ECP 7409
Empirical Industrial Organization II
Syllabus

University of Florida

Spring 2022

Instructor: Germán Bet
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Course location: Room MAT 114
Course time: Mondays-Wednesdays 11:45AM-1:40PM (Periods 5 & 6)
Office: 340 Matherly Hall
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Virtual Office Hours (Zoom): Mondays 1:40PM-3:40PM; and by appointment

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Course Description:

This is a course in the graduate Empirical Industrial Organization (IO) sequence. The goal of the course is to prepare Ph.D. students to conduct research in the field of empirical IO. The course focuses on empirical methods and applications, introducing students to the central questions around imperfect competition, productivity, entry and market structure, market power and antitrust, as well as the models and empirical methods used to tackle these questions. The course presumes that students have a familiarity with the topics and methods taught in Empirical IO I.

Course Communication

Announcements concerning the class will typically be made in class and through Canvas. You are responsible for all information made available through both of these avenues of communication.

Evaluation and Grading:

Evaluation will be based on:

- Problem sets (15% of the total grade)
- Class participation (10% of the total grade)
- Two referee reports (15% of the total grade)
- Student presentations (30% of the total grade)
- Research proposal (30% of the total grade)

Problem sets will primarily entail empirical and computational exercises. They will require you to write code to answer empirical questions following the material discussed in class. Due dates for the assignments will be announced in class (all times announced in class will be according to Eastern Standard Time). **All assignments are due in Canvas before the deadline on the due date.**

Referee reports will require you to critically evaluate recent research papers in IO. Due dates for the referee reports will be announced in class. Detailed instructions and guidance on how to prepare referee reports will be provided.

Throughout the semester, I will assign papers that you will have to present in class. You will have have to prepare 45 minutes presentations of the assigned papers. Detailed instructions and guidance on how to prepare your presentations will be provided.

The research proposal will require you to write an original research project building on the material discussed in class or closely related material (such as material discussed in Empirical IO I). Detailed instructions and guidance on how to develop your research proposal will be provided. Your research proposal is due on Wednesday, April 20th (last day of class). In mid March, after Spring break, students will schedule a meeting with me to discuss progress and receive feedback.

Information on current UF grading policies for assigning grade points is available here.

Academic Honesty

You are expected to comply with the University of Florida's rules for academic honesty (which can be found here). Failure to comply with this commitment will result in disciplinary action.

Students with Disabilities

Students with disabilities requesting classroom accommodation must first register with the Disability Resource Center. The Disability Resource Center will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students here.

Topics and Readings

We will not discuss all of the papers on the reading list, but I expect you to read all of the papers we discuss in detail in class. A tentative schedule can be found in Canvas.

1- Introduction

- D. Ackerberg, L. Benkard, S. Berry and A. Pakes, "Econometric Tools for Analyzing Market Outcomes," Handbook of Econometrics, Volume 6A, Chapter 63.
- M. Armstrong and R. Porter, eds., Handbook of Industrial Organization, Volume 3, North-Holland, 2007. (HIO3)
- T. Bresnahan, "Empirical Studies with Market Power," Handbook of Industrial Organization, vol. II, chap. 17.
- P. Davis and E. Garces, Quantitative Techniques for Competition and Antitrust Analysis, Princeton University Press, 2010.
- L. Einav and J. Levin, "Empirical Industrial Organization: A Progress Report," JEP, Spring 2010, 145-62.
- K. Ho, A. Hortacsu, and A. Lizzeri, eds., Handbook of Industrial Organization, Volumes 4 and 5, North-Holland, 2021. (HIO4 and HIO5)
- P. Reiss and F. Wolak, "Structural Econometric Modeling: Rationales and Examples from Industrial Organization," Handbook of Econometrics, Volume 6A, Chapter 64.
- R. Schmalensee and R. Willig, eds., Handbook of Industrial Organization, Volumes 1 and 2, North-Holland, 1989. (HIO1 and HIO2)
- J. Tirole, "Market Failures and Public Policy," American Economic Review, 105(6), 1665-82 (2015).
- J. Tirole, "The Theory of Industrial Organization," Cambridge, MA: MIT Press, 1988.

2- Production Function Estimation and Applications

- D. Ackerberg, K. Caves and G. Frazer, "Structural Estimation of Production Functions," Econometrica, 2015.
- G. Bet, "Market Power in the U.S. Airline Industry," Working Paper. Available at SSRN: http://dx.doi.org/10.2139/ssrn.3913695 2021.
- R. Blundell and S. Bond, "GMM Estimation with Persistent Panel Data: An Application to Production Functions," Econometric Reviews, 2000, 321-340.
- A. Collard-Wexler and J. De Loecker, "Reallocation and Technology: Evidence from the US Steel Industry," American Economic Review, 2015, 105 (1), 131–71.
- J. De Loecker, "Product differentiation, multiproduct firms, and estimating the impact of trade liberalization on productivity." Econometrica, 2011, 79(5): 1407–1451.
- J. De Loecker and F. Warzynski, "Markups and Firm Level Export Status," American Economic Review, October 2012, 2437-71.
- J. De Loecker, P. Goldberg, A. Khandelwal, and N. Pavcnik, "Prices, Markups, and Trade Reform," Econometrica, 2016, 84 (2), 445–510.
- J. De Loecker and C. Syverson, "An Industrial Organization Perspective on Productivity," HIO4, Chapter 3.
- U. Doraszelski and J. Jaumandreu, "R&D and Productivity: Estimating Endogenous Productivity," ReStud, October 2013, 1338-83.
- L. Foster, J. Haltiwanger, and C. Syverson, "Reallocation, Firm Turnover, and Efficiency: Selection on Productivity or Profitability?," American Economic Review, 2008, 98 (1), 394–425.
- A. Gandhi, S. Navarro and D. Rivers, "On the Identification of Gross Output Production Functions," Journal of Political Economy, 2020, 128 (8), 2973–3016.
- Z. Griliches and J. Mairesse, "Production Functions: The Search for Identification," mimeo, NBER, 1995.
- J. Levinsohn and A. Petrin, "Estimating Production Functions Using Intermediate Inputs to Control for Unobservables," ReStud, April 2003, 317-41.

- S. Olley and A. Pakes, "The Dynamics of Productivity in the Telecommunications Industry," Econometrica, November 1996, 1263-97.
- D. Raval, "Testing the Production Approach to Markup Estimation." Mimeo, 2019.
- M. Rubens, "Market Structure, Oligopsony Power, and Productivity." Mimeo, 2021.
- C. Syverson, "Market Structure and Productivity: A Concrete Example." Journal of Political Economy 112(6): 1181–1222, (2004).
- C. Syverson, "What Determines Productivity?" Journal of Economic Literature, 49(2): 326-365, (2011).

3- Static Entry, Product Repositioning, and Market Structure

- S. Berry, "Estimation of a Model of Entry in the Airline Industry," Econometrica, July 1992, 889–918.
- S. Berry and P. Reiss, "Empirical Models of Entry and Market Structure," HIO3, Chapter 29.
- S. Berry and E. Tamer, "Identification in Models of Oligopoly Entry," in R. Blundell, W. Newey and T. Persson, eds., Advances in Economics and Econometrics: Theory and Applications, Vol. 2, Cambridge, 2007, Chapter 2.
- S. Berry and J. Waldfogel, "Free Entry and Social Inefficiency in Radio Broadcasting," Rand Journal of Economics, 1999, 397-420.
- S. Berry and J. Waldfogel, "Product Quality and Market Size," Journal of Industrial Economics, March 2010, 1-31.
- T. Bresnahan and P. Reiss, "Entry in Monopoly Markets," ReStud, 1990, 531-53.
- T. Bresnahan and P. Reiss, "Entry and Competition in Concentrated Markets," Journal of Political Economy, October 1991, 977–1009.
- F. Cilberto and E. Tamer, "Market Structure and Multiple Equilibria in Airline Markets," Econometrica, November 2009, 1791-828.

- F. Ciliberto, C. Murry, and E. Tamer, "Market Structure and Competition in Airline Markets," Journal of Political Economy, 2021, Forthcoming.
- A. Eizenberg, "Upstream innovation and product variety in the us home PC market," Review of Economic Studies, 2014, 81 (3), 1003-1045.
- P. Grieco, "Discrete Games with Flexible Information Structures: An Application to Local Grocery Markets," Rand Journal of Economics, 2014, 303-40.
- T. Holmes, "The Diffusion of Wal-Mart and Economies of Density," Econometrica, 79:1, 2011.
- J-F. Houde, P. Newberry, and K. Seim, "Economies of density in e-commerce: A study of Amazon's fulfillment center network." NBER Working Paper.
- P. Jia, "What Happens When Wal-Mart Comes to Town: An Empirical Analysis of the Discount Retail Industry," Econometrica, November 2008, 1263-316.
- B. Kline, A Pakes, and E. Tamer, "Moment Inequalities and Partial Identification in Industrial Organization," HIO4, Chapter 5.
- S. Li„ J. Mazur, Y. Park, J. Roberts, A. Sweeting, and J. Zhang, "Endogenous and Selective Service Choices After Airline Mergers," NBER Working Paper, 2018.
- A. Pakes, J. Porter, K. Ho, and J. Ishii, "Moment Inequalities and Their Application," Econometrica, 2015, 83: 315-334.
- K. Seim, "An Empirical Model of Firm Entry with Endogenous Product-Type Choices," Rand Journal of Economics, 2006, 619-40.
- K. Seim and J. Waldfogel, "Public Monopoly and Economic Efficiency: Evidence from the Pennsylvania Liquor Control Board's Entry Decisions." American Economic Review, 2013, 103 (2): 831-62.
- A. Sweeting, "The Effects of Mergers on Product Positioning: Evidence from the Music Radio Industry," RJE, 2010, 372-97.
- E. Tamer, "Incomplete Simultaneous Discrete Response Model with Multiple Equilibria," ReStud, January 2003, 147-65.
- T. Wollmann, "Trucks without Bailouts: Equilibrium Product Characteristics for Commercial Vehicles." American Economic Review, 2018, 108 (6): 1364-1406.

4- Test of Market Power, Conduct, and Collusion

- S. Albaek, P. Mollgaard and P. Overgaard, "Government Assisted Oligopoly Coordination? A Concrete Case," Journal of Industrial Economics, 1997, 429-43.
- G. Aryal, F. Ciliberto, and B. Leyden, "Coordinated Capacity Reduction and Public Communication in the Airline Industry," Review of Economic Studies, 2021, Forthcoming.
- O. Ashenfelter and D. Sullivan, "Nonparametric Tests of Market Structure: An Application to the Cigarette Industry," Journal of Industrial Economics, 1987, 483-98.
- J. Asker, A. Collard-Wexler, and J. De Loecker, "(Mis)Allocation, Market Power and Global Oil Extraction," American Economic Review, 2019, 109(4), 1568-1615.
- J. Asker, A. Collard Wexler, and J. De Loecker, "The Welfare Impact of Market Power: The OPEC Cartel," Mimeo, 2021.
- J. Asker and V. Nocke, "Collusion, Mergers, and Related Antitrust Issues," HIO5, Chapter 12.
- M. Backus, C. Conlon, and M. Sinkinson, "Common Ownership and Competition in the Ready-to-Eat Cereal Industry," NBER Working Papers 28350, National Bureau of Economic Research, Inc January 2021.
- J. Baker and T. Bresnahan, "Estimating the Residual Demand Curve Facing a Single Firm," International Journal of Industrial Organization, September 1988, 283-300.
- S. Berry and P. Haile, "Identification in Differentiated Products Markets Using Market Level Data," Econometrica, 2014, 82 (5), 1749–1797.
- T. Bresnahan, "The Oligopoly Solution is Identified," Economics Letters, 1982, 87-92.
- T. Bresnahan, "Competition and collusion in the American automobile industry: The 1955 price war." The Journal of Industrial Economics, 1987, pp. 457-482.
- T. Bresnahan, "Empirical Studies of Industries with Market Power," HIO2, Chapter 17.

- E. Calvano, G. Calzolari, V. Denicolo, and S. Pastorello, "Artificial Intelligence, Algorithmic Pricing, and Collusion," American Economic Review, 2020, 110 (10): 3267-97.
- A. Carvajal, R. Deb, J. Fenske and J. Quah, "Revealed Preference tests of the Cournot Model," Econometrica, 2013, 2351-79.
- F. Ciliberto and J. Williams, "Does Multimarket Contact Facilitate Tacit Collusion? Inference on Conduct Parameters in the Airline Industry," The RAND Journal of Economics, 2014, 45 (4), 764–791.
- R. Clark, and J-F. Houde, "Collusion with asymmetric retailers: Evidence from a gasoline price-fixing case." American Economic Journal: Microeconomics, 2013, 5.3, pp. 97-123.
- K. Corts, "Conduct Parameters and the Measurement of Market Power," Journal of Econometrics, 1998, 227-50.
- G. Ellison, "Theories of Cartel Stability and the Joint Executive Committee," the Rand Journal of Economics, Spring 1994, 37-57.
- D. Genesove and W. Mullin, "Testing Static Oligopoly Models: Conduct and Cost in the Sugar Industry, 1890-1914," Rand Journal of Economics, 1998, 355-77.
- J. Harrington, "Detecting Cartels," in P. Buccirossi, ed., Handbook of Antitrust Economics, MIT Press, 2008, Chapter 6.
- M. Igami and T. Sugaya, "Measuring the Incentive to Collude: The Vitamin Cartels, 1990-1999," The Review of Economic Studies, 2021, Forthcoming.
- L. Magnolfi and C. Sullivan, "Testing Firm Conduct," Working Paper 2021.
- C. Michel and S. Weiergraeber, "Estimating Industry Conduct in Differentiated Products Markets," Working Paper 2018.
- N. Miller and M. Weinberg, "Understanding the Price Effects of the MillerCoors Joint Venture," Econometrica, 2017, 85 (6), 1763–1791.
- A. Nevo, "Measuring Market Power in the Ready-to-Eat Cereal Industry," Econometrica, March 2001, 307-42.

- R. Porter, "A study of cartel stability: The Joint Executive Committee, 1880-1886." The Bell Journal of Economics, 1983, pp. 301-314.
- J. Rotemberg, and G. Saloner, "A supergame-theoretic model of price wars during booms." The American Economic Review, 1986, 76.3, pp. 390-407.
- D. Sumner, "Measurement of Monopoly Behavior: An Application to the Cigarette Industry," Journal of Political Economy, 1981, 89, 1010-1019.
- C. Wolfram, "Measuring Duopoly Power in the British Electricity Spot Market." American Economic Review, 1999, 89 (4): 805-826.

5- Mergers

General Readings

- J. Asker and V. Nocke, "Collusion, Mergers, and Related Antitrust Issues," HIO5, Chapter 12.
- P. Buccirossi, ed., Handbook of Antitrust Economics, MIT Press, 2008.
- J. Kwoka, Mergers, Merger Control, and Remedies: A Retrospective Analysis of U.S. Policy, The MIT Press, 2015.
- M. Motta, Competition Policy: Theory and Practice, Cambridge University Press, 2004.
- M. Whinston, Lectures on Antitrust Economics, MIT Press, 2006.

Horizontal Mergers

- AEA session, "Evaluating Empirical Tools for Horizontal Merger Analysis," AER Papers and Proceedings, 2011, 101: 45-59.
- O. Ashenfelter and D. Hosken, "The Effect of Mergers on Consumer Prices: Evidence from Five Mergers on the Enforcement Margin," Journal of Law and Economics, 2010, 53: 417-66.
- O. Ashenfelter, D. Hosken, and M. Weinberg, "The Price Effects of a Large Merger of Manufacturers: A Case Study of Maytag-Whirlpool," AEJ: Economic Policy, 2013, 5: 239-61.

- O. Ashenfelter, D. Hosken, and M. Weinberg, "Efficiencies Brewed: Pricing and Consolidation in the US Beer Industry," The RAND Journal of Economics, 2015, 46 (2), 328–361.
- J. Baker, "Econometric Analysis in FTC v. Staples," Journal of Public Policy & Marketing, 1999, 18: 11-21.
- S. Berry and J. Waldfogel, "Do Mergers Increase Product Variety? Evidence from Radio Broadcasting," Quarterly Journal of Economics, 2001, 116: 1009-25.
- S. Braguinsky, A. Ohyama, T. Okazaki, and C. Syverson, "Acquisitions, productivity, and profitability: evidence from the Japanese cotton spinning industry," American Economic Review, 2015, 105(7), 2086-2119.
- T. Chipty and C. Snyder, "The Role of Firm Size in Bilateral Bargaining: A Study of the Cable Television Industry," ReStat, 1999, 81(2), 326-40.
- A. Collard-Wexler, "Mergers and Sunk Costs: An Application to the Ready-Mix Concrete Industry," American Economic Journal: Microeconomics, 2014, 6(4), 407-447.
- L. Dafny, "Estimation and Identification of Merger Effects: An Application to Hospital Mergers," Journal of Law & Economics, 2009, 52: 523-50.
- L. Dafny, M. Duggan, and S. Ramanarayanan, "Paying a Premium on Your Premium? Consolidation in the US Health Insurance Industry." American Economic Review, 2012, 102 (2): 1161-85.
- Department of Justice and Federal Trade Commission Merger Guidelines.
- Y. Fan, "Ownership Consolidation and Product Characteristics: A Study of the US Daily Newspaper Market," American Economic Review, 2013, 103 (5): 1598-1628.
- G. Gowrisankaran, A. Nevo, and R. Town, "Mergers When Prices Are Negotiated: Evidence from the Hospital Industry," American Economic Review, 2015, 105: 172-203.
- D. Hosken, L. Silvia, and C. Taylor, "Does Concentration Matter? Measurement of Petroleum Merger Price Effects," American Economic Review, 2011, 101 (3), 45–50.

- P. Jeziorski, "Estimation of Cost Synergies from Mergers: Application from U.S. Radio," RAND Journal of Economics, 2014, 45: 816-46.
- K.-U. Kuhn, "The Coordinated Effects of Mergers," Chapter 3 in Handbook of Antitrust Economics.
- M. Manuszak, and C. Moul, "Prices and Endogenous Market Structure in Office Supply Superstores," Journal of Industrial Economics, 2008, 94-112.
- A. Nevo, "Mergers with Differentiated Products: The Case of the Ready-to-Eat Cereal Industry," RAND Journal of Economics, 2000, 31: 395-421.
- M. Pesendorfer, "Horizontal Mergers in the Paper Industry," RAND Journal of Economics, 2003, 34: 495-515.
- C. Peters, "Evaluating the Performance of Merger Simulation: Evidence from the US Airline Industry," Journal of Law and Economics, 2006, 49: 627-49.
- R. Porter, "Mergers and Coordinated Effects," International Journal of Industrial Organization, 2020, 73, 102583.
- J. Simpson and C. Taylor, "Do Gasoline Mergers Affect Consumer Prices? The Marathon Ashland Petroleum and Ultramar Diamond Shamrock Transaction," Journal of Law and Economics, 2008, 51: 135-52.
- A. Sweeting, "The Effects of Mergers on Product Positioning: Evidence from the Music Radio Industry," RAND Journal of Economics, 2010, 41: 372-97.
- G. Werden and L. Froeb, "Unilateral Competitive Effects of Horizontal Mergers," Chapter 2 in Handbook of Antitrust Economics.
- M. Whinston, Lectures on Antitrust Economics, Chapter 3.
- T. Wollmann, "Stealth Consolidation: Evidence from an Amendment to the Hart-Scott-Rodino Act," American Economic Review: Insights, 2019, 1(1), 77-94.

Vertical Mergers

- E. Atalay, A. Hortaçsu, and C. Syverson, "Vertical Integration and Input Flows," American Economic Review, 2014, 104 (4): 1120-48.

- G. Baker and T. Hubbard, "Make Versus Buy in Trucking: Asset Ownership, Job Design, and Information," American Economic Review, 2003, 551-572.
- G. Baker and T. Hubbard,"Contractibility and Asset Ownership: On-Board Computers and Governance in U.S. Trucking," Quarterly Journal of Economics, 2004, 1443-80.
- T. Chipty, "Vertical Integration, Market Foreclosure and Consumer Welfare in the Cable TV Industry," American Economic Review, 2001, 428-453.
- G. Crawford, R. Lee, M. Whinston, and A. Yurukoglu, "The Welfare Effects of Vertical Integration in Multichannel Television Markets," Econometrica, 2018, 86: 891-954.
- R. Gilbert and J. Hastings, "Vertical Integration in Gasoline Supply: An Empirical Test of Rising Rival's Costs," Journal of Industrial Economics, 2005, 469-92.
- J. Hastings, "Vertical Relationships in Retail Gasoline Supply: Evidence from Contract Changes in Southern California," American Economic Review, 2004, 317-28.
- A. Hortacsu and C. Syverson, "Cementing Relationships: Vertical Integration, Foreclosure, Productivity and Prices," Journal of Political Economy, 2007, 250-301.
- J-F. Houde, "Spatial Differentiation and Vertical Mergers in Retail Markets for Gasoline," American Economic Review, 2012, 102 (5): 2147-82.
- F. Luco and G. Marshall, "The Competitive Impact of Vertical Integration by Multiproduct Firms," American Economic Review, 2020, 110 (7): 2041-64.
- S. Mullanaithan and D. Scharfstein, "Do Firm Boundaries Matter?," American Economic Review, 2001, 195-9.
- J. Mullin and W. Mullin, "United States Steel's Acquisition of the Great Northern Ore Properties: Vertical Foreclosure or Efficient Contractual Governance?," Journal of Law, Economics, and Organization, 1997, 74-100.
- M. Slade, "Beer and the Tie: Did Divestiture of Brewer-Owned Public Houses Lead to Higher Beer Prices?," Economic Journal, 1998, 565-602.

- D. Waterman, and A. Weiss, "The Effects of Vertical Integration between Pay Cable Networks and Cable Television Systems," Journal of Econometrics, 1996, 357-95.