

BOSTON COLLEGE
Department of Economics

EC854
Industrial Organization II

Frank Gollop
McGuinn 519

Fall 1999

Office Hours: Tuesday and Thursday 3:00-4:30

Texts: Waldman, Don E. and Elizabeth J. Jensen. Industrial Organization: Theory and Practice. Reading, MA: Addison-Wesley, 1998.

Kwoka, John E. and Lawrence J. White (eds). The Antitrust Revolution. New York: Oxford University Press, 1999.

Breit, William and Kenneth Elzinga. The Antitrust Casebook (3rd edition). Chicago: Dryden Press, 1996.

Copies of other required readings will be distributed in class.

<u>Grading:</u>	First Midterm	20%
	Second Midterm	30%
	Final Exam	50%

Module I: Antitrust Economics

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| I. | Introduction/Antitrust Law Overview | Sept 2 |
| II. | Monopoly and Dominant Firm Behavior | |
| | - Market Concentration and Barriers to Entry | Sept 7 |
| | - Game Theory | Sept 7 |
| | - Traditional Marginal Analysis: | |
| | Price Leadership | Sept 9 |
| | Pricing to Deter Entry | Sept 9 |
| | Non-Price Strategies to Deter Entry | Sept 14 |
| | - Antitrust Cases | Sept 14-21 |
| III. | Oligopoly: Interdependence and Non-Cooperative Games | |
| | - Traditional Marginal Analysis | Sept 23-28 |
| | - Game Theory | Sept 28 |
| | - Antitrust Cases | Sept 30 |

FIRST MIDTERM (45 minutes) Oct 5

IV. Oligopoly: Collusion and Cooperative Games	
- Game Theory	Oct 5-7
- Methods of Achieving a Collusive Outcome	Oct 12
- Antitrust Cases	Oct 12-19
V. Mergers	Oct 21
VI. Price Discrimination	Oct 26
VII. Predatory Pricing	Oct 26-28
VIII. Vertical Restraints	
- Vertical Integration	Nov 2
- Tying and Exclusive Dealing	
Theory	Nov 2
Antitrust Cases	Nov 4
- Territorial and Customer Restrictions and RPM	
Theory	Nov 9
Antitrust Cases	Nov 11

SECOND MIDTERM

Module II: Regulatory Economics

IX. Introduction/Rate-of-Return Regulation	Nov 16
X. Natural Monopoly/Cross Subsidies	Nov 18
XI. Peak-Load Pricing/Price Cap Regulation	Nov 23
XII. Franchise Bidding	Nov 30
XIII. Deregulating Natural Monopoly	Dec 2
XIV. Environmental Regulation	Dec 7

SYLLABUS

Module I: Antitrust Economics

I. Introduction/Antitrust Law Overview

Waldman and Jensen, Chapter 18 (pp. 465-70).

Breit and Elzinga, pp. 1-8.

Kwoka and White, pp. 1-13.

Mueller, D.C., "Lessons from the United States's Antitrust History," International Journal of Industrial Organization, 14 (June 1996), pp. 415-28 and 435-39.

*Barnes, David W., "Antitrust, the Rule of Reason, and Democracy," Review of Industrial Organization (March 1999), pp. 115-22.

*Cutler, D.M. and L.H. Summers, "The Costs of Conflict Resolution and Financial Distress: Evidence from the Texaco-Pennzoil Litigation," Rand Journal, 19 (Summer 1988), pp. 157-72.

II. Monopoly and Dominant Firm Behavior

Market Concentration and Barriers to Entry:

Waldman and Jensen, Chapters 4 (pp. 76-88) and 5 (pp. 98-102, 108-17, and 122-28).

*Evans, William and Ioannis Kessides, "Localized Market Power in the U.S. Airline Industry," Review of Economics and Statistics, 75 (February 1993), pp. 66-75.

Game Theory:

Waldman and Jensen, Chapter 6 (pp. 135-38 and 144-46).

Traditional Marginal Analysis:

Price Leadership

Waldman and Jensen, Chapter 7 (pp. 169-75).

Pricing to Deter Entry:

Waldman and Jensen, Chapter 10 (pp. 232-42).

Non-Price Strategies to Deter Entry:

Waldman and Jensen, Chapter 11 (pp. 261-67 and 273-80).

Salop, Steven and David Scheffman, "Raising Rivals' Costs," AEA Papers and Proceedings, 73 (May 1983), pp. 267-71.

Granitz, Elizabeth and Benjamin Klein, "Monopolization by 'Raising Rivals' Costs: The Standard Oil Case," Journal of Law and Economics, 39 (April 1996), pp. 1-47.

"Too Many Cereals for the FTC," Business Week, March 20, 1978.

*Schmalensee, R., "Entry Deterrence in the Ready-to-Eat Breakfast Cereal Industry," Bell Journal, 9 (Autumn, 1978), pp. 305-327.

*Supplementary reading. Recommended but not required.

- *Masten, Scott and Edward Snyder, "U.S. versus United Shoe Machinery Corp.: On the Merits," Journal of Law and Economics, 36 (April 1993), pp. 33-70.
- *Reiffen, David and Andrew Kleit, "Terminal Railroad Revisited: Foreclosure of an Essential Facility or Simple Horizontal Monopoly," Journal of Law and Economics, 33 (October 1990), pp. 419-38.
- *Perry, Martin, "Forward Integration by Alcoa: 1888-1930," Journal of Industrial Economics, 29 (September 1980), pp. 37-53.
- *Spence, A.M., "Entry, Capacity, Investment, and Oligopolistic Pricing," Bell Journal, 8 (Autumn 1977), pp. 534-44.

Antitrust Cases:

- Waldman and Jensen, Chapters 10 (pp. 242-44) and 18 (pp. 470-78).
- Breit and Elzinga, pp. 120-32, 173-214, 277-79 and 283-91.
- *Rosenbaum, David and Meng-Hua Ye, "Attempts to Monopolize and the Determination of Specific Intent," Quarterly Review of Economics and Finance, 32 (Spring 1992), pp. 50-70.
- *Kahai, Simran, David Kaserman, and John Mayo, "Is the 'Dominant Firm' Dominant? An Empirical Analysis of AT&T's Market Power," Journal of Law and Economics, 39 (October 1996), pp. 499-517.

III. Oligopoly: Interdependence and Non-Cooperative Games

Traditional Marginal Analysis:

- Waldman and Jensen, Chapter 7 (pp. 149-69).
- Baumol, W.J., "Contestable Markets: An Uprising in the Theory of Industry Structure," American Economic Review, 72 (March 1982), pp. 1-15.

Game Theory:

- Waldman and Jensen, Chapter 6 (pp. 139-44).

Antitrust Cases

- Breit and Elzinga, pp. 78-84, 280-82, and 297-304.

IV. Oligopoly: Collusion and Cooperative Games

Game Theory:

- Waldman and Jensen, Chapter 8.

Methods of Achieving a Collusive Outcome:

- Waldman and Jensen, Chapter 9.
- *Kirby, Alison, J., "Trade Associations as Information Exchange Mechanisms," Rand Journal, 19 (Spring 1988), pp. 138-46.
- *Bernheim, B.D. and M.D. Whinston, "Common Marketing Agency as a Device for Facilitating Collusion," Rand Journal, 16 (Summer 1985), pp. 269-81.

Antitrust Cases:

- Waldman and Jensen, Chapters 19 (pp. 482-96) and 22 (pp. 561-62).
- Breit and Elzinga, pp.46-59.
- Kwoka and White, pp. 182-219, 264-85, and 310-26.
- *Breit and Elzinga, pp. 14-45.
- *Cyrenne, Philippe, "On Antitrust Enforcement and the Deterrence of Collusive Behavior," Review of Industrial Organization (May 1999), pp. 257-72.

V. Mergers

Waldman and Jensen, Chapter 20.
Breit and Elzinga, pp. 411-36.

Horizontal Mergers:

Breit and Elzinga, pp. 133-49.
Kwoka and White, pp. 116-64.
*Praeger, Robin, "The Effects of Horizontal Mergers on Competition: The Case of the Northern Securities Company, Rand Journal of Economics, 23, (Spring 1992), pp. 123-33.
*Gilbert, Richard, "The Role of Potential Competition in Industrial Organization," Journal of Economic Perspectives, 3 (Summer 1989), pp. 107-27.

Vertical Mergers:

*Breit and Elzinga, pp. 215-16 and 227-32.
*Robinson, J., "Administered Pricing and Vertical Integration in the Hospital Industry," Journal of Law and Economics, 39 (April 1996), pp. 357-78.
*Blair, R.D. and Kaserman, D.L., "Vertical Integration, Tying, and Antitrust Policy," American Economic Review, 68 (June 1978), pp. 397-402.
*Ohta, H., and Greenhut, M., "Vertical Integration of Successive Oligopolies," American Economic Review, 69 (March 1979), pp. 137-141.

Conglomerate Mergers:

*Matsusaka, John, "Takeover Motives During the Conglomerate Merger Wave," Rand Journal of Economics, 24 (Autumn 1993), pp. 357-79.
*Turner, D.F., "Conglomerate Mergers and Section 7 of the Act," Harvard Law Review (May 1965), pp. 1313-1395.
*Gollop, Frank and James Monahan, "A Generalized Index of Diversification: Trends in U.S. Manufacturing," Review of Economics and Statistics, 73 (May 1991), pp. 318-30.
*Markham, J.W., Conglomerate Enterprise and Public Policy, 1973.

VI. Price Discrimination

Waldman and Jensen, Chapters 15 and 21.
*Breit and Elzinga, pp. 222-26 and 318-54.
*Borenstein, S., "Price Discrimination in Free-Entry Markets," Rand Journal, 16 (Autumn 1985), pp. 380-97.
*Edwards, C.D., The Price Discrimination Law. Brookings, 1959, Chapters 19 and 20.

VII. Predatory Pricing

Waldman and Jensen, Chapter 10 (pp. 245-52).
Baumol, William, "Predation and the Logic of the Average Variable Cost Test," Journal of Law and Economics, 39 (April 1996), pp. 49-72.
Kwoka and White, pp. 220-63 and 286-309.
*Areeda, P. and Turner, D., "Predatory Pricing and Related Practices Under Section 2 of the Sherman Act," Harvard Law Review, 88 (February 1975), pp. 697-733.

- *Anderson, Rod W. and Ronald N. Johnson, "Antitrust and Sales-Below-Cost Laws: The Case of Retail Gasoline," Review of Industrial Organization, (May 1999), pp.189-204.
- *Ordober, J. and Willig, R., "An Economic Definition of Predation: Pricing and Product Innovation," Yale Law Journal, 91 (November 1981), pp. 8-53.
- *Burns, M., "Predatory Pricing and the Acquisition Cost of Competitors," Journal of Political Economy, 94 (April 1986), pp. 266-96.

VIII. Vertical Restraints

Vertical Integration:

- Waldman and Jensen, Chapter 16.
- Breit and Elzinga, pp. 215-22.
- Rey, Patrick and Jean Tirole, "The Logic of Vertical Restraints," American Economic Review, 76 (December 1986), pp. 921-39.

Tying and Exclusive Dealing:

Theory:

- Waldman and Jensen, Chapter 22 (pp. 548-54).
- *Pittman, Russell, "Tying Without Exclusive Dealing," DOJ Economic Policy Office Discussion Paper (September 1984).

Antitrust Cases:

- Kwoka and White, pp. 342-63 and 409-29.
- *Breit and Elzinga, pp. 233-55.

Territorial and Customer Restrictions and RPM:

Theory:

- Waldman and Jensen, Chapter 22 (pp. 554-61).
- Stewart, David and Scott Nelson, "Upholding Vertical Restraints, ABA Journal (July 1, 1988), pp. 36-43. [Will be distributed in class.]
- Ippolito, Pauline and Thomas Overstreet, "RPM: An Economic Assessment of the FTC's Case against the Corning Glass Works," Journal of Law and Economics, 39 (April 1996), pp. 285-328.
- *Mueller, Willard, and Frederick Geithman, "An Empirical Test of the Free Rider and Market Power Hypotheses," Review of Economics and Statistics, 73 (May 1991), pp. 301-08.
- *Ippolito, Pauline, "Resale Price Maintenance: Empirical Evidence from Litigation," Journal of Law and Economics, 34 (October 1991), pp. 263-94.
- *Ornstein, Stanley and Dominique Hanssens, "Resale Price Maintenance: Output Increasing or Restricting? The Case of Distilled Spirits in the United States," Journal of Industrial Economics, 36 (Sept. 1987), pp. 1-18.
- *Sass, T. and D. Saurman, "Mandated Exclusive Territories and Economic Efficiency: An Empirical Analysis of the Malt-Beverage Industry," Journal of Law and Economics, 36 (April 1993), pp. 153-74.

Antitrust Cases:

- Kwoka and White, pp. 364-85.
- *Breit and Elzinga, pp. 359-61 and 372-82.

Module II: Regulatory Economics

IX. Introduction/Rate-of-Return Regulation

Introduction:

- Viscusi, W. Kip, "Economic Foundations of the Current Regulatory Reform Efforts," Journal of Economic Perspectives, 10 (3), (Summer 1996), pp. 119-34.
- *Ellig, Jenny, "Why Do Regulators Regulate? The Case of the Southern California Gas Market," Journal of Regulatory Economics, 7 (3), (May 1995), pp. 293-308.
- *Stigler, George, "The Theory of Economic Regulation," Bell Journal of Economics, II (Spring 1971), pp. 3-21.
- *Peltzman, Sam, "Toward a More General Theory of Regulation," Journal of Law and Economics, XIX (August 1976), pp. 211-40.

Rate-of-Return Regulation:

- Viscusi, Vernon, and Harrington, Chapter 12, pp. 355-69.
- *Averch, H. and L. Johnson. "Behavior of the Firm Under Regulatory Constraint," American Economic Review (December 1962).
- *Oum, Tae Hoon and Yimin Zhang, "Competition and Allocative Efficiency: The Case of the U.S. Telephone Industry," Review of Economics and Statistics, 77 (1), (February 1995), pp. 82-96.
- *Peles, Yoram and Greg Whittred, "Incentive Effects of Rate-of-Return Regulation: The Case of Hong Kong Electric Utilities," Journal of Regulatory Economics, 10 (1) (July 1996), pp. 99-112.
- *Gollop, Frank and Stephen Karlson, "The Impact of the Fuel Adjustment Mechanism on Economic Efficiency," Review of Economics and Statistics, 60 (November 1978), pp. 574-75, 583-84.
- *Gollop, F.M., and Karlson, S.H., "The Electric Power Industry: An Econometric Model of Intertemporal Behavior," Land Economics, 56 (August 1980).

X. Natural Monopoly

Subadditivity and Sustainability:

- Viscusi, Vernon, and Harrington, Chapter 11, pp. 330-45
- Baumol, W.J., "On the Proper Cost Tests for Natural Monopoly in a Multiproduct Industry," American Economic Review, 67 (December 1977), pp. 809-822.
- *Baumol, W.J., "Scale Economies, Average Cost, and the Profitability of Marginal Cost Pricing," in Public and Urban Economics, Ronald E. Grieson (ed.), Lexington, MA: Lexington Books, 1976, Chapter 4, 43-57.
- *Panzar, J.C., and Willig, R.D., "Free Entry and the Sustainability of Natural Monopoly," Bell Journal 8 (Spring 1977), 1-22.
- *Sharkey, W.W., "Existence of Sustainable Prices for Natural Monopoly Outputs," Bell Journal, 12 (Spring 1981), 144-54.
- *Prieger, James, "Ramsey Pricing and Competition: The Consequence of Myopic Regulation," Journal of Regulatory Economics, 10 (3), (November 1996), pp. 307-22.

Cross Subsidies:

- Viscusi, Vernon, and Harrington, Chapter 12, pp. 370-72.
- Palmer, Karen, "A Test for Cross Subsidies in Local Telephone Rates: Do Business Customers Subsidize Residential Customers?" Rand Journal, XXIII (Autumn 1992), pp. 415-31.
- *Faulhaber, Gerald R., "Cross Subsidization: Pricing in Public Enterprises," American Economic Review, LXV (December 1975), pp. 966-77.
- *Kaserman, David and John Mayo, "An Efficient Avoided Cost Pricing Rule for Resale of Local Exchange Telecommunications Service," Journal of Regulatory Economics, 11 (1), (January 1997), pp. 91-107.
- *Brennan, Timothy, "Cross Subsidy and Cost Misallocation by Regulated Monopolists," Journal of Regulatory Economics, 2 (1), (March 1990), pp. 37-52.
- *Kaserman, D., John Mayo, and Joseph Flynn, "Cross Subsidy in Telecommunications" Beyond the Universal Service Fairy Tale," Journal of Regulatory Economics, 2 (3), (September 1990), pp. 31-50.
- *Lenard, Thomas, Monimca Bettendorf, and Stephen McGonegal, "Stand-Alone Costs, Ramsey Prices, and Postal Rates," Journal of Regulatory Economics, 4 (3), (September 1992), pp. 243-62.

XI. Peak-Load Pricing/Price Cap Regulation

Peak-Load Pricing:

- Viscusi, Vernon, and Harrington, Chapter 12, pp. 372-78.
- Crew, Michael, Chitru Fernando, and Paul Kleindorfer, "The Theory of Peak Load Pricing" A Survey," Journal of Regulatory Economics, 8 (3), (November 1995), pp. 215-48.
- *Burness, Stuart and Robert Patrick, "Peak-Load Pricing with Continuous and Interdependent Demand," Journal of Regulatory Economics, 3 (1), (March 91), pp. 69-88.
- *Costello, Kenneth, "Revenue Caps or Price Caps? Robust Competition Later Means Healthy Choices Now," Public Utilities Fortnightly, 134 (9), (May 1, 1996), pp. 28-34.
- *Ros, Agustin and Jerry Harvill, "Incentive Ratemaking in Illinois: The Transition to Competitive Markets," Public Utilities Fortnightly, 133 (14), (July 15, 1995), pp. 22-25.
- *Lyon, Thomas, "A Model of Sliding Scale Regulation," Journal of Regulatory Economics, 9 (3), (May 1996), pp. 227-47.
- *Caves, Douglas and Laurits Christensen, "Time-of-Use Rates for Residential Electric Service: Results from the Wisconsin Experiment," Public Utilities Fortnightly, (March 17, 1983), pp. 30-35.

Price-Cap Regulation:

- Laffont, Jean-Jacques and Jean Tirole, "Creating Competition Through Interconnection" Theory and Practice," Journal of Regulatory Economics, 10 (3), (November 1996), pp. 227-56.
- Crew, Michael and Paul Kleindorfer, "Incentive Regulation in the U.K. and the U.S.: Some Lessons," Journal of Regulatory Economics, 9 (3), (May 1996), pp. 211-25.
- *Liston, Catherine, "Price Cap Versus Rate of Return Regulation," Journal of Regulatory Economics, 5 (1), (March 1993), pp. 25-48.
- *Neu, Werner, "Allocation Inefficiency Properties of Price-Cap Regulation," Journal of Regulatory Economics, 5 (2), (June 1993), pp. 159-82.

- *Laube, Robert, "Price-Cap Regulation: Problems and Solutions," Land Economics, 71 (3), (August 1995), pp. 286-98.
- *Isaac, R. Mark, "Price Cap Regulation: A Case Study of Some Pitfalls of Implementation," Journal of Regulatory Economics, 3 (2), (June 1991), pp. 193-210.
- *Neri, John and Keith Bernard, "Price Caps and Rate of Return: The British Experience," Public Utilities Fortnightly, 132 (17), (September 15, 1994), pp. 34-36.

XII. Franchise Bidding

- Viscusi, Vernon, and Harrington, Chapter 13.
- Otsuka, Yasuji, "A Welfare Analysis of Local Franchise and Other Types of Regulation: Evidence from the Cable TV Industry," Journal of Regulatory Economics, 11 (2), (March 1997), pp. 157-80.
- McAfee, R. Preston and John McMillan, "Analyzing the Airwaves Auction," Journal of Economic Perspectives, 10 (1), (Winter 1996), pp. 159-75.x
- *Riordan, Michael H. and David E.M. Sappington, "Awarding Monopoly Franchises," American Economic Review, 77 (June 1987), pp. 375-87.
- *Praeger, Robin, "Franchise Bidding for Natural Monopolies: The Case of Cable Television in Massachusetts," Journal of Regulatory Economics, 1 (2), (June 1989), pp. 115-32.
- *Williamson, Oliver E., "Franchise Bidding for Natural Monopolies--in General and with respect to CATV," Bell Journal, 7 (Spring 1976), pp. 73-104.
- *Riordan, Michael H., "On Delegating Price Authority to a Regulated Firm," Rand Journal, 15 (Spring 1984), pp. 108-115.
- *Laffont, Jean-Jacques and Jean Tirole, "Using Cost Observations to Regulate Firms," Journal of Political Economy, 94 (June 1986), pp. 614-41.
- *McAfee, R. Preston, and John McMillan, "Auctions and Bidding," Journal of Economic Literature, 25 (June 1987), pp. 699-754.

XIII. Deregulating Natural Monopoly

- Viscusi, Vernon, and Harrington, Chapter 15, pp. 443-72.
- Chao, Hung-Po and Stephen Peck, "A Market Mechanism for Electric Power Transmission," Journal of Regulatory Economics, 10 (1), (July 1996), pp. 25-60.
- Joskow, Paul L., "Restructuring, Competition and Regulatory Reform in the U.S. Electricity Sector," Journal of Economic Perspectives, 11 (Summer 1997), pp. 119-38.
- *Crandall, Robert W., "Relaxing the Regulatory Stanglehold on Communications," Regulation (Summer 1992), pp. 26-35.
- *Kahn, Alfred E., "The Road to More Intelligent Telephone Pricing," Yale Journal on Regulation, No. 2 (1984), 139-157.

XIV. Environmental Regulation

- Johnson, Scott Lee and David Pikelney, "Regional Clean Air Incentives Market," Land Economics, 72 (3), (August 1996), pp. 277-97.
- Feeny, David, Susan Lanna and Arthur McEvoy, "Questioning the 'Tragedy of the Commons' Model of Fisheries," Land Economics, 72 (2), (May 1996), pp. 187-205.

- *Henderson, J. Vernon, "Effects of Air Quality Regulation," American Economic Review, 86 (4), (September 1996), pp. 789-813.
- *Portney, Paul R., "The Contingent Valuation Debate: Why Economists Should Care," The Journal of Economic Perspectives (Fall 1994), pp. 3-17.
- *Arora, Seema and Timothy Cason, "Why Do Firms Volunteer to Exceed Environmental Regulations?" Land Economics, 72 (4), (November 1996), pp. 413-32.
- *Pratt, John and Richard Zeckhauser, "Willingness to Pay and the Distribution of Risk and Wealth," Journal of Political Economy, 104 (4), (August 1996), pp. 747-63.
- *Gollop, F., and M. Roberts, "Cost-Minimizing Regulation of Sulfur Emissions: Regional Gains in Electric Power," 67, Review of Economics and Statistics, (February 1985), pp. 81-90.
- *Gollop, F., K. Chaston, and K. Lang, "The Battle Against Major Air Pollutants: Some Wartime Statistics," Boston College Working Paper.
- *Cronshaw, Mark and Hamie Druse, "Regulated Firms in Pollution Permit Markets with Banking," Journal of Regulatory Economics, 9 (2), (March 1996), pp. 179-90.
- *Noll, Roger, "Implementing Marketable Emissions Permits," American Economic Review (May 1982), pp. 120-24.
- *Land Economics has numerous articles on benefit measurement techniques including hedonic pricing, averting expenses, and contingent valuation.
- *Niewijk, Robert, "Misleading Quantification: The Contingent Valuation of Environmental Quality," Regulation, No. 1 (1994), pp. 60-71.
- *Hanemann, W. Michael, "Valuing the Environment through Contingent Valuation," The Journal of Economic Perspectives (Fall 1994), pp. 19-43.
- *Diamond, Peter and Jerry Hausman, "Contingent Valuation: Is Some Number Better than No Number?" The Journal of Economic Perspectives (Fall 1994), pp. 45-64.