

Industrial Organization

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Assessment:

Problems sets (8 empirical homework, 4 marks) + research proposal (4 marks) + final exam (analytical 6 marks + take home 6 marks)

I. Static Models of Competition in Homogenous Good Markets, HW1

A. Theory

- Tirole, Chapter 5.
- Kreps D. and J. Scheinkman, “Quantity Precommitment and Bertrand Competition Yield Cournot Outcomes,” Bell Journal of Economics, 1983.

B. Empirical

- Porter, R. “A Study of Cartel Stability: The Joint Executive Committee, 1880-1886”, Bell Journal of Economics, autumn, 1983.
- Genesove, D. and W. Mullin, “Testing Static Oligopoly Models: Conduct and Cost in the Sugar Industry, 1890-1914,” RAND Journal, summer, 1998.

II. Product Differentiation, HW2

A. Theory

- Tirole, Chapter 7
- Shaked, A. and J. Sutton, “Relaxing Price Competition through Product Differentiation”, Review of Economics Studies, January, 1982.

B. Empirical

- Berry, S. “Estimating Discrete Choice Models of Oligopoly Product Differentiation”, Rand Journal of Economics, Summer, 1994.
- Berry, S., J. Levinsohn, and A. Pakes, “Automobile Prices in Market Equilibrium”, Econometrica, July, 1995.
- Nevo, A. “A Practitioner’s Guide to Estimation of Random-Coefficient Logit Models of Demand”, Journal of Economics and Management Strategy, Winter, 2000.

III. Collusion in Markets with Repeated Play, HW3

A. Theory

- Tirole, Chapter 6
- Maskin, E. and J. Tirole, "A Theory of Dynamic Oligopoly II: Price Competition", *Econometrica*, May 1988, 571-99.
- Bernheim, D. and M. Whinston, "Multi-Market Contact and Collusive Behavior", *Rand Journal of Economics*, Spring 1990, 1-26.

B. Empirical

- Porter, R., "A Study of Cartel Stability: The Joint Executive Committee, 1880-1886"
- Ellison, Glenn. This resource may not render correctly in a screen reader. "Theories of Cartel Stability and the Joint Executive Committee" *RAND Journal of Economics* 25, no. 1 (1994): 37-57.
- Rotemberg, J. and G. Saloner, "A Supergame-theoretic Model of Price Wars During Booms" *American Economic Review*, June 1986.
- Noel, M. (2002) "Edgeworth Price Cycles, Cost-Based Pricing and Sticky Pricing in Retail Gasoline Markets", mimeo.

IV. Production Function Estimation, HW4

A. Empirical

- Olley, G. Steven, and Ariel Pakes. "The dynamics of productivity in the telecommunications equipment industry." *Econometrica* 64.6 (1996): 1263-1297.
- Levinsohn, James, and Amil Petrin. "Estimating production functions using inputs to control for unobservables." *The Review of Economic Studies* 70.2 (2003): 317-341.
- Ackerberg, Daniel A., Kevin Caves, and Garth Frazer. "Identification properties of recent production function estimators." *Econometrica* 83.6 (2015): 2411-2451.

V. Models of Entry, Exit and Market Structure, HW5

A. Theory

- Bulow, J., J. Geanakoplos, and P. Klemperer (1985) "Multimarket Oligopoly: Strategic Substitutes and Complements", *Journal of Political Economy*, June, 1985, 488-511.
- Mankiw, N.G. and M.D. Whinston (1986) "Free Entry and Social Efficiency", *Rand Journal of Economics*, Spring 1986, 48-58.

B. Empirical

- Berry, S., "Estimation of a Model of Entry in the Airline Industry", *Econometrica*, July 1992.
- Bresnahan, T. and P. Reiss, "Entry in Monopoly Markets", *Review of Economic Studies*, October, 1990, 531-53.

- Berry, S.T. and J. Waldfogel, “Free Entry and Social Inefficiency in Radio Broadcasting”, RAND Journal.

VI. Moment Inequality Estimation, HW10

A. Empirical

- Ciliberto, Federico, and Elie Tamer. "Market structure and multiple equilibria in airline markets." *Econometrica* 77.6 (2009): 1791-1828.
- Pakes, Ariel, Jack Porter, Kate Ho, and Joy Ishii. "Moment inequalities and their application." *Econometrica* 83, no. 1 (2015): 315-334.
- Pakes, Ariel. "Alternative models for moment inequalities." *Econometrica* 78.6 (2010): 1783-1822.
- Ho, Katherine. "Insurer-provider networks in the medical care market." *American Economic Review* 99.1 (2009): 393-430.
- Holmes, Thomas J. "The diffusion of Wal-Mart and economies of density." *Econometrica* 79.1 (2011): 253-302.

VII. Dynamic Models of Firms, HW6, HW7

A. Theory

- Jovanovic, B., “Selection and the Evolution of Industry”, *Econometrica*, May 1982, 649-70.
- Hopenhayn, H.(1992) “Entry, Exit, and Firm Dynamics in Long Run Equilibrium”, *Econometrica*, September 1992, 1127-50.
- Stokey, Lucas and Prescott, chapter

B. Empirical

- Dunne, T., M. Roberts, and L. Samuelson (1988) “Patterns of Firm Entry and Exit in U.S. Manufacturing”, *Rand Journal*, Winter 1988, 495-515.
- Hopenhayn H. and R. Rogerson (1993) \Job Turnover and Policy Evaluation, A General Equilibrium Analysis," *J.P.E.*, vol. 101, no. 5, pp. 915-38
- Pakes, A. and R. Ericson, “Empirical Implications of Alternative Models of Firm Dynamics”, *Journal of Economic Theory*, 1998, 1-45.
- Pakes, Ariel (1986) \Patents as Options: Some Estimates of the Value of Holding European Patent Stocks," *Econometrica*, vol. 54, no. 4, pp. 755-784
- Timmins, Christopher. "Measuring the dynamic efficiency costs of regulators' preferences: Municipal water utilities in the arid west." *Econometrica* 70.2 (2002): 603-629.
- Rust, J. (1987) “Optimal Replacement of GMC Bus Engines; An Empirical Model of Harold Zurcher," *Econometrica*, vol. 55, no. 5, pp. 999-1033.
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C. Methods

- Berry, S., M. Ostrovsky, and A. Pakes (2003), “Simple Estimators for the Parameters of Discrete Dynamic Games”, mimeo.

- Bajari, P., L. Benkard, and J. Levin (2003), “Estimating Dynamic Models of Imperfect Competition”, mimeo.
- Pesendorfer, M. and P. Schmidt-Dengler (2003). “Identification and Estimation of Dynamic Games”, mimeo.

VIII. Single Unit Auctions (home work from fab five), HW8

A. Theory

- Milgrom, P. and R.J. Weber, “A Theory of Auctions and Competitive Bidding”, *Econometrica*, 1982, 1089-1122.
- Riley, J. and W. Samuelson, “Optimal Auctions”, *American Economic Review*, 1981, 381-92.
- Krishna, V.J., Auction Theory, Academic Press.

B. Empirical

- Laffont, J.-J. and Q. Vuong, “Structural Analysis of Auction Data”, *American Economic Review Papers and Proceedings*, 1996, 414-420.
- Hendricks, K. and R. Porter (1988), “An Empirical Study of an auction with asymmetric information”, *American Economic Review*, December 1988, 865-83.
- Hendricks, K., J. Pinkse, and R. Porter, (2003), “Empirical Implications of Equilibrium Bidding in Common Value, First-Price, Sealed Bid Auctions”, *Review of Economic Studies*, 2003.

IX. Multi-Unit Auctions (optional)

A. Theory

- Edelman, B., Ostrovsky, M., and M. Schwartz, “Internet Advertising and the Generalized Second Price Auction: Selling Billions of Dollars Worth of Keywords”, *American Economic Review*, 2007, 97:1.
- Athey, S. and G. Ellison, “Position Auctions with Consumer Search”, working paper.
- Cramton, P., Y. Shoham, and R. Steinber, Combinatorial Auctions, Cambridge, MA: MIT Press.

B. Applications

- Spectrum, electricity, pollution permits, eBay, sponsored links.

X. Behavioral Economics in IO (optional)

- Gabaix, X. and David Laibson (2005), “Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets”.
- Della Vigna, S. and U. Malmendier (2004), “Contract Design and Self-Control: Theory and Evidence,” *Quarterly Journal of Economics*.
- Della Vigna, S. and U. Malmendier (2005), “Paying Not to Go to the Gym”, mimeo.

- Spiegler, Ran (2005), "Competition over Agents with Boundedly Rational Expectations".

XI. Insurance and Cost Function, HW9

B. Empirical

- Cardon, James H., and Igal Hendel. "Asymmetric information in health insurance: evidence from the National Medical Expenditure Survey." *RAND Journal of Economics* (2001): 408-427.
- Cutler, David M., Amy Finkelstein, and Kathleen McGarry. "Preference heterogeneity and insurance markets: Explaining a puzzle of insurance." *American Economic Review* 98.2 (2008): 157-62.
- Einav, Liran, Amy Finkelstein, and Mark R. Cullen. "Estimating welfare in insurance markets using variation in prices." *The quarterly journal of economics* 125.3 (2010): 877-921.

XII. Price Dispersion and Search (optional)

A. Theory

- Varian, H. (1980) "A Model of Sales", *American Economic Review*, 1980, pp. 651-659.
- Baye, M. and John Morgan, "Information Gatekeepers on the Internet and the Competitiveness of Homogenous Product Markets", *American Economic Review*, 2001.
- Hendricks, K., Sorensen, A., and Wiseman, T. "A Herding Theory of Demand for Search Goods", working paper.

B. Empirical

- Sorensen, A. "Equilibrium Price Dispersion in Retail Markets for Prescription Drugs", *Journal of Political Economy*, 2000, pp. 833-50.

XIII. Advertising (optional)

A. Theory

- Tirole, chapters 2 and 7.
- Bagwell, K., "The Economic Analysis of Advertising", *Handbook of IO*, Volume III.

B. Empirical

- Akerberg, D., "Empirically Distinguishing Informative and Prestige Effects of Advertising", *RAND Journal of Economics*, 2001.

