

RESECON 732
Industrial Organization I (3 Credits)

Professor: Emily Wang
Class meetings: TTH 11:30 – 12:45
Office: 223 Stockbridge Hall
E-mail: cywang@resecon.umass.edu
Office hours: Send me an e-mail for an appointment.

Course Objectives:

The course provides a graduate level introduction to Industrial Organization. It aims to discuss contemporary IO topics that current researchers are studying as well as to expose students to a good foundation in traditional IO theory. We will learn to apply the analytical tools of IO to a variety of industries. The course will cover topics including monopoly, oligopoly, price discrimination, vertical control, and product differentiation.

In addition, the course will have an important empirical component: we will cover several empirical papers that will illustrate the importance of market imperfections in public policy as well as in business strategies. Students will be introduced to datasets and will be asked to work on projects reproducing results and coming up with new research ideas.

Reference Books:

There most relevant textbook reference for this course is:

Quantitative Techniques for Competition and Antitrust Analysis by Peter Davis & Eliana Garcés (2009) [DG]

I will rely on power point presentations and the presented material will primarily draw material from this book. I will also draw material from other sources, which are listed below for your reference. If some of the chapters in the books below are highly relevant (or are considered to be a good reference for a particular topic), I will make them available through scanned pdf files (posted on the class website):

Industrial Organization: Theory and Applications. MIT Press: Cambridge and London.
By Oz Shy [S]

Modern Industrial Organization, 4th Edition. Pearson-Addison Wesley: Reading, MA.
By Dennis Carlton and Jeffrey Perloff. [CP]

Industrial Organization, Theory and Practice, 4th Edition. Prentice Hall. By Waldman and Jensen.

The Theory of Industrial Organization. MIT Press: Cambridge and London. By Jean Tirole. [T]

Estimating Market Power and Strategies. Cambridge. By Jeffrey Perloff, Larry Karp and Amos Golan. [PKG]

Grading:

Problem Sets:	40%
Oral Presentation of Journal Articles + Paper Summaries:	20%
Midterm Project:	15%
Final Project:	25%

On-Line Material

I will be using Moodle to post class material. The syllabus is subject to change.

University Statements:

Academic Honesty Statement

Since the integrity of the academic enterprise of any institution of higher education requires honesty in scholarship and research, academic honesty is required of all students at the University of Massachusetts Amherst. Academic dishonesty is prohibited in all programs of the University. Academic dishonesty includes but is not limited to: cheating, fabrication, plagiarism, and facilitating dishonesty. Appropriate sanctions may be imposed on any student who has committed an act of academic dishonesty. Instructors should take reasonable steps to address academic misconduct. Any person who has reason to believe that a student has committed academic dishonesty should bring such information to the attention of the appropriate course instructor as soon as possible. Instances of academic dishonesty not related to a specific course should be brought to the attention of the appropriate department Head or Chair. Since students are expected to be familiar with this policy and the commonly accepted standards of academic integrity, ignorance of such standards is not normally sufficient evidence of lack of intent.

Accommodation Statement

The University of Massachusetts Amherst is committed to providing an equal educational opportunity for all students. If you have a documented physical, psychological, or learning disability on file with Disability Services (DS), you may be eligible for reasonable academic accommodations to help you succeed in this course. If you have a documented disability that requires an accommodation, please notify me within the first two weeks of the semester so that we may make appropriate arrangements.

Course Outline

Overview of Topics [estimated class periods]

1. Introduction to IO [1]

- What is IO
- Empirical v. Theoretical IO
- Brief History
- Reference material: WJ (Ch. 1); S (Ch. 1), CP (Ch. 1)

2. Homogeneous-Product Oligopoly [4]

1. Single-Period Oligopoly Models
 - a. Cournot Model
 - b. Bertrand Model
 - c. General conjectural variation models & criticisms of conjectural variation models
2. Sequential Moves – Stackelberg Leader
 - a. References: DG (Ch.1)

3. Pricing strategies with Market Power [4]

1. Price discrimination
 - a. First-degree price discrimination
 - b. Third-degree price discrimination
 - c. Second-degree price discrimination
2. Bundling

4. Market Power [12]

- Approaches to Market power [1]
 - SCP approach
 - Structural approach
 - Empirical examples
 - References: DG (Ch. 6), PKG (Ch. 2 and 3); WJ (Ch. 6); CP (Ch. 8)
- Collusion and Dynamic games [3]
 - Factors affecting collusion
 - Folk theorem
 - Collusion Imperfect information and imperfect monitoring
 - Antitrust laws: Per se rule v. rule of reason
 - Examples from US and Europe
 - References: PKG (Ch. 5); WJ (Ch. 9 and 10); CP (Ch. 5)

- Differentiated products [3]
 - Horizontal differentiation
 - Vertical differentiation
 - Approaches to estimation
 - Examples of market power estimation
 - References: DG(Ch. 1, 9), PKG (Ch. 4); S (Ch. 7); CP (Ch. 7), WJ (Ch. 13)

- Mergers [2]
 - Antitrust laws
 - Market definition and the price effect of mergers
 - Applications: Staples-Office Depot merger
 - References: DG (Ch. 8), WJ (Ch. 4, 4.3); KW (cases 6 and 7)

- Vertical Issues [3]
 - Double marginalization
 - Exclusive dealing
 - RPM
 - Tying
 - Exclusive territories
 - Antitrust laws
 - References: DG (Ch. 10), CP (Ch. 12), WJ (Ch. 16)

5. Entry [2]

- Definition of entry
- Entry deterrence
- Limit pricing
- Predatory pricing
- Excess capacity
- Estimation
- References: DG (Ch. 5), WJ (Ch. 11 and 12), C (Ch. 14 and 15)

6. Advertising [2]

- References: CP (Ch. 13, 14); WJ (Ch. 13)

7. Other topics, time permitting

- Buyer market power (monopsony/oligopoly)
- Price dispersion

Reference List (to be updated throughout semester)

- Appelbaum, E., 1982. "The Estimation of the Degree of Oligopoly Power," *Journal of Econometrics*, 19:287-299.
- Asker, J. 2004. "Measuring Advantages from Exclusive Dealing." Mimeo, NYU.
- Baker, J.B. and T.F. Bresnahan, 1985. "The Gains from Merger or Collusion in Product-Differentiated Industries," *Journal of Industrial Economics*, 33:427-444.
- Baker, J.B. and T.F. Bresnahan, 1988. "Estimating the Residual Demand Curve Facing a Single Firm," *International Journal of Industrial Organization*, 6:283-300.
- Berry, S., J. Levinsohn and A. Pakes, 1995. "Automobile Prices in Market Equilibrium," *Econometrica*, 63:841-890.
- Blackstone, E. "Restrictive Practices in the Marketing of Electrofax Copying Machines: The SCM Corporation Case," *Journal of Industrial Economics*, March 1975, 189–202. J
- Bonanno, G. and D. Brandolini, eds, 1990. *Industrial Structure in the New Industrial Economics*. Oxford University Press: New York.
- Borenstein, S. "Selling Costs and Switching Costs: Explaining Retail Gasoline Markets," *RAND Journal of Economics*, Autumn 1991, 354–69.
- Borenstein, S. and N. Rose, "Competition and Price Dispersion in the U.S. Airline Industry," *Journal of Political Economy*, August 1994, 653–83.
- Bresnahan, T., 1987. "Competition and Collusion in the American Automobile Industry: the 1955 Price War," *Journal of Industrial Economics*, 35:457-482.
- Bresnahan, T., 1989. "Empirical Studies of Industries with Market Power," in: Schmalensee, R. and R.D. Willig, *Handbook of Industrial Organization*. North Holland: Amsterdam, 1011-1057.
- Buschena, D.E. and J.M. Perloff, 1991. "The Creation of Dominant Firm Market Power in the Coconut Oil Export Market," *American Journal of Agricultural Economics*, 73: 1000-1008.
- Busse, M., & Rysman, M. (2005). Competition and Price Discrimination in Yellow Pages Advertising. *RAND Journal of Economics*, 36, 378-390.
- Cabral, L.M.B., 2000. *Introduction to Industrial Organization*. MIT Press: Cambridge and London.

- Carlton, D.W. and J.M. Perloff, 1994. *Modern Industrial Organization, 2nd Edition*. Harper Collins: New York, NY.
- Carlton, D.W. and J.M. Perloff, 1999. *Modern Industrial Organization, 3rd Edition*. Addison Wesley Longman: Reading, MA.
- Cohen, A. "Package Size and Price Discrimination: Evidence from Paper Towels," mimeo.
- Cohen, M. and R. Cotterill, 2010, "Assessing the Impact of Retailer Store Brand Presence on Manufacturer Brands in an Equilibrium Framework", Working paper, University of Connecticut.
- Chu, Sean, Phillip Leslie & Alan Sorensen (2006): "Good Enough Bundling"
- D'Aspremont, C., J.J. Gabszewicz, and J.-F. Thisse, 1979. "On Hotelling's "Stability in Competition"," *Econometrica*, 47:1145-1150.
- Durham, C.A., R.J. Sexton, and J.H. Song, 1996. "Spatial Competition, Uniform Pricing, and Transportation Efficiency in the California Processing Tomato Industry," *American Journal of Agricultural Economics*, 78:115-125.
- Fershtmann, C. and A. de Zeeuw, 1995. "Tradeable Emission Permits in Oligopoly," Working Paper No. 45-95, Sackler Institute for Economic Studies, Tel-Aviv University, Israel.
- Filson, D., E. Keen, E. Fruits, and T. Borchering, 2001. "Market Power and Cartel Formation: Theory and an Empirical Test," *Journal of Law and Economics*, XLIV:465-480.
- Fulton, M., 1997. "A Graphical Analysis of the Cournot-Nash and Stackelberg Models," *Journal of Economic Education*, 28:48-57.
- Gabszewicz, J-J. and J. Thisse, 1979. "Price Competition, Quality and Income Disparities," *Journal of Economic Theory*, 2:340-359.
- Gabszewicz, J-J. and J. Thisse, 1980. "Entry (and Exit) in a Differentiated Industry," *Journal of Economic Theory*, 22:327-338.
- Gary-Bobo, R. and S. Larribeau (2004), "A Structural Econometric Model of Price Discrimination in the Mortgage Lending Industry", *International Journal of Industrial Organization*, 22, 101-134.
- Gasmi, F., J.J. Laffont, and Q. Vuong, 1992, Econometric analysis of collusive behavior in a soft-drink market, *Journal of Economics and Management Strategy* 1, 277-311.

- Goldberg, P. "Dealer Price Discrimination in New Car Purchases: Evidence from the Consumer Expenditure Survey," *Journal of Political Economy*, June 1996, 622-54.
- Goldberg, P.K. and M.M. Knetter, 1999. "Measuring the Intensity of Competition in Export Markets," *Journal of International Economics*, 47:27-60.
- Green, E.J. and R.H. Porter, 1984. "Noncooperative Collusion under Imperfect Price Information," *Econometrica*, 52:87-100.
- Greenhut, M.L., G. Norman, and C.-S. Hung, 1987. *The Economics of Imperfect Competition: A Spatial Approach*. Cambridge University Press, Cambridge.
- Hahn, R.W., 1984. "Market Power and Transferable Property Rights," *Quarterly Journal of Economics*, 99:753-765.
- Hausman, J., G. Leonard, and J.D. Zona, 1994. "Competitive Analysis with Differentiated Products," *Annales d'Economie et de Statistique*, 34:159-180.
- Hazledine, T. and H. Huang, 1990. "Price-Discriminating Marketing Board with Supply Control: A Case of B.C. Mushrooms," *Canadian Journal of Agricultural Economics*, 38:67-88.
- Hennessy, D.A. and D.J. Hayes, 2000. "Competition and Tying in Agrichemical and Seed Markets," *Review of Agrichemical and Seed Markets*, 22:389-406.
- Ivaldi, M. and D. Martimort, "Competition under Nonlinear Pricing," *Annales d'Economie et de Statistique* (34), 1994, 71-114.
- Jacquemin, A., 1987. *The New Industrial Organization : Market Forces and Strategic Behavior*, MIT Press: Cambridge, MA.
- Just, R.E and W.S. Chern, 1980, Tomatoes, technology, and oligopsony, *Bell Journal of Economics* 11, 584-602.
- Kamien, M.I. and N.L. Schwartz, 1983. "Conjectural Variations," *Canadian Journal of Economics*, 16:191-211.
- Leslie, P. "Price Discrimination in Broadway Theater," *Rand Journal of Economics*, Autumn 2004, 520-41.
- McManus, Brian. 2001. "[Nonlinear Pricing in an Oligopoly Market: the Case of Specialty Coffee](#)." Washington University Olin School of Business. Mimeo
- Masson, R.T. and P.M. Eisenstat, 1980, Welfare impacts of milk orders and the antitrust immunities for cooperatives, *American Journal of Agricultural Economics* 62, 270-278.

- Melnick, R. and H. Shalit, 1985. "Estimating the Market for Tomatoes," *American Journal of Agricultural Economics*, 67:574-582.
- Mills, D.E., 1995. "Why Retailers Sell Private Labels," *Journal of Economics and Management Strategy*, 4:509-528.
- Montgomery, W.D., 1972. "Markets in Licenses and Efficient Pollution Control Programs," *Journal of Economic Theory*, 5:395-418.
- Moschini, G., 2001. "Biotech – Who Wins? Economic Benefits and Costs of Biotechnology Innovations in Agriculture," *The Estey Centre Journal of International Law and Trade Policy*, 2:93-117. Available at esteyjournal.com.
- Moschini, G. and H. Lapan, 1997. "Intellectual Property Rights and the Welfare Effects of Agricultural R&D," *American Journal of Agricultural Economics*, 79:1229-1242.
- Moschini, G., H. Lapan, and A. Sobolevsky, 2000. "Roundup Ready Soybeans and Welfare Effects in the Soybean Complex," *Agribusiness*, 16:33-55.
- Mussa, M. and S. Rosen, 1978. "Monopoly and Product Quality," *Journal of Economic Theory*, 18: 301-317.
- Muris, T., D. Scheffman, and P. Spiller. 1992. "Strategy and transaction costs: The organization of distribution in the carbonated soft drink industry." *Journal of Economics and Management Strategy*, 1, 83-128.
- Nevo, A. 2000. "Mergers with Differentiated Products: The Case of the Ready-to-Eat Cereal Industry," *The RAND Journal of Economics*, 31(3), 395-421,
- Nevo, A., 2001. "Measuring Market Power in the Ready-to-Eat Cereal Industry," *Econometrica*, 69:307-342.
- Nevo, A. and C. Wolfram, "Why Do Manufacturers Issue Coupons? An Empirical Analysis of Breakfast Cereals," *Rand Journal of Economics*, 2002, 33(2), 319-339,
- Porter, R.H., 1983. "A Study of Cartel Stability: The Joint Executive Committee, 1880-1886," *Bell Journal of Economics*, 14:301-314.
- Reinhardt, F.L., 1998. "Environmental Product Differentiation: Implications for Corporate Strategy," *California Management Review*, 40:43-70.
- Reinhardt, F.L., 1999. "Market Failure and the Environmental Policies of Firms: Economic Rationale for "Beyond Compliance" Behavior," *Journal of Industrial Ecology*, 3:9-21.

- Rogers, R.T., 2001. "Structural Change in U.S. Food Manufacturing, 1958-1997," *Agribusiness*, 17:3-32.
- Rogers, R.T. and R.J. Sexton, 1994. "Assessing the Importance of Oligopsony Power in Agricultural Markets," *American Journal of Agricultural Economics*, 76:1143-1150.
- Rojas, C., 2008, "Price Competition in US Brewing," *Journal of Industrial Economics*, 56, 1-31.
- Rojas, C., 2009, "The Role of Information and Monitoring on Collusion: An Experimental Assessment," Working Paper.
- Rotemberg, J.J. and G. Saloner. 1986. "A Supergame-Theoretic Model of Price Wars During Booms." *American Economic Review*, 76, 390-407.
- Salvo, A., 2009, "Cut-Throat Fringe Competition in an Emerging Country Market: Tax Evasion or the Absence of Market Power?" *Journal of Industrial Economics*, 57(4), pp. 677-711
- Schmalensee, R., 1985. "Do Markets Differ Much?" *American Economic Review*, 75:341-351.
- Sexton, R.J., 1990. "Imperfect Competition in Agricultural Markets and the Role of Cooperatives: A Spatial Analysis," *American Journal of Agricultural Economics*, 72: 709-720.
- Sexton, R.J., 2000. "Industrialization and Consolidation in the U.S. Food Sector: Implications for Competition and Welfare," *American Journal of Agricultural Economics*, 82:1057-1104.
- Sexton, R.J. and N. Lavoie, 2001. "Food Processing and Distribution: An Industrial Organization Approach," in: Gardner, B. and G.C. Rausser, eds. *Handbook of Agricultural Economics*, North-Holland, Amsterdam. In press.
- Sexton, R.J. and M. Zhang, 2001. "An Assessment of the Impact of Food Industry Market Power on U.S. Consumers," *Agribusiness*, 17:59-79.
- Shaked, A. and Sutton, J., 1982. "Relaxing Price Competition through Product Differentiation," *Review of Economic Studies*, 49:3-13.
- Shepard, A., 1991. "Price Discrimination and Retail Configuration," *Journal of Political Economy*, 99:30-53.
- Shy, O., 1995. *Industrial Organization: Theory and Applications*. MIT Press: Cambridge and London.

Singal, V. 1993. "Mergers and Market Power: Evidence from the Airline Industry" with E. Han Kim. *American Economic Review*, June 1993, pp. 549-569.

Stigler, G., 1964. "A Theory of Oligopoly," *Journal of Political Economy*, 72: 44-61.

Suslow, V., 1986. "Estimating Monopoly Behavior with Competitive Recycling: An Application to Alcoa," *Rand Journal of Economics*, 17:389-403.

Tirole, J., 1988. *The Theory of Industrial Organization*. MIT Press: Cambridge and London.