

Industrial Organization II for PhD (“Empirical IO”)

Course Title: “Empirical” Industrial Organization (Static Models)

Instructor: Michael Kummer

Offered: Spring 2016

Method (hours per week): Lecture (3 hours) + Computational Exercise (inbuilt)

- Mon. 17:05-19:55 in Room 310 (Old CE Building)

Course Level: 2nd year Ph.D.

Course Language: English

Prerequisites: Core Courses, in particular, Microeconomics and Econometrics

Evaluation:

- 1-2 Homework assignments (computational exercise) (20%)
- 5 Presentations (30%)
- 5 Co-Presentations (15%)
- Research proposal (30%)
- Class and discussion participation (5%)

Contact Person: Michael Kummer

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- E-mail: kummergtteaching@gmail.com
- Office Hours: Wednesday, by appointment
 - Usual Time: Wed. 13:45-15:15 Room 222
 - Replacement: Mon. 13:45-15:15 Room 222
- Course Website: on T-square
- <https://t-square.gatech.edu/portal/site/gtc-eb42-875d-5ba0-82a0-bc4c6e445eac>

Course Description :

This course will cover a range of topics in Empirical Industrial Organization, including demand estimation, collusion, introduction of new technology, price discrimination, and consumer search. The emphasis will be on recent empirical papers estimating static models. These models are the foundation of most applied structural work in Marketing, Health, Trade, Environment, and Finance. We will cover both technical details (specification, estimation strategy, identification and economic interpretation) and applications.

In addition to the lecture, an exercise course, which is designed to complement the lecture, will be also offered. In the first classes, we will cover how to use Stata and Matlab/R. Later classes will be devoted to estimate some simple demand models in Stata and Matlab. Subsequently, we will learn two influential methods: Berry, Levinsohn and Pakes (1995) and Pakes, Porter, Ho and Ishii (WP), (or Production function estimation), allocating one or two classes, respectively.

The final block of the course will provide an outlook into selected advanced topics. These topics will be offered for choice to the students as the course progresses and might cover, dynamic equilibrium methods, cartel estimation, spillovers/externality estimation, behavioral aspects or a topic of special interest to students...

Tentative Course Outline

Core: (Weeks 1-8)

- Introduction to Empirical Industrial Organization (Week 1)
 - Introduction
 - Stata
- Demand for Differentiated Products (Week 2+3)
 - Porter (1983, *RAND Journal of Economics*), “Cartel Stability”
 - Bresnahan (1987, *Journal of Industrial Economics*), “Price War”
 - Berry (1994, *RAND Journal of Economics*)
- Applications and Improvements of BLP Model (Week 4 and 5)
 - Berry, Levinsohn and Pakes (1995, *Econometrica*), “BLP”
 - Nevo (2001, *Econometrica*), “Cereal”
 - Petrin (2002, *Journal of Political Economy*), “Minivan”
- Price Discrimination and Marketing (Week 6 and 7)
 - Berry, Levinsohn and Pakes (2004, *Journal of Political Economy*), “micro-BLP”
 - Leslie (2004, *RAND Journal of Economics*), “Broadway Theatre”
 - McManus (2007, *RAND Journal of Economics*), “Specialty Coffee”
 - Gentzkow (2007, *American Economic Review*), “Online Newspaper”
 - Chu, Leslie and Sorensen (2011, *American Economic Review*), “Theatre Tickets”
- Production Function Estimation (Week 7 and 8)
 - Olley and Pakes (1996, *Econometrica*)
 - Levinsohn and Petrin (2003, *Review of Economic Studies*)

Extensions (Alternatively):

- Moment Inequalities and Static Entry/Exit (Week 9 and 10)
 - Bresnahan and Reiss (1991, *Journal of Political Economy*)
 - Bresnahan and Reiss (1991, *Journal of Econometrics*)
 - Mazzeo (2002, *RAND Journal of Economics*), “Motel”
 - Seim (2006, *RAND Journal of Economics*), “Rental Video”

- Pakes, Porter, Ho and Ishii (Working Paper)
- Consumer Search and Network Externalities (Week 9 and 10)
 - Sorensen (2000, *Journal of Political Economy*), “Drug Prescription”
 - Hortacsu and Syverson (2004, *Quarterly Journal of Economics*), “Mutual Fund”
 - Gentry (2012, Working Paper), “In-store Search”
 - Gowrisankaran and Stavins (2004, *RAND Journal of Economics*), “Payment Adoption”
 - Ishii (2008, Working Paper) “ATM Industry”
- Auctions
 - J.-J. Laffont, H. Ossard, and Q. Vuong (1995): “Econometrics of First Price Auctions,” *Econometrica* July, 953-980.
 - Cassola, N., A. Hortacsu, and J. Kastl. “The 2007 Subprime Market Crisis Through the Lens of European Central Bank Auctions for Short-Term Funds.” *Econometrica* 81.4 (2013): 1309-1345.
 - (*) S. Athey and P. Haile (2007): “Nonparametric Approaches to Auctions”, *Handbook of Econometrics*, Volume 6.
 - (*) E. Guerre, I. Perrigne and Q. Vuong (2007): “Optimal Nonparametric Estimation of First-Price Auctions”, *Econometrica* 68, 525-574.
 - Books:
 - * Harry Paarsch and Han Hong (2006), *Introduction to the Structural Econometrics of Auction Data*, MIT Press.
 - * Vijay Krishna (2002), *Auction Theory*, Academic Press.
 - * Paul Milgrom (2004), *Putting Auction Theory to Work*, Cambridge University Press.
 - * Paul Klemperer (2004), *Auctions: Theory and Practice*, Princeton University Press.
- Dynamic Aspects:
 - Rust, John. “Optimal replacement of GMC bus engines: An empirical model of Harold Zurcher.” *Econometrica: Journal of the Econometric Society* (1987): 999-1033.
 - Gowrisankaran, G., and Rysman, M., 2010, *Dynamics of Consumer Demand for New Durable Goods*, wp Boston University.
 - Henry, E., and Ponce, C., 2011, *Waiting to imitate: on the dynamic trading of knowledge*, *The Journal of Political Economy*, forthcoming.
 - Holmes, T., 2011, *The Diffusion of Wal-Mart and Economies of Density*, *Econometrica*, Vol. 79, No. 1 (January, 2011), 253-302.
 - Schmidt-Dengler, P., 2010, *The Timing of New Technology Adoption: The Case of MRI*, manuscript, University of Mannheim.
 - Takahashi, Y., 2010, *Estimating a War of Attrition: The Case of the US Movie Theater Industry*, *AER*, 2015.

Additional Literature/Suggestions for Further Study

Survey Papers:

- Akerberg, D., Benkard, Lanier, Berry, S. and Pakes, A., 2007, Econometric Tools for Analyzing Market Outcomes, in Heckman, J., and Leamer, E. (eds.). Handbook of Econometrics, vol. 6A.
- Aguirregabiria, V., and Nevo, A., 2010, Recent Developments in Empirical Dynamic Models of Demand and Competition in Oligopoly Markets, forthcoming in (Econometric Society Monographs) on Advances in Economics and Econometrics: Theory and Applications.
- Angrist, J., and Pischke, S., 2010, The Credibility Revolution in Empirical Economics: How Better Research Design is Taking the Con out of Econometrics, The Journal of Economic Perspectives, Spring 2010, 3-30.
- Armstrong, M., and Porter, R., 2007, Handbook of Industrial Organization vol. 3. All chapters.
- Athey, Susan and Haile, Phil, 2007, Nonparametric Approaches to Auctions, in Heckman, J., and Leamer, E. (eds.). Handbook of Econometrics, vol. 6A.
- Einav, L., and Levin. J., 2010, Empirical Industrial Organization: A Progress Report, The Journal of Economic Perspectives, Spring 2010, 1-18.
- Nevo, A., and Whinston, M., 2010, Taking the Dogma Out of Econometrics: Structural Modeling and Credible Inference , The Journal of Economic Perspectives, Spring 2010, 69-82.
- Pesendorfer, M., 2011, Estimation of (Dynamic) Games: A Discussion, forthcoming in (Econometric Society Monographs) on Advances in Economics and Econometrics: Theory and Applications
- Reiss, P. and Wolak, F., 2007, Structural Econometric Modeling: Rationales and Examples from Industrial Organization, in Heckman, J., and Leamer, E. (eds.). Handbook of Econometrics, vol. 6A.

Research Papers

- Acemoglu, D. and Akcigit, U., 2011, Intellectual Property Rights Policy, Competition and Innovation, Journal of the European Economic Association, forthcoming.
- Asker, J., 2010, A Study of the Internal Organisation of a Bidding Cartel, American Economic Review, v100(3), 724-762, 2010.
- Bar-Isaac, H., Caruana, G., and Cunat, V., 2011, Search, Design, and Market Structure", forthcoming in American Economic Review.
- Biais, B. and Perotti, E., 2008, Entrepreneurs and new ideas, RAND Journal of Economics, RAND Corporation, vol. 39(4), pages 1105-1125
- Cabral. L. 2011, Dynamic Price Competition with Network Effects, Review of Economic Studies, 78, 83-111.

- Crawford, G. and Shum, M., 2005, Uncertainty and Learning in Pharmaceutical Demand, *Econometrica*, Vol. 73, No. 4 (Jul., 2005), pp. 1137-1173.
- Crawford, G. and Yurukoglu, A., 2010, The Welfare Effects of Bundling in Multichannel Television Markets, forthcoming, *American Economic Review*.
- Duso, T., Rller, L-H., and Seldeslachts, J., 2010, Collusion through Joint R&D: An Empirical Assessment, WP.
- Farrell, J., and Shapiro, C., 2008, How Strong Are Weak Patents?, *American Economic Review*, American Economic Association, vol. 98(4), pages 1347-69
- Goeree, M. and Helland, E., 2010, Do Research Joint Ventures Serve a Collusive Function?, WP., University of Zurich.
- Ho, K., Ho, J., and Mortimer, J., 2010, The Use of Full-line Forcing Contracts in the Video Rental Industry, forthcoming, *American Economic Review*.
- Hendel, I., and Nevo, A., 2006, Measuring the Implications of Sales and Consumer Inventory Behavior, *Econometrica*, November 06.
- Hopenhayn, H., Llobet, G., and Mitchell, M., 2006, Rewarding Sequential Innovations: Prizes, Patents and Buyouts, *Journal of Political Economy*, 104(6), pp. 1041-1068, 2006.
- Johnson, J., and Myatt, D., 2006, On the Simple Economics of Advertising, Marketing, and Product Design, *American Economic Review*, 96(3), pp 756-784, June 2006.
- Manso, G., 2011, Motivating Innovation, *Journal of Finance*, forthcoming.
- Nocke, V., and Whinston, M., 2010, Dynamic Merger Review, *Journal of Political Economy*, 2010, vol. 118(6), 1200-1251.
- Nocke, V., and White, L., 2007, Do Vertical Mergers Facilitate Upstream Collusion? *American Economic Review*, 2007, vol. 97(4), 1321-1339.
- Ryan, S., 2011, The Costs of Environmental Regulation in a Concentrated Industry, forthcoming, *Econometrica*.
- Takalo, T., Tanayama, T. and Toivanen, O., 2011, Estimating the Benefits of Targeted R&D Subsidies, *Review of Economics and Statistics*, forthcoming.