

**Economics 2610: Industrial Organization I**  
**Harvard University, Fall Semester 2002**  
**Instructor: Professor Gautam Gowrisankaran**

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**Grading:**

Grading: 60% Assignments; 40% Final

There will be two assignments, both computational in nature.

Assignment 1: Handed out October 1, due October 22.

Assignment 2: Handed out November 19, due December 10.

**Textbooks:**

We will not use a textbook for the course. However, I can recommend some useful background texts:

1. Stigler, G., (1968), *The Organization of Industry*, University of Chicago Press.  
The classic text on industrial organization.
2. Tirole, J. (1988) *The Theory of Industrial Organization*, MIT Press.  
The text that analyzes many game theoretic models in industrial organization.
3. Carlton and Perloff (1994) *Modern Industrial Organization*, Harper and Collins.  
A standard undergraduate industrial organization textbook:
4. Stokey, Lucas and Prescott (1989) *Recursive Methods in Economic Dynamics* Harvard University Press.  
The classic text on the theory of dynamic models.
5. Ariel Pakes has notes, available on the web, that go through many of the papers that we will cover.

**Final syllabus - papers actually covered in class:**

**1) Course outline and background (September 17)**

- Notes from Pakes (September 11, 2000) These are posted on the course web site in the "Lectures" folder. The file name is: L1\_2001.pdf.

**2) Estimating supply and demand (September 19, 24)**

- Notes from Pakes (September 20, 2001). Again in the Lectures folder, file name: L2\_2001.pdf.
- Bresnahan, T. 1989, "Empirical Studies of Industries with Market Power," Chapter 17, in Schmalensee R. and Willig, R.D. ed. Handbook of Industrial Organization.

- Bresnahan, T., (1982): "The Oligopoly Solution Concept is Identified", *Economics Letters*, pp. 87-92.
- Genesove, D. and W. P. Mullin, (1998) "Testing Static Oligopoly Models: Conduct and Cost in the Sugar Industry, 1890-1914." *RAND Journal of Economics* 29, 355-377.

### 3) Demand systems for differentiated products (September 26, October 1, 3, 8, 10)

- Bresnahan T., (1987), "Competition and Collusion in the American Automobile Industry: The 1955 Price War," *Journal of Industrial Economics*, Vol. 35, No. 4, pp.457-482.
- Berry, Steve, (1994), "Estimating Discrete Choice Models of Product Differentiation," *RAND*, pp. 242-262.
- Berry, S., J. Levinsohn, and A. Pakes (1995), "Automobile Prices in Market Equilibrium," *Econometrica*, Vol.63, No.4, pp.841-90.
- Hastings, Justine (2002). "Vertical Relationships and Competition in Retail Gasoline Markets." Located on the web at <http://www.dartmouth.edu/~jhasting/Hastings1.pdf>.

### 4) Production and cost functions (October 15, 17, 22)

- Benkard, L., (2000), "Learning and Forgetting: the Dynamics of Aircraft Production," *AER*, Vol. 90, No. 4, pp. 1034-54
- Nerlove, M., (1963), "Returns to Scale in Electricity Supply," in *Measurement in Economics*, } C. Christ (ed.), op.cit.
- Olley S. and A. Pakes, (1996), "The Dynamics of Productivity in the Telecommunications Equipment Industry," *Econometrica*, pp. 1263-1297.

### 5) Antitrust and merger analysis (October 22, 24, 29, 31, November 5)

- Department of Justice, Antitrust Division, 1992, *The Merger Guidelines*. Located on the web at: <http://www.usdoj.gov/atr/>
- Salant, S., S. Switzer and R.J. Reynolds, (1983), "Losses from Horizontal Merger: The Effects of an Exogenous Change in Industry Structure on Cournot-Nash Equilibrium." *QJE*, pp. 185-99.
- Perry, M. and R. Porter, (1985), "Oligopoly and the Incentives for Horizontal Merger," *AER*.
- Gowrisankaran, Gautam and Thomas J. Holmes, 2002. "Do Mergers Lead to Monopoly in the Long Run? Results from a Dominant Firm Model." (Forthcoming, *RAND Journal of Economics*.) Located on the web at: [http://www.econ.umn.edu/~gautam/pdf\\_papers/dominant.pdf](http://www.econ.umn.edu/~gautam/pdf_papers/dominant.pdf)

### 6) Empirical entry models (November 7, 12, 14, 19, 21)

- Bresnahan, Timothy and Peter Reiss (1991), "Entry and Competition in Concentrated Markets," *Journal of Political Economy*, pp. 977- 1009.
- Berry, S. (1992), "Estimation of a Model of Entry in the Airline Industry," *Econometrica*, pp. 889-917.
- Seim, Katja, 2002. "An Empirical Model of Firm Entry with Endogenous Product-Type Choices." Working paper, Stanford University. Located on the web at: <http://faculty-gsb.stanford.edu/seim/pages/documents/entrytypes.pdf>.
- Sutton, John, 1991. *Sunk Costs and Market Structure*. Cambridge, MA: MIT Press, 1991. Chapters 2-5.

**7) Single agent dynamic models (November 26, December 3, 5, 10, 12)**

- Notes from Pakes. These are posted on the course web site in the “Lectures” folder. The file names are: D\_Lecture1.pdf and D\_mathprelim.pdf.
- Pakes, Ariel, (1986), “Patents as Options: Some Estimates of the Value of Holding European Patent Stocks,” *Econometrica*, 54, pp. 755-84.
- Rust, John, (1987), “Optimal Replacement of GMC Bus Engines: An Empirical Model of Harold Zurcher,” *Econometrica* 55, pp. 999-1033.
- Akerberg, Daniel, (2002), “Advertising, Learning and Consumer Choice in Experience Good Markets: A Structural, Empirical Examination.” Forthcoming, *International Economic Review*. Located on the web at: <http://www.econ.ucla.edu/ackerber/ch3all.pdf>

**8) Network externalities (December 12, 17)**

- Akerberg, Daniel and Gautam Gowrisankaran (2002). “Quantifying Equilibrium Network Externalities in the ACH Banking Industry.” Mimeo, available on the web at <http://www.econ.umn.edu/~gautam/netstruct.pdf>.