

Empirical Industrial Organization II

Syllabus

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Course Overview

This is a second course in empirical industrial organization. The material is essential for students planning to do research in empirical IO, and it will also be useful to any students interested in understanding, evaluating, and designing structural estimation strategies.

Last semester, Profs Dubois and Reguant covered demand estimation, entry models, and dynamic discrete choice estimation. This semester, we will cover industry dynamics and productivity, auctions, moment inequalities, and collusion. We will read a mix of both methodological and applied papers, and some topics will involve a little theory.

Time and Location

The course meets on Thursdays, 9:30-12:30. The main room will be MD 201 with the following exceptions:

- February 6 and 13 in MB 404
- March 13 and 20 in MD 005

Course requirements

There will be two problem sets, one on production functions and one on auctions, both due towards the end of the semester (date TBA). *Do not* leave them to the last minute.

It can be very hard to understand structural estimation papers well without some learning by doing, so problem sets are very important.

Problem sets may be done in pairs.

Reading List

Industry dynamics and productivity: facts and theory

Bartelsman, Eric J. and Mark Doms (2000). “Understanding Productivity: Lessons from Longitudinal Microdata”. English. *Journal of Economic Literature* 38.3, pages. ISSN: 00220515. URL: <http://www.jstor.org/stable/2565420>.

Dunne, Timothy, Mark J. Roberts, and Larry Samuelson (1989). “The Growth and Failure of U. S. Manufacturing Plants”. *The Quarterly Journal of Economics* 104.4, pp. 671–698. DOI: 10.2307/2937862. eprint: <http://qje.oxfordjournals.org/content/104/4/671.full.pdf+html>. URL: <http://qje.oxfordjournals.org/content/104/4/671.abstract>.

Hopenhayn, Hugo A. (1992). “Entry, Exit, and firm Dynamics in Long Run Equilibrium”. English. *Econometrica* 60.5, pages. ISSN: 00129682. URL: <http://www.jstor.org/stable/2951541>.

Jovanovic, Boyan (1982). “Selection and the Evolution of Industry”. English. *Econometrica* 50.3, pages. ISSN: 00129682. URL: <http://www.jstor.org/stable/1912606>.

Melitz, Marc J. (2003). “The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity”. *Econometrica* 71.6, pp. 1695–1725. ISSN: 1468-0262. DOI: 10.1111/1468-0262.00467. URL: <http://dx.doi.org/10.1111/1468-0262.00467>.

Industry dynamics and productivity: methods

- Ackerberg, Daniel A., C. Lanier Benkard, et al. (2007). “Econometric Tools for Analyzing Market Outcomes”. *Handbook of Econometrics* 6, pp. 4171–4276.
- Ackerberg, Daniel A., Kevin Caves, and Garth Frazer (2006). “Structural Identification of Production Functions”. Working paper.
- Gandhi, Amit, Salvador Navarro, and David Rivers (2013). “On the Identification of Production Functions: How Heterogeneous is Productivity?” Working Paper.
- Griliches, Zvi and Jacques Mairesse (1998). “Production Functions: The Search for Identification”. In: *Econometrics and Economic Theory in the 20th Century: The Ragnar Frisch Centennial Symposium*. Vol. 31. Cambridge University Press, p. 169.
- Levinsohn, James and Amil Petrin (2003). “Estimating Production Functions Using Inputs to Control for Unobservables”. *Review of Economic Studies* 70.2, pp. 317–341.
- Marschak, Jacob and Jr. Andrews William H. (1944). “Random Simultaneous Equations and the Theory of Production”. English. *Econometrica* 12.3/4, pages. ISSN: 00129682. URL: <http://www.jstor.org/stable/1905432>.
- Olley, G. Steven and Ariel Pakes (1996). “The Dynamics of Productivity in the Telecommunications Industry”. *Econometrica* 64.6, pp. 1263–1297.

Industry dynamics and productivity: applications

- Collard-Wexler, Allan and Jan De Loecker (2013). *Reallocation and Technology: Evidence from the US Steel Industry*. Tech. rep. National Bureau of Economic Research.
- De Loecker, Jan (2011). “Product differentiation, multiproduct firms, and estimating the impact of trade liberalization on productivity”. *Econometrica* 79.5, pp. 1407–1451.
- De Loecker, Jan and Frederic Warzynski (2012). “Markups and Firm-Level Export Status”. *American Economic Review* 102.6, pp. 2437–71. DOI: 10.1257/aer.102.6.2437. URL: <http://www.aeaweb.org/articles.php?doi=10.1257/aer.102.6.2437>.
- Foster, Lucia, John Haltiwanger, and Chad Syverson (2008). “Reallocation, Firm Turnover, and Efficiency: Selection on Productivity or Profitability?” *American Economic Review* 98.1, pp. 394–425.

- Nerlove, Marc (1963). “Returns to Scale in Electricity Supply”. In: *Measurement in Economics-Studies in Mathematical Economics and Econometrics in Memory of Yehuda Grunfeld*. Stanford University Press.
- Pavcnik, Nina (2002). “Trade liberalization, exit, and productivity improvements: Evidence from Chilean plants”. *The Review of Economic Studies* 69.1, pp. 245–276.
- Syverson, Chad (2004). “Market Structure and Productivity: A Concrete Example”. *Journal of Political Economy* 112.6, pp. 1181–1222.

Moment inequalities: econometrics (guest lecturer: Christian Bontemps)

Moment inequalities: applications

- Crawford, Gregory S and Ali Yurukoglu (2012). “The welfare effects of bundling in multichannel television markets”. *The American Economic Review* 102.2, pp. 643–685.
- Ho, Kate and Ariel Pakes (2013). “Hospital Choices, Hospital Prices and Financial Incentives to Physicians”.
- Ho, Katherine (2009). “Insurer-Provider Networks in the Medical Care Market”. *American Economic Review* 99.1, pp. 393–430. DOI: 10.1257/aer.99.1.393. URL: <http://www.aeaweb.org/articles.php?doi=10.1257/aer.99.1.393>.
- Holmes, Thomas J (2011). “The Diffusion of Wal-Mart and Economies of Density”. *Econometrica* 79.1, pp. 253–302.
- Morales, Eduardo, Gloria Sheu, and Andrés Zahler (2011). “Gravity and extended gravity: Estimating a structural model of export entry”.
- Pakes, Ariel (2010). “Alternative models for moment inequalities”. *Econometrica* 78.6, pp. 1783–1822.

Auctions (guest lecturer: Mar Reguant)

Market Power, Collusion, and Cartels

- Albæk, Svend, Peter Møllgaard, and Per B. Overgaard (1997). “Government-Assisted Oligopoly Coordination? A Concrete Case”. English. *The Journal of Industrial Economics* 45.4, pages. ISSN: 00221821. URL: <http://www.jstor.org/stable/2950610>.

- Asker, John (2010). “A Study of the Internal Organization of a Bidding Cartel”. English. *The American Economic Review* 100.3, pages. ISSN: 00028282. URL: <http://www.jstor.org/stable/27871229>.
- Bresnahan, Timothy F (1982). “The oligopoly solution concept is identified”. *Economics Letters* 10.1, pp. 87–92.
- (1987). “Competition and collusion in the American automobile industry: The 1955 price war”. *The Journal of Industrial Economics*, pp. 457–482.
- (1989). “Empirical studies of industries with market power”. *Handbook of industrial organization* 2, pp. 1011–1057.
- Clark, Robert and Jean-François Houde (2013). “Collusion with asymmetric retailers: Evidence from a gasoline price-fixing case”. *American Economic Journal: Microeconomics* 5.3, pp. 97–123.
- De Roos, Nicolas (2006). “Examining models of collusion: The market for lysine”. *International Journal of Industrial Organization* 24.6, pp. 1083–1107.
- Ellison, Glenn (1994). “Theories of cartel stability and the joint executive committee”. *The Rand journal of economics*, pp. 37–57.
- Fershtman, Chaim and Ariel Pakes (1999). “A dynamic oligopoly with collusion and price wars”.
- Genesove, David and Wallace P. Mullin (1998). “Testing Static Oligopoly Models: Conduct and Cost in the Sugar Industry, 1890-1914”. *The RAND Journal of Economics* 29.2, pages. ISSN: 07416261. URL: <http://www.jstor.org/stable/2555893>.
- Genesove, David and Wallace P Mullin (2001). “Rules, Communication, and Collusion: Narrative Evidence from the Sugar Institute Case”. *American Economic Review* 91.3, pp. 379–398.
- Green, Edward J and Robert H Porter (1984). “Noncooperative collusion under imperfect price information”. *Econometrica: Journal of the Econometric Society*, pp. 87–100.
- Porter, Robert H (1983). “A study of cartel stability: The Joint Executive Committee, 1880-1886”. *The Bell Journal of Economics*, pp. 301–314.
- Porter, Robert H. and J. Douglas Zona (1999). “Ohio School Milk Markets: An Analysis of Bidding”. English. *The RAND Journal of Economics* 30.2, pages. ISSN: 07416261. URL: <http://www.jstor.org/stable/2556080>.
- Rotemberg, Julio J and Garth Saloner (1986). “A supergame-theoretic model of price wars during booms”. *The American Economic Review* 76.3, pp. 390–407.
- Stigler, George J (1964). “A theory of oligopoly”. *The Journal of Political Economy*, pp. 44–61.

Mergers

- Benkard, C Lanier, Aaron Bodoh-Creed, and John Lazarev (2010). “Simulating the dynamic effects of horizontal mergers: Us airlines”. *Manuscript, Yale University*.
- Farrell, Joseph and Carl Shapiro (2010). “Antitrust evaluation of horizontal mergers: An economic alternative to market definition”. *The BE Journal of Theoretical Economics* 10.1.
- Foncel, Jérôme, Marc Ivaldi, and Aleksandra Khimich (2013). “Assessing the accuracy of merger guidelines’ screening tools”.
- Jaffe, Sonia and E. Glen Weyl (2013). “The First-Order Approach to Merger Analysis”. *American Economic Journal: Microeconomics* 5.4, pp. 188-218. DOI: 10.1257/mic.5.4.188. URL: <http://www.aeaweb.org/articles.php?doi=10.1257/mic.5.4.188>.
- Miller, Nathan H. et al. (2013). “On the First Order Approximation of Counterfactual Price Effects in Oligopoly Models”. *Working Paper*. URL: <http://www.nathanhmilller.org/MRRS-2013.08.21.pdf>.

Misc

- Gentzkow, Matthew and Jesse Shapiro (2013). “Measuring the Sensitivity of Parameter Estimates to Sample Statistics”.