

**ECONOMICS 2900: INDUSTRIAL ORGANIZATION (IO)**

**(Fall Semester: Monday's 11:00 am to 1:00 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, answers template will be posted.
- Other courses:** **ECO 2404S** (Winter Semester; Empirical Applications of Economic Theory) is offered by Professor Eduardo Souza Rodrigues.  
**ECO 2901S** (Winter Semester; IO) is offered by Professor Victor Aguirregabiria.
- 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 2404F 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, 4<sup>th</sup> 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
IJIO	- 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.

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- 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.
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- 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.

Hur, J. and Y Riyanto, "Organizational Structure and Product Market Competition," JMES 2012, 21(3): 707 – 744.

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.

### **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.

Karp, L. and J. Perloff “The Optimal Suppression of a Low-Cost Technology by a Durable-Good Monopoly,” RJE Summer 1996 27(2): 346 – 364.

Fudenberg, D. and J. Tirole “Upgrades, Tradeins, and Buybacks,” RJE Summer 1998 29(2): 235-258.

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Denerkere, R. and M.-Y. Liang “Imperfect Durability and the Coase Conjecture,” RJE Spring 2008 39(1): 1 – 19.

House, C.L. and 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.

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Shapiro, C. “Premiums for High Quality Products as Returns to Reputations,” QJE 98, November 1983: 659-679.

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Emons, W. “Credence Goods and Fraudulent Experts,” RJE Spring 1997 28 (1): 107-119.  
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Shavell, S. “Acquisition and Disclosure of Information Prior to Sale,” RJE Spring 1994  
25(1): 20 – 36.

Bagwell, K. “The Economic Analysis of Advertising,” Ch. 28, **Handbook 3**.

C. **Price Discrimination**

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**SR:** Ch. 12, 13

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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.

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Kühn, Kai-Uwe “Nonlinear Pricing in Vertically Related Duopolies,” RJE Spring 1997,  
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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  
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Stole, L “Price Discrimination and Competition,” Ch. 34, **Handbook 3**.

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.
- Riordan, M. “Anticompetitive Vertical Integration by a Dominant Firm,” AER 1998, 88(5): 1232 – 1248.
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- Rey, P. and J. Tirole “A Primer on Foreclosure,” Ch.33, **Handbook 3**.
- Rey, P. and J. Stiglitz “The Role of Exclusive Territories in Producers' Competition,” RJE Autumn 1995, 26 (3): 431 - 451.
- Weiss, A. “Vertical Mergers and Firm-Specific Physical Capital: Three Case Studies and Some Evidence on Timing,” JIE, 42, 1994: 395 – 418.
- Kaufman, P. and F. Lafontaine “Costs of Control: The Source of Economic Rents for McDonald’s Franchisees” JLE 1994 37(2): 417 – 454.
- Kühn, K.-U. and X. Vives “Excess Entry, Vertical Integration and Welfare,” RJE Winter 1999, 30(4): 575 – 603.
- 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.
- Moresi, S. and S. Salop “vGUPPI: Scoring Unilateral Pricing Incentives in Vertical Mergers,” available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2085999](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2085999)

**E. Exclusive Dealing Contracts and Foreclosure**

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- Mathewson, F. and R. Winter “Is Exclusive Dealing Anti-Competitive? A Comment,” AER, Dec. 1987, 77: 1057 – 1062.



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Borenstein, S. et al “Antitrust Policy in Aftermarkets,” ALJ Winter 1995, v 63(2): 455 - 482.

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## **F. Other Vertical Contracts**

### **(I) *Resale Price Maintenance and Exclusive Territories***

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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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Ippolito, P. “Resale Price Maintenance: Empirical Evidence from Litigation,” JLE 31, 1991: 263 - 294.

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- Slade, M. “Strategic Motives for Vertical Separation: An Empirical Exploration,” JLEO April 1998, 14 (1): 84 - 113.
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- (II) Tying and Bundling**
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**(III) Refusals to Supply**

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**IV. THEORIES OF OLIGOPOLISTIC MARKETS**

**A. Oligopoly**

**(I) Theory**

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## **B. Product Differentiation**

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**C. Entry and Market Structure**

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