

Econ. 631 Industrial Organization

This course covers both theoretical and empirical analyses of industrial organization. The primary focus will be on the theory of firm, market power, strategic interactions, and empirical test of the predictions of economic theories. Topics in empirical analyses will require the knowledge of some statistical packages (such as SAS, STATA, TSP, etc. STATA is recommended.)

Prerequisites: First year graduate level of microeconomics and econometrics.

Course Time: Tuesdays and Thursdays, 10:00-11:30am in 1096 East Hall

Office Hour: Tuesday, 4:30-5:30pm in 365C Lorch Hall.

Grading: 3 problem sets (60%), and an exam. (40%)

Textbooks

Tirole, Jean, The Theory of Industrial Organization, Cambridge, MA: The MIT Press, 1988

Course Outline and Reading List

I. OBJECTIVE OF FIRM

- Principal-Agent Problem
 - Prendergast, 1999, "The Provision of Incentives in Firms," Journal of Economic Literature
 - Holmstrom and Milgrom 1991, "Multi-task Principal Agent Analyses," Journal of Law, Economics and Organization, 7, Special Issue
 - Akerberg and Botticini, 2002, "Endogeneous Matching and the Empirical Determinants of Contract Form," JPE 110 (3)
- Delegation of Authority
 - Simon, Herbert, "A Formal Theory of the Employment Relationship," Econometrica, July 1951, 19(3), pp.293-305
 - Aghion and Tirole, "Formal and Real Authority in Organization," Journal of Political Economy, 1997, 105(1), pp.1-29
 - Athey and Roberts, "Organizational Design: Decision Rights and Incentive Contracts," AER, May 2001, pp. 200-205

- CEO Compensation
 - Jensen and Murphy (1987) "Performance Pay and Top-Management Incentives," *Journal of Political Economy*, 98 (2)
 - Hall and Liebman, 1998, "Are CEOs Really Paid Like Bureaucrats?" *Quarterly Journal of Economics*
 - Bertrand and Mullainathan, 2000, "Agents with and without Principals," *AER*
- Structure and Strategy
 - Chandler, "Strategy and Structure: Chapters in the History of American Industrial Enterprise," MIT Press
 - Hermalin, 1994, "Heterogeneity in Organizational Form: Why Otherwise Identical Firms Choose Different Incentives for Their Managers.," *Rand Journal of Economics*
 - Miller and Pazgal, 2001, "The Equivalence of Price and Quantity Competition with Delegation," *RAND Journal of Economics*, 32(2), Summer, 284-301
 - Grossman and Helpman, 1999, "Incomplete Contracts and Industrial Organization," NBER Working Paper #7303
 - Cockburn, Henderson, and Stern, 1999, "The Diffusion of Science Driven Drug Discovery: Organizational Change in Pharmaceutical Research," mimeo

II. EXERCISE OF MONOPOLY (MARKET) POWER

- Pricing and Price Discrimination
 - Tirole, Chap. 1, 3
 - Shepard, Andrea, 1991, "Price Discrimination and Retail Configuration," *Journal of Political Economy*, 99 (Feb.) 30-53
 - Verboven, 2002, "Quality-Based Price Discrimination and Tax Incidence: Evidence from Gasoline and Diesel Cars," *Rand Journal of Economics*, Summer 2002; 33(2): 275-97

III SHORT-RUN COMPETITION

- Competition in Homogenous-Products Industries
 - Tirole, Chap. 5
 - Kreps and Scheinkman, 1983, "Quantity Precommitment with Bertrand Competition," *Bell J. of Economics*, pp. 326-337
 - Henken, 2002, "The 1.5th Mover Advantage," *RAND-Journal-of-Economics*. Spring 2002; 33(1): 156-70

- Measuring Market Power in Homogeneous-Products Industries
 - Bresnahan, Timothy, 1989, "Empirical Studies of Industries with Market Power," in Schmalensee and Willig (eds.), Handbook of Industrial Organization, Volume II: 1011-1058: North-Holland
 - Graddy, Kathryn, 1995, "Testing for Imperfect Competition at the Fulton Fish Market," Rand Journal of Economics 26 (Spring)
 - Wolfram Catherine, 1999, "Measuring Duopoly Power in the British Electricity Spot Market," AER
- Product Differentiation
 - Tirole, Chap. 7
- Measuring Market Power in Differentiated-Products Industries
 - Nevo, Aviv, 1998, "Measuring Market Power in the Ready-to-Eat Cereal Industry," NBER Working Paper No.6387, forthcoming Econometrica
 - Berry, Steven, Levinsohn, James, and Ariel Pakes, 1995, "Automobile Prices in Market Equilibrium," Econometrica 63 (July): 841-990

IV DYNAMIC COMPETITION

- Repeated Interaction
 - Tirole, Chap. 6
 - Rotemberg and Saloner, 1986, "A Supergame-Theoretic Model of Price Wars during Booms," American Economic Review, 76(3), 390-407
 - Green and Porter, 1984, "Noncooperative Collusion under Imperfect Price Information," Econometrica, 52, 87-100
 - Porter, 1983, "A Study of Cartel Stability: The Joint Executive Committee," Bell Journal of Economics, 14, pp.87-100
 - Ellison, 1994, "Theories of Cartel Stability and the Joint Executive Committee," The Rand Journal of Economics, 25, pp.37-57
- Multimarket Contact
 - Bernheim, B.D., and M.D.Whinston, 1990, "Multimarket Contact and Collusive Behavior," Rand Journal of Economics, 21(1), 1-26
 - Evans and Kessides, 1994, "Living by the "Golden Rule": Multimarket Contact in the U.S. Airline Industry," Quarterly Journal of Economics, 109(2), 341-66

- Parker and Roller, 1997, "Collusive conduct in duopolies: multimarket contact and cross-ownership in the mobile telephone industry", *Rand Journal of Economics*, 28(2), p304-322
- Phillips and Mason, 1992, "Mutual forbearance in experimental conglomerate markets," *Rand Journal of Economics*, 23(3), p305-414
- Entry
 - Tirole, Chap. 8
 - Dixit, A. (1970); "The Role of Investment in Entry Deterrence", *Economic Journal*, pp.95-106
 - Berry, Steven, 1992, "Estimation of a Model of Entry in the Airline Industry," *Econometrica* 60(4):889-918
 - Ghemawat, P., 1984, "Capacity Expansion in the Titanium Dioxide Industry," *Journal of Industrial Economics*, 33(2), 145-63
 - Kadiyali, 1996, "Entry, Its Deterrence, and Its Accomodation: A Study of the U.S. Photographic Film Industry," *Rand Journal of Economics*, Autumn
- Exit
 - Ghemawat and Nalebuff, 1985, "Exit," *Rand Journal of Economics*, 16(2), 184-94
 - Whinston, M., 1988, "Exit with Multiple Plants," *Rand Journal of Economics*, 19(4), pp 568-88
 - Lieberman, 1990, "Exit from Declining Industry: Shakeout or Stakeout," *Rand Journal of Economics*
 - Dunne, T., M. J. Roberts, and L. Samuelson (1988). *Patterns of Firm Entry and Exit in U.S. Manufacturing Industries*, *Rand Journal of Economics*, 19, pp.

V. R&D and Technology

- R&D and Market Structure
 - Tirole, Chap. 10
 - Aghion and Tirole, 1994, "Management of Innovation," *QJE*
 - Josh Lerner, 1997, "An empirical exploration of a technology race", *Rand Journal of Economics*, 28(2), pp228-247
 - Klemperer, 1987, "How Broad Should the Scope of Patent Protection Be?" *Rand Journal of Economics*, 21, pp 113-131

- Network Effect

- Katz, M. and C. Shapiro, 1986, "Technology Adoption in the Presence of Network Externalities," JPE, 94, 822-41
- Farrell, J. and G. Saloner, 1985, "Standardization, Compatibility, and Innovation," RJE, 16, 70-83
- Saloner, G. and A. Shepard, 1995, "Adoption of Technologies with Network Effects: An Empirical Examination of the Adoption of Automated Teller Machines," Rand Journal of Economics, 26, 479-501

VI. Evolution of Industry

- John Sutton, 1997. "Gibrat's Legacy," Journal of Economic Literature, Vol. 35 (1) pp. 40-59.
- Jovanovic, Boyan, 1982. "Selection and the Evolution of Industry," Econometrica, Vol. 50 (3) pp. 649-70.
- Hopenhayn, Hugo A, 1992. "Entry, Exit, and Firm Dynamics in Long Run Equilibrium," Econometrica, Vol. 60 (5) pp. 1127-50
- Ericson, R., and A. Pakes (1995). Markov-Perfect Industry Dynamics: A Framework for Empirical Work, Review of Economic Studies, 62, pp. 53-82
- Klepper, S. (2002), "Firm survival and the evolution of oligopoly," Rand Journal of Economics, 33 (1), pp. 37-61