. Brooks, and Stephen Morris "The Limits of Price Discrimination," AER March 2015, 105 (3): 921 – 957.

Choné, P. and L. Linnemer "Nonlinear Pricing and Exclusion: 1. Buyer Opportunism," RJE Summer 2015 46(2): 217 – 240.

D. **Vertical Integration and Foreclosure**

Tirole: Ch. 4.

SR: Ch. 1

- Katz, M. “Vertical Contractual Relationships,” Ch. 11, **Handbook 1-2**.
- Perry, M. “Vertical Integration: Determinants and Effects,” Ch.4, **Handbook 1-2**.
- Riordan, M. “What is Vertical Integration?” in M. Aoki, B. Gufstafson, and O. Williamson (eds.) The Firm as a Nexus of Treaties, London: Sage, 1990.
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- Rey, P. and J. Stiglitz “The Role of Exclusive Territories in Producers' Competition,” RJE Autumn 1995, 26 (3): 431 - 451.
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- Shy, O. and Z Wang “Why Do Payment Card Networks Charge Proportional Fees,” AER June 2011, 101(4): 1575 – 1590.
- Arya, A. and B. Mittendorf “Disclosure Standards for Vertical Contracts,” RJE Fall, 2011, 42(3): 595 – 617.
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E. Exclusive Dealing Contracts and Foreclosure

- Marvel, H. “Exclusive Dealing,” JLE April, 1982, 25: 1 – 25.
- Mathewson, F. and R. Winter “Is Exclusive Dealing Anti-Competitive? A Comment,” AER Dec. 1987, 77: 1057 – 1062.

Aghion, P. and P. Bolton “Entry Prevention through Contracts with Customers,” AER 1987, 77: 388 – 401.

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F. Other Vertical Contracts

(I) *Resale Price Maintenance and Exclusive Territories*

Telser, L. “Why Should Manufacturers Want Fair Trade?” JLE Oct. 1960, 3: 86 - 105.

Mathewson, F., and R. Winter “The Law and Economics of Resale Price Maintenance,” RIQ 13 (Nos 1-2), April 1998: 57 - 84.

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- (II) Tying and Bundling**
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(III) Refusals to Supply

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(IV) Loyalty Programs

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IV. THEORIES OF OLIGOPOLISTIC MARKETS

A. Oligopoly

(I) Theory

Tirole: Review Ch. 11 (game theory). Also, pp. 205-208 and Ch. 5,6

Shapiro, C. “Theories in Oligopoly Behavior,” Ch. 6 in the **Handbook 1-2**.

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Green, E. and R. Porter “Noncooperative Collusion under Imperfect Price Competition,” EM 52 January 1984: 87 - 100. Reprinted in (**LCR**)

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(III) Empirical models of product differentiation

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C. Entry and Market Structure

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